



Online Language Teaching and Learning

Bracing for Post-COVID-19 Challenges

Dive into the evolving world of online teaching and learning (OTL) with this insightful exploration of its impact on language instruction during the COVID-19 era. Follow the journeys of educators and learners as they adapt to virtual classrooms, uncovering strategies that drive successful online language teaching and learning. From innovative frameworks to practical case studies across diverse cultural landscapes, this book equips educators and policymakers with essential tools to navigate and excel in the new normal of education. Discover how OTL is reshaping language education globally and prepare to transform your teaching practices today.



Online Language Teaching and Learning
Bracing for Post-COVID-19 Challenges

Online Language Teaching and Learning

Bracing for Post-COVID-19 Challenges

Editors
Muhammad Kamarul Kabilan
Khong Hou Keat
Chuah Kee Man
Amelia Abdullah



Online Language Teaching and Learning

© Penerbit Universiti Sains Malaysia, 2025

© Penerbit Universiti Sains Malaysia, 2025

CONTEMPORARY RESEARCH AND PRACTICE SERIES

Online Language Teaching and Learning Bracing for Post-COVID-19 Challenges

Editors

Muhammad Kamarul Kabilan

Khong Hou Keat

Chuah Kee Man

Amelia Abdullah



PENERBIT UNIVERSITI SAINS MALAYSIA
PULAU PINANG

Buy at **www.emdash.my**

ⓧ www.penerbit.usm.my

✉ penerbit@usm.my

f PenerbitUSM

✕ PenerbitUSM

@ penerbit_usm

© Penerbit Universiti Sains Malaysia, 2025



Cataloguing-in-Publication Data

Perpustakaan Negara Malaysia

A catalogue record for this book is available
from the National Library of Malaysia

ISBN 978-967-461-958-9

P53.855

Typeset in Palatino Linotype

Copy Editor: Noriyanti Jahaya

Cover Designer: Suhaila Bakar

Proofreader: Aida Izana Yaakub

Typesetter: Hanis Syafenaz Azmi

Published by Penerbit Universiti Sains Malaysia, 11800 USM Pulau Pinang, Malaysia.
A member of the Malaysian Scholarly Publishing Council (MAPIM).

Printed by

Contents

Series Preface	ix
Preface	xi
Introduction	xiii
1 A Systematic Literature Review of Online Teaching and Learning Strategies in Language Learning <i>Zuraina Ali & Intan Syahida Zulkafa</i>	1
2 Exploring Future English Teachers' Reflection towards Multimodal Reading Tasks on Virtual Learning Platforms <i>Elih Sutisna Yanto, Hikmah Pravitasari & Junjun Muhamad Ramdani</i>	17
3 University Students' Perceptions towards the Implementation of Speaking Assessments on Online Platforms <i>Nor Azikin Mohd Omar, Zailani Jusoh & Shaidatul Akma Adi Kasuma</i>	48
4 Adapting to New Norm: TESOL Students' Online Collaborative Learning Experiences with Arts Students <i>Nur Hilyati Ramli, Safia Najwa Suhaimi, Muhammad Kamarul Kabilan & Muhanniz Mesri</i>	68
5 Exploring Student Satisfaction and Perceived Learning in Online Learning Environment <i>Umi Kalsom Masrom & Nik Aloesnita Nik Mohd Alwi</i>	91
6 COVID-19 Milieu and Learners' Demotivation in Online Classes <i>Sahib Khatoon, Mohammad Jafre Zainol Abidin, Zahid H. Pathan & Muhammad Usman Thaheem</i>	112

Contents

7	Challenges and Strategies in Teaching and Learning Arabic as a Second Language	138
	<i>Nur Farhana Abdul Aziz, Nooraida Yakob & Nor Asniza Ishak</i>	
8	Effects of Online Teaching and Learning in English Language: A Case Study of Adamawa State Tertiary Institutions in Nigeria	160
	<i>Reuben Benson & Muhammad Kamarul Kabilan</i>	
9	Shifting Higher Education to E-education: A Study on the Sudden Intrusion of E-learning in the Ecology of Language in the Context of EFL/ESL in Private Universities in Bangladesh	175
	<i>Sayedur Rahman, Touhida Easmin & Paren Chandra Barman</i>	
10	A Framework for the Co-Design of an Integrated Mobile-Assisted Learning Environment for ESL Learners	194
	<i>Chuah Kee Man & Muhammad Kamarul Kabilan</i>	
11	MOOCs for Second and Foreign Language Learners: Unpacking Critical Success Factors from the Pedagogical Perspective	212
	<i>Chuah Kee Man, Xijing Wang & Muhammad Kamarul Kabilan</i>	
12	The Potentials of Gamification in Online Learning: Insights from ESL Undergraduates	234
	<i>Nur Yasmin Khairani Zakaria, Amelia Abdullah & Siti Nazleen Abdul Rabu</i>	
13	Breaking into New Norms: Synchronous Collaborative Language Teaching and Learning via Breakout Sessions in Video Conferencing Tools	252
	<i>Ezleena Mustafa Kamal & Debbita Tan Ai Lin</i>	
14	The Effectiveness of Using Telegram Messenger to Promote Motivation amongst ESL Students in Online Classroom	275
	<i>Nazirah Md Yusof, Amelia Abdullah & Mohammad Jafre Zainol Abidin</i>	

Contents

15	Digital Storytelling as an Innovative Assessment: From the Undergraduates' Point of View in the English Language Classroom	293
	<i>Agelyia Murugan, Selvamalar Selvarajan & Selvakumar Selvarajan</i>	
16	Does Micro-Learning Make a Difference in Vocabulary Acquisition?	308
	<i>Khong Hou Keat & Muhammad Kamarul Kabilan</i>	
17	Online Language Teaching and Learning: Current Trajectory and Future Potentials	334
	<i>Chuah Kee Man & Khong Hou Keat</i>	
	Contributors	341
	Index	347

© Penerbit Universiti Sains Malaysia, 2025

Series Preface

Contemporary Research and Practice (CRP) is a book series that focuses and reflects on research and practices that are of current interest to the educational stakeholders and community at the national and international sphere. In this ever-changing world, the need to address educational issues and matters are unavoidable since new educational trends, ideas and philosophies, and more significantly, new problems, are emerging and shaping the educational ecosystem at all levels at a frightening speed. Hence, we need to comprehend and be aware of these at a fundamental level so as to be prepared in making the needed changes or adjustments to currently held ideas and thoughts, where and when necessary. Learning and understanding the severity of the above tenets are, therefore, crucial and should be adapted (or adopted) through a proper scientific investigation i.e. research and practices that are informed and supported by theoretical underpinnings and accepted models of teaching and learning.

This book series will explore, investigate, examine, and highlight contemporary research ideas and teaching and learning practices in the different and various domains of education. Each series will dissect a particular perspective, issue or trend or philosophy so that users of this book series will obtain a thorough and complete understanding, and as a result, are able to reify and construct related new knowledge. With this, it is hoped that better and relevant solutions are possible, and meaningful teaching and learning could be planned and implemented by practitioners. It is also anticipated that the current and future contributions in this series would inspire others to further and expand their own research in light of what has been done, leading to improvement of educational knowledge and ideas, and crucially, research directions.

Furthermore, through this publication series, researchers, academics, teachers, postgraduate and undergraduate students, and other stakeholders would be able to share their work and experiences that are related to pre-school, primary, secondary and tertiary education. Their creative and innovative practices and research published should encourage more invigorating teaching and

Series preface

learning practices, especially in this 21st century, or at least inspire others to think, initiate, and implement engaging teaching and learning practices.

The CRP is also attempting to provide insights into how transformation of learning could be attained. This could be, as an example, by initiating and enhancing autonomous learning, utilizing digital technologies and social networking sites, engaging in collaborative learning, and facilitating blended learning. It could also be by examining and highlighting supportive policies for teaching and learning, integrating innovative assessment tools and supporting the teachers in a community of practice for professional development to increase the capability and capacity of teachers and learners. The concentration of practices and research in this series would be on the previously mentioned perspective, whether it is for specific subject-oriented areas such as Science and Maths education, language education, or for general educational issues such as educational leadership and management, and educational psychology.

It is the hope of the School of Educational Studies, USM that this publication series would be the pioneering one in stirring existing research and practices and triggering innovative and integral educational achievement.

Professor Dr. Muhammad Kamarul Kabilan
General Editor

Preface

Welcome to *Online Language Teaching and Learning: Bracing for Post-COVID-19 Challenges*, a collaborative effort aimed at exploring the diverse landscape of online teaching and learning (OTL). We, the editors of this volume, are excited to present a compilation that reflects a diversity of viewpoints, academic depth, and forward-thinking strategies for tackling the unique OTL challenges of the post-COVID-19 era.

The inception of this book can be traced back to a shared passion among Professor Kabilan and his fellow students for examining OTL from diverse viewpoints during the pandemic. Drawing on our collective expertise and experiences, we embarked on a journey to curate a comprehensive study of OTL within the language domain, particularly in non-WEIRD (Western, educated, industrialized, rich, and democratic) cultural contexts, with Malaysia at its forefront. Our goal was not only to contribute to existing literature but also to inspire further inquiry and discourse.

In acknowledging the invaluable contributions of our esteemed contributors, we extend heartfelt gratitude to all individuals who dedicated their time, knowledge, and expertise to this book venture. Their willingness to share their work has enriched the scope and depth of this book, allowing readers to benefit from a diverse array of perspectives and insights.

We are deeply grateful to have witnessed the completion of this book, and we owe heartfelt thanks to our colleagues, Associate Professor Dr. Manjet Kaur Mehar Singh (Universiti Sains Malaysia), Dr. Latha Ravindran (UCSI University), Dr. Paramjit Kaur Karpal Singh (Universiti Utara Malaysia), and Dr. Thivilojana Perinpasingam (Taylor's University). Their thorough chapter reviews, insightful feedback, and scholarly expertise have shaped the content and direction of this volume, enriching it with unparalleled quality and depth.

Preface

We envision *Online Language Teaching and Learning: Bracing for Post-COVID-19 Challenges* as a valuable resource for scholars, researchers, and practitioners, serving as both a catalyst for continued exploration in educational practice and a hub for fostering meaningful discussions. May this book spark new ideas and inspire scholars to push the boundaries of knowledge in OTL, adapting with urgency and adaptability to meet the evolving demands of education.

Khong Hou Keat
April 2024

© Penerbit Universiti Sains Malaysia, 2025

Introduction

Why a Book on OTL in Times of COVID-19?

Online teaching and learning (OTL) has become the teaching and learning enterprise by dint of its effectiveness in providing flexible, timely and smart learning environments to facilitate meaningful learning and enrich the learning experience among students during the COVID-19 pandemic. Since then, there have been quite a number of published books concerning OTL that encompass practical technology-mediated solutions, programme-specific designs and curriculum innovations, and educational provisions and sustainability during crisis situations both locally and internationally (e.g., Fayed & Cummings, 2021; Low et al., 2021; Pandian et al., 2021). Beside Chen (2022), there is no other book directly addressing OTL in the language domain especially in the non-WEIRD (Western, educated, industrialised, rich, and democratic) cultural contexts (Henrich et al., 2010).

Therefore, this edited volume attempts to address OTL of different languages (second language, L2 and foreign language, FL) at different levels during the COVID-19 situation, focusing mainly on teachers' and students' experiences, emerging design, framework, and policy, and pedagogical initiatives reported from different cultural contexts. On the one hand, this volume serves as a venue for practical guide and informed adoption of OTL across distinctive conditions, domains, and levels of language instruction in response to the pandemic. On the other hand, it also serves as a platform for experience sharing and knowledge exchange among language planners, researchers, and practitioners in the era of new normal, as well as other challenges, disasters and adversities that may confront us in future. In sum, this book is a practical read for scholars and policymakers to gear up for the post-COVID-19 challenges in non-WEIRD cultural contexts primarily in Malaysia.

A quick summary of the research themes of the book is presented followed by a short description of each chapter. Themes covered in this volume include (1) sociological analyses of teachers' and students' OTL experiences, (2) emerging

OTL design, framework, and policy in non-WEIRD educational systems, and (3) potential OTL strategies and approaches across different learning domains. While individual chapters can be read independently of each other, collectively they paint a more complete picture of OTL for language educators and scholars worldwide to sustain the continuity of language learning amid the global pandemic.

Structure of the Book

This summary spotlights the essence of this volume that weaves together the 17 curated chapters into four themes. The first theme which consists of only one chapter introduces OTL through a systematic literature review where the strategies used in language learning during the COVID-19 pandemic are unravelled. The second theme elucidates the OTL experiences, motivation and satisfaction among teachers and students in Malaysia, Indonesia, and Pakistan from the sociological perspective. The third theme delves into the emerging OTL design, framework, and policy in non-WEIRD educational systems across continents. This theme covers studies from Bangladesh, China, Malaysia, and Nigeria. The fourth theme delineates the potential OTL strategies and approaches across different languages and learning domains during COVID-19. The concluding chapter brackets the studies in the book and serve as a bookend framing the discussion for future research and direction.

In Chapter 1, “A systematic literature review of online teaching and learning strategies in language learning”, Zuraina Ali and Intan Syahida Zulkafa provide insights into the strategies used by teachers and learners in language learning during the pandemic through a systematic review. The authors find that identifying OTL tools to create supportive learning environment in a creative manner is prominent from 2020 to 2021. This chapter highlights the creativity of teachers in supporting OTL amidst limited resources.

The next five chapters focus on teachers’ and students’ OTL experiences in the time of crisis. Chapter 2, “Exploring future English teachers’ reflection towards multimodal reading tasks on virtual learning platforms” by Elih Sutisna Yanto, Hikmah Pravitasari and Junjun Muhamad Ramdani examine future English teachers’ (FET) reflection towards multimodal reading tasks on virtual learning platforms. Their findings show that the virtual learning platforms not only improve reading but also support Indonesian FET’s affective experiences. Nor Azikin Mohd Omar, Zailani Jusoh and Shaidatul Akma Adi Kasuma in their Chapter 3, “University students’ perceptions towards the implementation of speaking assessments on online platforms”

assess Malaysian university students' perceptions towards the implementation of speaking assessments on online platforms in an English proficiency course. The authors find that the students adapt well to the new learning environment and show moderate yet encouraging perceptions of online speaking assessments. However, the authors caution that the online platforms do not reduce students' speaking anxiety. Nur Hilyati Ramli, Safia Najwa Suhaimi, Muhammad Kamarul Kabilan and Muhanniz Mesri in Chapter 4, "Adapting to new norm: TESOL students' online collaborative learning experiences with arts students" explore 62 TESOL students' collaborative learning experiences with arts students during the pandemic. Their qualitative findings narrate how the TESOL students learn collectively, develop knowledge, and use online technologies and platforms to restructure their formal and informal learning. This chapter witnesses how students from different disciplines complement each other during challenging times.

In Chapter 5, "Exploring student satisfaction and perceived learning in online learning environment", Umi Kalsom Masrom and Nik Aloesnita Nik Mohd Alwi investigate Malaysian student satisfaction and perceived learning in an online learning environment. Their SEM-PLS findings help inform the university students' preparation and satisfaction in online education during the early stage of COVID-19 pandemic. They find that the most important performing factors that determine student satisfaction and perceived learning are learner-content interaction and online learning self-efficacy while the constructs that require more attention are learner-learner interaction and learner-instructor interaction. Lastly, in Chapter 6, "COVID-19 milieu and learners' demotivation in online classes", Sahib Khatoon, Mohammad Jafre Zainol Abidin, Zahid H. Pathan and Muhammad Usman Thaheem investigate Pakistani learner motivation in COVID-19 milieu. Their mixed methods results show that students are generally demotivated toward OTL during lockdowns. This urges policymakers to consider the demotivation factors to increase the effectiveness of the technology-integrated courses.

The volume also features five chapters that propose various OTL design, framework, and policy to cope with the pandemic in non-WEIRD educational systems. Through a qualitative approach, Nur Farhana Abdul Aziz, Nooraida Yakob and Nor Asniza Ishak in Chapter 7, "Challenges and strategies in teaching and learning Arabic as a second language" investigate the challenges faced by the Arabic language lecturers in a Malaysian college and systematically document the strategies employed to cope with the dire situations. These initiatives reported constitute some practical OTL solutions as well as implications for future adaptation. Reuben Benson and Muhammad Kamarul Kabilan in their Chapter 8, "Effects of online teaching and learning

in English language: A case study of Adamawa State tertiary institutions in Nigeria” take a different approach and conduct a case study of OTL in Nigeria. The authors acknowledge that the availability of ICT tools and teacher’s competency in exploiting the technology remain prominent challenges in Adamawa state tertiary institutions. Drawing on the findings, the authors foreground some context-specific designs and curriculum innovations in OTL that address the needs of African English language teachers especially during crisis situations like COVID-19.

In Chapter 9, “Shifting higher education to e-education: A study on the sudden intrusion of e-learning in the ecology of language in the context of EFL/ESL in private universities in Bangladesh”, Sayeedur Rahman, Touhida Easmin, and Paren Chandra Barman look at the adoption of OTL by Bangladeshi private universities in the ESL/EFL domain. The authors find that the effectiveness of OTL adopted is debatable in the existing language learning ecosystem and hence advocate a proper adoption framework in embracing the online education during the pandemic. Another unique framework is proposed in Chapter 10, “A framework for the co-design of an integrated mobile-assisted learning environment for ESL learners” by Chuah Kee Man and Muhammad Kamarul Kabilan to design an integrated mobile-assisted learning environment involving learners, teachers, and designers. The authors not only walk us through the entire design flow, but also present practical insights and potential uses of the framework in developing mobile applications for ESL learners to cope meaningfully with the mandatory OTL. The last chapter of this theme unfolds a comparative investigation between two language massive open online courses (MOOCs) in a context where learners naturally favour face-to-face interactions and mentoring. In Chapter 11, “MOOCs for second and foreign language learners: Unpacking critical success factors from the pedagogical perspective”, Chuah Kee Man, Xijing Wang, and Muhammad Kamarul Kabilan identify five key success factors (pedagogy, cognition, instructional interaction, supporting mechanism, and assessment strategies) that could enhance the success rate of MOOC implementation without compromising quality of OTL.

The final batch of five chapters explore the potential OTL strategies and approaches across different languages and learning domains during the restricted COVID-19 situation. Nur Yasmin Khairani Zakaria, Amelia Abdullah, and Siti Nazleen Abdul Rabu in Chapter 12, “The potentials of gamification in online learning: Insights from ESL undergraduates” examine the expanding possibilities of gamifying online classrooms to refine the current conduct of OTL practices. Their results showed that the engaging elements of game-based learning, such as points and rewards, could increase

student motivation in OTL in the new norms. In Chapter 13, “Breaking into new norms: Synchronous collaborative language teaching and learning via breakout sessions in video conferencing tools”, Ezleena Mustafa Kamal and Debbita Tan Ai Lin investigate the effects of breakout sessions in video conferencing tools such as Zoom and Webex. The authors support that the fundamental issues like peer interaction in virtual language classrooms could be alleviated with using the breakout session feature as a synchronous collaboration tool to provide students with meaningful language learning opportunities.

In Chapter 14, “The effectiveness of using Telegram Messenger to promote motivation amongst ESL students in online classroom”, Nazirah Md Yusof, Amelia Abdullah, and Mohammad Jafre Zainol Abidin investigate a different approach, the Telegram Messenger, in promoting ESL student motivation during COVID-19. As motivation is an important mediator of learning, the authors find that Telegram Messenger could enhance private university students’ motivation in learning ESL. In Chapter 15, “Digital Storytelling as an innovative assessment: From the undergraduates’ point of view in the English language classroom”, Agelyia Murugan, Selvamalar Selvarajan, and Selvakumar Selvarajan provide us some insights into digital storytelling as an innovative assessment for online ESL courses. The authors suggest that digital storytelling could promote active and collaborative learning among students which in turn allows them to actively contribute ideas, showcase their hidden talents and think out of the box. In Chapter 16, Does micro-learning make a difference in vocabulary acquisition?, Khong Hou Keat and Muhammad Kamarul Kabilan examine the influence of micro-learning (ML) in Spanish vocabulary acquisition in a Malaysian technical university. Their quasi-experimental study supports that ML could serve as a reliable word-focused instruction particularly for two vocabulary knowledge aspects, form and meaning, and associations. Their results support previous findings that suggest ML is a promising learning approach in different learning domains.

Chapter 17, “Online language teaching and learning: Current trajectory and future potentials” by Chuah Kee Man and Khong Hou Keat, elucidates prospective innovative pedagogies that could influence online language teaching and learning across diverse conditions, domains, and levels, but challenges remain. In this regard, four areas of improvement are highlighted to foster a more engaging and effective design of OTL in SLL environments.

Final Remark

This edited volume presents exemplary research complementing the initiatives taken by other language scholars worldwide especially in non-WEIRD teaching associated contexts in order to gear up for a promising post COVID recovery. Focusing on Asian countries which comprise a range of cultural and educational backgrounds, adopting different research methods and resulting in, at times, diverging yet complementing outcomes in pedagogical, emotional and socioeconomical perspectives, this volume enables readers to capitalise on various themes and approaches to language related OTL during crisis moments. Hence, readers are encouraged to discover for themselves how the chapters play out, how they balance between research and practice to render a greater sense of what it means to teach and learn a language in the devastating era of COVID-19.

Having said that, this book is not only relevant to practitioners, teachers, and researchers during the pandemic but also, very much meaningful and useful when the COVID-19 pandemic turns into an endemic. Many countries (such as Malaysia, Spain, Germany, France, and Singapore) are already approaching or at least discussing the possibilities of ushering COVID-19 into an endemic. What this means is that 'normality', in terms of teaching and learning at various levels of education, is on the horizon. However, this normality does not mean the dangers of COVID-19 were totally disregarded and return to the practices of 'old days' of pre-COVID-19, but rather, it means that normality is framed by what we have learned from our practices and experiences during the pandemic. In term of OTL of natural languages, this means that the new ideas experimented, the practices solidified, and the experiences gained during the pandemic, could now be implemented and applied to further improve OTL in the foreseen endemic. As suggested by Charumilind et al. (2021) that managing of an endemic requires an integrated and interwoven elements and strategies that are adapted and adopted by the entire society, it is also believed that the chapters in this volume would give us such a hint of approaching OTL of natural languages in the endemic phase. Hence, by closely examining the chapters, a framework can be formulated, which will surely be reified in the concluding chapter.

References

- Charumilind, S., Craven, M., Lamb, J., Singhal, S., & Wilson, M. (2021, October 28). Pandemic to endemic: How the world can learn to live with COVID-19. <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/pandemic-to-endemic-how-the-world-can-learn-to-live-with-covid-19>
- Chen, J. (Ed.). (2022). *Emergency Remote Teaching and Beyond: Voices from World Language Teachers and Researchers*. Springer Nature.
- Fayed, I., & Cummings, J. (Eds.). (2021). *Teaching in the Post COVID-19 Era: World Education Dilemmas, Teaching Innovations and Solutions in the Age of Crisis*. Springer Nature.
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). Most people are not WEIRD. *Nature*, 466(7302), 29–29.
- Low, H. M., Thien, L. M., & Lee, K. C. (2021). Editorial: Theme issue: Transformative educational practices in Asia Pacific Region during and post COVID-19 pandemic. *Asia Pacific Journal of Educators and Education*, 36(2), iii–v.
- Pandian, A., Kaur, S., & Cheong, H. F. (Eds.). (2021). *COVID-19, Education, and Literacy in Malaysia: Social Contexts of Teaching and Learning*. Routledge.

© Penerbit Universiti Sains Malaysia, 2025

A Systematic Literature Review of Online Teaching and Learning Strategies in Language Learning

Zuraina Ali & Intan Syahida Zulkafa

Introduction

While the world is gradually recovering from the aftermath of the COVID-19 pandemic, teachers and learners are still coping with the impact of online teaching and learning (OTL). Within the brief period of a year (2020–2021), numerous studies were conducted across the globe in examining distinct factors and effects of OTL. This chapter aims to provide an overview of pertinent issues discussed in the previous literature particularly with regards to OTL strategies. Hence, a systematic review was conducted to synthesize key empirical findings from selected studies.

The need for a systematic review

Methodological rigour is the main reason why researchers/authors conduct systematic reviews. Systematic reviews are commonly used by health care researchers as it is the reference standard to synthesise evidence in the clinical area (Moher et al., 2015). In social sciences, however, systematic review is a process that uses vigorous and systematic methods to minimise bias in identifying relevant articles, and thus produce more reliable findings of which conclusions and decisions can be made – and finally able to answer formulated research questions (Higgins et al., 2021). Systematic literature review has become a common type of

literature that started to grow since 2010 as it was reported that there were 11 new reviews that were published daily (Moher et al., 2016). Moreover, systematic reviews are needed as it provides high-level overviews of primary research on a focused question in that a reviewer takes these steps to answer formulated research questions:

1. Identify various resources or databases for targeted articles.
2. Select relevant articles using a systematic procedure.
3. Synthesise the selected articles that can answer formulated research questions.
4. Appraise the quality of the selected articles.

Having said that, the development of the current systematic review is based on a main research question: What are the strategies that language practitioners employed during online teaching and learning throughout the pandemic crisis?

Shifting to online learning in language teaching during pandemic

The threats we confront are becoming more interconnected as the world grows more connected. The COVID-19 pandemic has crossed national boundaries and is still spreading like rapid fire. It has impacted individuals of all nationalities, educational levels, economic levels, and genders. Education is no different. Almost all countries affected by COVID-19 shifted to online classes as it is safer and more secure to keep on learning. Universities also switched to online learning in a matter of days. The leap from traditional to online learning has changed educational institutions' approaches in delivering the courses for their students (Yundayani et al., 2021). Technology in education has undoubtedly been a source of concern. Today, teachers are confronted with a lot of platforms and ever-changing digital tools when it comes to delivering new content. Not surprisingly, adoption of technology has been inconsistent at best.

The unexpected arrival of COVID-19 and the almost immediate need to move programme delivery online at all levels of education, has worsened an already uneven implementation of digital technology. The global lockdown climaxed in a lockout of educational institutions. The closing of educational institutions created a stressful event for administration due to a dearth of

options (Coman et al., 2020). They also claimed that regardless of the readiness of the infrastructure and learning management system in place, this truly unanticipated abrupt change may have impacted the educational experience.

Even though there are setbacks during the shift, the teaching and learning of language, remarkably, has an adverse effect. According to Lukas and Yunus (2021), online learning is deemed as a cost-effective and time-saving method of language acquisition. Furthermore, it features a plethora of resources for language practice, such as online educational software and applications. Moodle, WhatsApp and Google Classroom have been utilised and results shown that students are more motivated and keener to learn using these platforms (Acar & Kayaglu, 2020; Halim & Sunarti, 2021; Lukas & Yunus, 2021). The shift in online learning fetches more positive aspects to language classes not only to students, but also teachers.

The Study

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) is an evidence-based minimum set of items that are used by researchers to report findings in their systematic reviews (Moher et al., 2015). The use of PRISMA enables a researcher to perform a systematic review that enables him/her to scan all articles that are published on a chosen topic (Moher et al., 2015). Besides, it provides researchers in finding answers to their formulated research questions. In doing so, they need to identify the inclusion criteria to select relevant articles that may be reported in their writing before synthesising their findings.

Resource

Scopus was used as the resource in the study. It is a database that is considered as one of the most important search engines for multidisciplinary research. Scopus creators alleged that it is the biggest single abstract and indexing database ever constructed. It could be operated easily by inexperienced users by just ticking on the information they are looking for and start searching by identifying year of publication, authors, titles, and others. Scopus data have also been offered for free for selected studies by the academic research community (Baas et al., 2020).

The systematic review process for selecting articles

There are certain procedures that need to be followed in conducting systematic review. The selection of the articles requires the authors to do beyond typing the required words i.e., “strategies”, “teaching”, “learning”, and “pandemic”. They employed effective searching strategies to obtain the targeted articles. The following discussions explain the processes of carrying out the review processes suggested by Mohamed Shaffril’s et al. (2020) that involve identification, screening, eligibility, and data abstraction as well as analysis.

Identification

In identification, selection of the words using various searching strategies is employed to find relevant articles. In conducting the current searching, the TITLE-ABS-KEY is employed as the field code. Next, advanced search techniques using phrase searching, Boolean operator OR and AND, and truncation are employed to search for the relevant articles. Figure 1 shows the field code and the advanced search techniques for the searching of the related article. The present identification of relevant articles employed a field code namely (1) Title – Abstract and (2) Keyword using advanced search for example truncation for example asterisk symbol (*), Boolean operator i.e., AND and OR and phrase searching. The use of advanced search technique is effective since it helps the authors to find online information sources. Scopus provides advanced search for instance Boolean operator AND, OR, and AND NOT, wild card, truncation, and phrase searching compared to other databases. As such, searching with the advanced search saves times and effort in the cause of finding suitable articles for the present systematic review.

Screening

In the process of screening, the authors need to decide the inclusion and exclusion criteria relevant to the topic they are writing. Nevertheless, there are different views as to how the screening processes need to take place. Okoli (2015) argued that there is no rule of thumb for the process as it depends on the needs of the authors while Kitchenham and Charters (2007) opined that authors need to decide the criteria relevant to their formulated research questions. The reporting of the current systematic literature review takes the second opinion as the basis for the screening process.

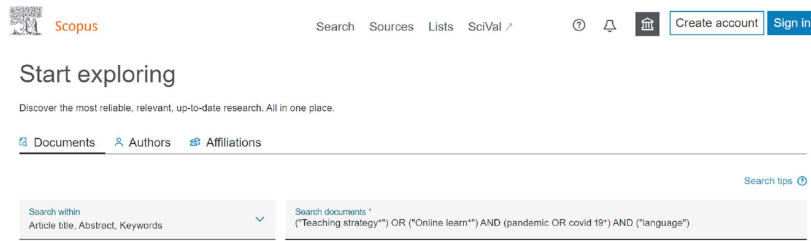


Figure 1 Field code and the advanced search techniques employ in the current searching

Table 1 shows the inclusion and exclusion criteria in selecting the relevant articles. First, the literature type only includes articles written in journals and conference proceedings. Thus, the selection criterion excludes review papers, articles written in book series and chapters in books. Next, only articles written in English are included while other languages are not considered for inclusion. As for the timeline, articles published in 2020 to 2021 are included as the inclusion criteria while those published before the timeline are excluded from the selection. In terms of subject area, the inclusion criteria are that all selected articles are published in the field of social sciences, arts and humanities as other types of publishing are excluded from the selection. Finally, the review only considers empirical data that is used to report the findings of the study. Therefore, it excludes non-empirical data for the review.

Table 1 The inclusion and exclusion criteria for finding the selected articles

Criterion	Eligibility	Exclusion
Literature type	Journal (research articles), conference proceeding	Journal (review), book series, chapter in a book
Language	English	Non-English
Time line	Between 2020–2021	< 2020
Subject area	Social sciences, arts and humanities	Other than social sciences, arts and humanities
Type of data	Empirical	Non-empirical

Eligibility

The eligibility processes (Figure 2) include reading thoroughly the titles, abstracts, keywords, and main contents of the selected articles. Authors read abstracts and keywords to assess the relevancy of the main contents of the articles. Next, they read the full articles focusing on studies that employed only empirical data in the writing of the documents.

Data abstraction and analysis

The review techniques namely integrative review was employed in reviewing the selected article. Noble and Smith (2018) claimed that a reviewer who is doing integrative review in the process of abstracting and analysing, includes both quantitative and qualitative studies in his/her review. Reviewers can opt to choose either to qualitisng quantitative data or quantitising qualitative data (Whittemore & Knafl, 2005). For current review, the second option is chosen in that it qualitis all the data in reporting the findings. Thematic analysis was employed to analyse the data since it is flexible and able to modify data according to the need of a particular study besides providing rich, detailed, and complex data (Braun & Clarke, 2006). Therefore, in the first stage of using the approach, the authors started with analysing 11 articles paying careful attention for statements or data that can answer the formulated research question. For the second phase, coding was conducted. This phase involved the process of indexing or categorising that was carried out to build a framework of thematic ideas (Braun & Clarke, 2006). In this case, the authors look for answers about language practitioners' strategies during online teaching and learning throughout the pandemic crisis. The process required them to identify themes, concepts, or ideas that could answer the formulated research question.

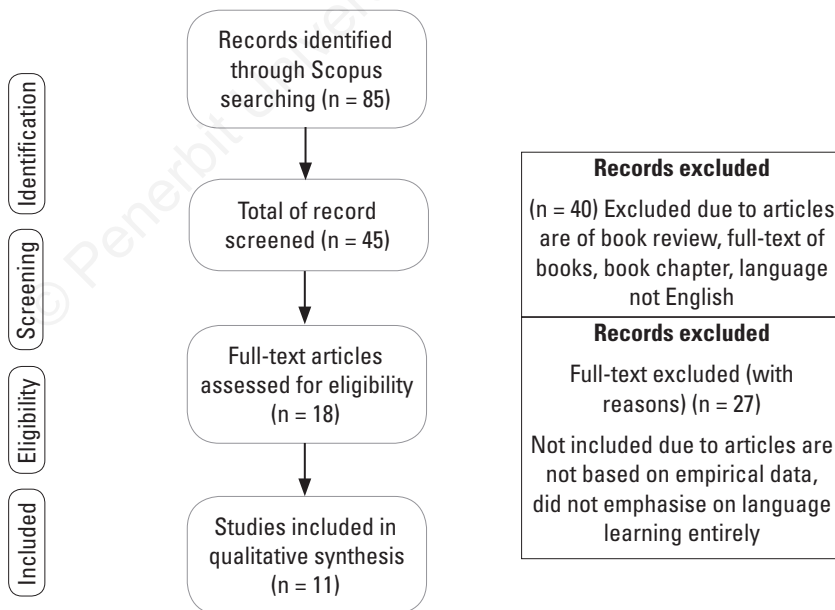


Figure 2 Flow diagram of the study
Source: Adapted from Moher et al. (2009)

Results

The analysis produced a total of five themes and three sub-themes. The five main themes are identification of suitable online tools (two sub-themes), creating supportive learning environment (one sub-theme), creativity in using platforms and methods for online learning, involvements of parents, and setting clear expectations of learning between students-parents. Table 2 summarises the results obtained.

Table 2 Themes and sub-themes formulated from the analysis of the selected articles

Themes	Sub-themes
Theme 1 Identification of suitable online tools	1. Platform options according to context 2. Use of software by language educators
Theme 2 Creating a supportive learning environment	Teacher-students' engagement for successful learning
Theme 3 Creativity in using platforms and methods for online learning	-
Theme 4 Involvements of parents	-
Theme 5 Setting clear expectations of learning between students-parents	-

Identification of suitable online tools

The main theme produced two sub-themes: platform options according to context and recognising appropriate software. In the former sub-theme, it was found that researchers employed various platforms relevant to their audience. Some use Moodle (Acar & Kayaglu, 2020), learning management system (LMS) (Moser et al., 2021), and Snapshot (Stalin & Tan, 2020) in the course of teaching their learners.

Platform options according to context

During the pandemic, it was observed that the choices of platforms for teaching and learning language depended on the context of conducting the class itself. Moodle was reported to be used as a platform by language instructors in the teaching English as it had positive impact on the students (Acar & Kayaglu, 2020). It also showed that students were highly motivated and productive when the platform was used in teaching-learning during the pandemic. In the study, students' grades learning English was also reported to increase in the final examination. LMS such as Canvas, Blackboard, Moodle, and Google Classroom were used to share content among students

(Moser et al., 2021). The study reported that pre-K12 language educators who already employed the LMS before COVID-19 seemed to be more prepared for the sudden shift of remote instructions compared to those who were not. Yet, overall, the use of LMS was found to be challenging as language educators struggled to balance their life at home as mothers/housewives with the work demand. Snapshot, a social media platform, was another platform that was used among language educators. Its use enhanced primary school English as a second language (ESL) learners in their attempt to construct sentences relating to their personal information about the pets they loved the most (Stalin & Tan, 2020). Specifically, the primary schools' students used it to share photos, videos, and perform other tasks.

Use of software by language educators

In discussing the current sub-theme, the uses of audios, videos and texts in teaching and learning during the pandemic are the main focus of the proceeding discussion. The students in one of the tertiary level in Asia were reported to use WhatsApp group, O-Matic screen cast or AZ screen recorder, and YouTube as the tools learning English (Permana et al., 2021). WhatsApp was used to its maximum for language learning as 83.3% of the assessment employed the tool to assess students' online learning. In another study, majority of the undergraduate students were reported to be satisfied with the use of PowerPoint presentations as one of the tools for the teaching and learning of language during the COVID-19 pandemic (Almusharraf & Khahro, 2020). The multimodal online delivery using PowerPoint with other tools for example games and quizzes was reported to meet the students' learning outcomes and their respective course objectives.

Creating supportive learning environment

There is one sub-theme that emerges from the main finding namely, 'teacher-students' engagement for successful learning' to elaborate the main theme. During pandemic, it seemed that peers could support learning (Stalin & Tan, 2020) while language instructors' supported learners by continuing to check the students' understanding using multimodal online delivery methods (Almusharraf & Khahro, 2020).

Teacher-students' engagement for successful learning

Successful learning can only be achieved when both teachers and students play their respective roles. In Stalin and Tan's (2020) study, it was found that 30 ESL learners (Year 2) used Snapshot to post their pets' picture. Their

enthusiasm and interest posting their favourite pets in the platform made them composed varying sentence levels. Also, teacher and students' engagement could be demonstrated when the former attended and continued to support their students' learning. Almusharraf and Khahro (2020) found that the effort, guidance, and follow-up carried out by language educators could support the learning of English among the respondents at higher education. The teachers followed up the students' activities by asking the progress work of the latter via email, phone calls, and virtual meetings. The English as a foreign language online collaborative learning among peers and teacher in the study promoted positive effect in raising their skills using the language.

Creativity in using platforms and methods for online learning

Teachers were reported to be creative when they combined the use of online platforms for example websites, blogs, and internet-based videos with conventional methods of teaching language (Yundayani et al., 2021). They conducted English language learning activities creatively as they used Google as the search engine to find relevant materials and employed traditional teaching methods by asking learners to draw and colour mind-maps and take notes. For teachers to be creative, it required them to maximise the uses of varied instructional method (Lukas & Yunus, 2021). Their study that involved 20 ESL teachers believed that creativity could be developed if teachers were motivated and enthusiastic teaching students via online learning platforms. Using modality principle, it was found that students learned better when graphics and narration were employed compared to the use of animation and on-screen text (Berardi, 2021). Such was demonstrated when teachers assigned students to use various methods and platforms submitting the latter's assignment. In her study, students attached text, recorded short stories, and uploaded videos for a required task. They took the initiative to consult their teachers for correct pronunciation and grammar. Almusharraf and Khahro (2020) found that the multimodal online delivery supported students learning various courses at the tertiary level. The uses of audio, text and video in games, and quizzes were useful to support the learning of English among the tertiary level students. In addition, Azar and Tan (2020) showed that the use of gamification, Mobile-assisted language learning and virtual reality in class enhanced the learning attitude and experience among students. A total of 63 interns that underwent teaching practical at secondary schools agreed that these three applications have helped them during their practical.

Involvement of parents

The involvement of parents during learning throughout the pandemic is important as they are able to educate the young children (pre-schoolers) especially at the age of five (Moser et al., 2021). Stalin and Tan (2020) argued that parents' involvement in using Snapchat was mandatory. In assisting their children, parents were required to assist their children in installing the application. Nevertheless, the study did not capture specifically as to how the parents supported and were involved during the learning process. Lukas and Yunus (2021) reported that it was a challenge for parents from low-income family background to be involved in their children's learning. Majority of the parents did not have access to the electronic device whilst others had problem with low bandwidth, especially for those staying in rural areas. In addition, involving parents in ABC scavenger activity made them and their children understand the required tasks that the latter need to perform (Chen & Greenwood, 2021). As a result of their involvement, it could support the acquisition of knowledge for alphabet learning, phonemic awareness, spelling, word recognition, and vocabulary among the respondents in their studies who were economically disadvantaged and homeless young children. In another study using a qualitative approach that drew on three teachers' experiences in teaching Shakespeare plays, it was found that writing emails and calling via Jabber (a district approved phone app) were the best method to involve parents in teaching-learning (Turchi et al., 2020). The period of 12 weeks provided room of opportunities for parents to be involved in their children's learning from distance.

Setting clear expectations of learning between students-parents

There was a need to have a clear expectation of what students would be learning so parents will be able to assist their children better. Sending instructions and works/lessons via WhatsApp to parents' mobile phone numbers could help parents to identify the assigned works that needed to be completed by their children (Lukas & Yunus, 2021). A teacher-respondent in their study believed that parents could assist their children to complete a worksheet provided that the former knew the expectations of learning on the part of the latter. Complaints can be the results if there are no clear expectations of learning between students and parents. Such was reported in Permana et al.'s (2021) study when both, parents and teachers complained that they did not receive a comprehensive explanation for the required tasks. Nevertheless, clear expectations may not be met if there is unstable internet connection. A case in point was shown by Lie et al.'s (2020) study. Parents affirmed there

was nothing much that they could do as some of them are in tight financial situation. Therefore, the researchers concluded that the implementation of online learning as far as their study was concerned, faced hiccups due to this logistic factor.

Discussion

When COVID-19 hit the world mercilessly, the academic world is forced to take a huge shift to online learning. It can be stated that teachers and students are not fully prepared, but they must do whatever they can within their means to survive. Otherwise, the education will just halt for the students. The first discussion theme deals with the suitable technology for teaching and learning. This is considered as the most important aspect in language learning because it holds the biggest impact in attracting students to learn. Fortunately, at the current period, there are a lot of platforms that can be utilised for the process of teaching and learning. However, students especially might face difficulties when they must operate these platforms on their own. Hence, teachers opt for the most user-friendly platforms for instance WhatsApp, YouTube, and PowerPoint to teach (Almusharraf & Khahro, 2020; Permana et al., 2021). Yet, instructors can decide to use teacher-made materials if they find the available materials unsuitable for their students. Instructors can develop various teacher-made materials that can be used in OTL by integrating web-based learning tools. Padlet, Kahoot! and Quizlet are the resources that instructors can use to prepare their teaching materials.

In the theme of identification of suitable online tools, the sub-theme of platform options according to context and recognising appropriate software are included. A supportive learning system is vital in maximising the teaching and learning process. Teachers are considered to be the main factor in students' learning development. This is supported by research conducted by Yao et al. (2020), stating that while information technology offers students more space and tools for independent learning, instruction and feedback from the instructors remain the most important component. Such implies the need to ensure learner engagement in OTL. In conducting synchronous online learning, in particular, Khan et al. (2020) recommended instructors pay particular attention to the learner. In the second theme of creating a supportive learning environment, it could be learned that both teachers and learners were required to work hand-in-hand for the success of OTL during the pandemic. In addition, it needed teachers to be creatively delivering the content of lesson. Yet, teachers who were involved in Noor's et al. (2020) study claimed that they were not able to be creative due to poor network infrastructure. This factor was a challenge for them especially when classes

were conducted during bad weather, in particular when it was raining. On the other hand, for students to be creative, innovative, and practical works should be given to them (Mahmood, 2020).

Moreover, assigning real world case study can develop the students' creativity as they can give opinions and share their ideas with peers. Indirectly, the method may develop their abilities and enhance their engagement in online learning. Therefore, it entails engagement by making sure students progressively involved in class activities instructors to perform practical guides for proper adoption of OTL. This can be realised when instructors can demonstrate relevant technical skills as they can use different functions in e-learning environment (Herrador-Alcaide et al., 2020). For example, in using the function in a video conference, instructors need to ensure students can actively participate during discussion while the latter perform their roles as moderators (Rabuñal et al., 2020, p. 9). Such a learning environment promotes independent learning in OTL. This is because discussions that encourage students to be responsible in giving their opinions enable them to set personal learning goals (Nielsen, 2012). They are independent due to the ability to plan, monitor and assess their performance.

Besides that, the theme of creativity in using platforms and methods for online learning calls upon teachers' creativity to exploit the platforms, making both teachers and students more energetic during the lessons. This energy will enhance the teacher-student interaction and make classes more comfortable. Once students are comfortable with their teachers, their motivation to learn is enhanced (Claessens et al., 2017). The finding for the current theme correlates with Halim and Sunarti's (2021) study. Based on the observation made, the teacher used varied methods to avoid her class becoming 'dull'. The teacher also paid close attention to the specific needs that her students had, which included their learning styles. The researchers concluded that teachers should focus on how to deliver their lessons as this would promote students' autonomy, learning styles and 'student-centredness'. Baran and AlZoubi (2020) identified three design approaches for teachers to be creative in their teaching during the pandemic. These are building empathy, engaging in pedagogical problem-solving and establishing an online community of inquiry. Teachers were first required to access the challenges of engaging in remote teaching-learning using the approaches. Teachers were also required to access their online learning resources. While peer-feedback among students could enhance creativity among them when lessons are conducted.

Another important theme derived from this review is involvement of parents. It seems that the role of parents in teaching and learning during the pandemic has increased. One of the main roles is to download software and applications

needed for their children's learning. Kasi et al. (2021) stated that parents' roles were important in determining their children's learning achievement through online learning. The researchers also claimed that parental involvement in children's learning during the pandemic was higher than before the tragedy. This implied that parents had good motivation to assist their children's learning. Parents' involvement is more challenging when their children are still young (Zhang, 2021). This is because less autonomous children need guidance from their parents to complete the assigned tasks. Parents must monitor their children attending online classes and completing school tasks. Zhang (2021) reported that children could only be attentive for 30 minutes if parents were not involved during the learning sessions.

This is followed by the next theme of setting clear expectations of learning between students-parents. These findings are in line with a study conducted by Dong et al. (2020). Interestingly, the relationship between parents and children tended to be more positive. Also, the expectations of learning were much clearer. In fact, parents embraced extra roles in their children's education (Novianti & Garzia, 2020). In addition, parents also expected that OTL would not stop as it could not be identified when the pandemic ended (Zhang, 2021). As such, Zhang (2021) argues that schools need to find ways to integrate technological tools when teaching their students, although the institutions are closed during this pandemic. This initiative could be a temporary response during this world crisis.

Conclusion

In conclusion, there are some valuable 'take-home' messages that one can learn from the past studies concerning the strategies that both teachers and students employ in teaching and learning language after the pandemic of COVID-19 or when OTL has become a norm. First, students should be provided sufficient support from both their teachers and parents to ensure successful online learning. Second, it is important that teachers use appropriate tools while maintaining creative delivery of contents. Third, by the time COVID-19 becomes an endemic, teachers should have known how to identify relevant software or web-based tools to promote participation among students especially when conducting synchronous classes. Nevertheless, further research should be continued to gauge ways of how teachers with limited resources can also be creative in delivering successful OTL. Likewise, further research should also focus on parents' involvement in children's online learning. While the limitations of this study indicated that there was no discussion on the roles that were taken by respective institutions to promote the successful implementation of online learning during COVID-19 situation,

the review in fact has enriched our understanding of the strategies used by teachers and students in language teaching and learning throughout the academic session during the pandemic. With this knowledge in mind, the continuity of language learning could be sustained in the post COVID-19 era.

References

- Acar, A., & Kayaglu, M. N. (2020). Moodle as a potential tool for language education under the shadow of COVID-19. *Eurasian Journal of Educational Research (EJER)*, 90, 67–82.
- Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (2020). The perceptions of primary school teachers of online learning during the COVID-19 pandemic period: A case study in Indonesia. *Journal of Ethnic and Cultural Studies*, 7(2), 90–109.
- Almusharraf, N., & Khahro, S. (2020). Students satisfaction with online learning experiences during the COVID-19 pandemic. *International Journal of Emerging Technologies in Learning (IJET)*, 15(21), 246–267.
- Azar, A. S., & Tan, N. H. I. (2020). The Application of ICT techs (mobile-assisted language learning, gamification, and virtual reality) in teaching English for secondary school students in Malaysia during COVID-19 pandemic. *Universal Journal of Educational Research*, 8(11C), 55–63.
- Baas, J., Schotten, M., Plume, A., Côté, G., & Karimi, R. (2020). Scopus as a curated, high-quality bibliometric data source for academic research in quantitative science studies. *Quantitative Science Studies*, 1(1), 377–386.
- Baran, E., & AlZoubi, D. (2020). Human-centered design as a frame for transition to remote teaching during the COVID-19 pandemic. *Journal of Technology and Teacher Education*, 28(2), 365–372. <https://www.learntechlib.org/p/216077>
- Berardi, S. (2021). Creating an online Russian as a foreign language course during the COVID-19 epidemic. *Russian Language Studies*, 19(1), 7–20.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706QP063OA>
- Chen, X., & Greenwood, K. (2021). Supporting young students' word study during the COVID-19 Quarantine: ABC scavenger hunt. *The Reading Teacher*, 819–823. <https://doi.org/10.1002/trtr.2005>
- Claessens, L. C. A., van Tartwijk, J., van der Want, A. C., Pennings, H. J. M., Verloop, N., den Brok, P. J., & Wubbels, T. (2017). Positive teacher–student relationships go beyond the classroom, problematic ones stay inside. *The Journal of Educational Research*, 110(5), 478–493.
- Coman, C., Țîru, L. G., Meseșan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: Students' perspective. *Sustainability*, 12(24), 10367.
- Dong, C., Cao, S., & Li, H. (2020). Young children's online learning during COVID-19 pandemic: Chinese parents' beliefs and attitudes. *Children and Youth Services Review*, 118, 105440.

- Halim, A., & Sunarti, S. (2021). Online instructional strategies for English language learning during covid-19 pandemic: A case from a creative teacher. *Journal of Applied Linguistics and Literature*, 6(1), 87–96.
- Herrador-Alcaide, T. C., Hernández-Solís, M., & Hontoria, J. F. (2020). Online learning tools in the era of m-learning: Utility and attitudes in accounting college students. *Sustainability*, 12(12), 5171.
- Higgins, J., Thomas, J., Chandler, J., Cumpston, M., Li, T., & Page, M. J. (2021). *Cochrane Handbook for Systematic Reviews of Interventions version 6.2*. Chichester (UK): John Wiley & Sons
- Kasi, Y. E. M., Suparno, S., & Asib, A. (2021). Parents' involvement in students' academic achievement in distance learning process during the pandemic of Covid-19. *Randwick International of Education and Linguistics Science Journal*, 2(1), 76–88.
- Khan, M. A., Nabi, M. K., Khojah, M., & Tahir, M. (2020). Students' perception towards e-learning during COVID-19 pandemic in India: An empirical study. *Sustainability*, 13(1), 57.
- Kitchenham, B. A., & Charters, S. M. (2007). Guidelines for performing systematic literature reviews in software engineering. EBSE Technical Report EBSE-2007-01. Software Engineering Group School of Computer Science and Mathematics, Keele University & Department of Computer Science, University of Durham.
- Lie, A., Tamah, S. M., Gozali, I., Triwidayati, K. R., Utami, T. S. D., & Jemadi, F. (2020). Secondary school language teachers' online learning engagement during the COVID-19 pandemic in Indonesia. *Journal of Information Technology Education: Research*, 19, 803–832.
- Lukas, B. A., & Yunus, M. M. (2021). ESL teachers' challenges in implementing e-learning during COVID-19. *International Journal of Learning, Teaching and Educational Research*, 20(2).
- Mahmood, S. (2020). Instructional Strategies for online teaching in COVID-19 pandemic. *Human Behaviour & Emerging Technologies*, 3, 199–203. <https://doi.org/10.1002/hbe2.218>
- Mohamed Shaffril, H. A., Samsuddin, S. F., & Abu Samah, A. (2020). The ABC of systematic literature review: The basic methodological guidance for beginners. *Quality & Quantity*, 55, 1319–1346. <https://doi.org/10.1007/s11135-020-01059-6>
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., Stewart, L. A., Estarli, M., Barrera, E. S. A., Martínez-Rodríguez, R., Baladia, E., Agüero, S. D., Camacho, S., Buhning, K., Herrero-López, A., Gil-González, D. M., Altman, D. G., Booth, A., ... & Whitlock, E. (2016). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Revista Espanola de Nutricion Humana y Dietetica*, 20(2). <https://doi.org/10.1186/2046-4053-4-1>
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., Stewart, L. A., & Group, P.-P. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews*, 4(1), 1. <https://doi.org/10.1186/2046-4053-4-1>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>

- Moser, K. M., Wei, T., & Brenner, D. (2021). Remote teaching during COVID-19: Implications from a national survey of language educators. *System*, 97, 102431.
- Nielsen, J. A. (2012). Science in discussions: An analysis of the use of science content in socioscientific discussions. *Science Education*, 96(3), 428–456.
- Noble, H., & Smith, J. (2018). Knowledge translation. Canadian Institutes of Health Research. *J Med Libr Assoc*, 21(2), 102–108. <https://doi.org/10.1136/eb-2018-102895>
- Noor, S., Md Isa, F., & Farid Mazhar, F. (2020). Online teaching practices during the COVID-19 pandemic. *Educational Process: International Journal*, 9(3), 169–184. <https://doi.org/10.22521/edupij.2020.93.4>
- Novianti, R., & Garzia, M. (2020). Parental engagement in children’s online learning during COVID-19 pandemic. *Journal of Teaching and Learning in Elementary Education (JTLEE)*, 3(2), 117–131.
- Okoli, C. (2015). A guide to conducting a standalone systematic literature review. *Commun. Assoc. Inf. Syst.*, 37, 879–910.
- Permana, M. P., Didik, R., Bayu, G. P., Amiruddin, M., & Yoanita, Y. V. (2021). Development of integrated online learning content distribution module based on social media for beginners online teachers in creating learning content due to the Covid-19 pandemic. *Journal of Physics: Conference Series*, 1823(1), 12023.
- Rabuñal, R., Suarez-Gil, R., Golpe, R., Martínez-García, M., Gómez-Méndez, R., Romay-Lema, E., ... & Bal-Alvaredo, M. (2020). Usefulness of a telemedicine tool TELEA in the management of the COVID-19 pandemic. *Telemedicine and e-Health*, 26(11), 1332–1335.
- Stalin, L. T., & Tan, K. H. (2020). Use of Snapchat to enhance primary school English as second language learners in the writing of personal information. *International Journal of English Language and Literature Studies*, 9(4), 330–338.
- Turchi, L. B., Bondar, N. A., & Aguilar, L. (2020). What really changed? Environments, instruction, and 21st century tools in emergency online English language arts teaching in US schools during the first pandemic response. *Frontiers in Education*, 5, 235.
- Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, 52(5), 546–553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>
- Yao, J., Rao, J., Jiang, T., & Xiong, C. (2020). What role should teachers play in online teaching during the COVID-19 pandemic? Evidence from China. *Sci Insigt Edu Front*, 5(2), 517–524.
- Yundayani, A., Abdullah, F., Tandiana, S. T., & Sutrisno, B. (2021). Students’ cognitive engagement during emergency remote teaching: Evidence from the Indonesian EFL milieu. *Journal of Language and Linguistic Studies*, 17(1).
- Zhang, T. (2021). Chinese parents’ perception of emergency remote K-12 Chinese parents’ perception of emergency remote K-12 teaching-learning in China during the COVID-19 pandemic. *Education Faculty Publications*, 16(1), 16–30. https://digitalcommons.cedarville.edu/education_publications/118



2

Exploring Future English Teachers' Reflection towards Multimodal Reading Tasks on Virtual Learning Platforms

*Elih Sutisna Yanto, Hikmah Pravitasari & Junjun
Muhamad Ramdani*

Introduction

Globally the pandemic of COVID-19 affected by the new virus SARS-CoV-2 has changed social interaction and organisation in the education sectors, such as universities, and the initial teacher education (ITE) programme has not been excepted. Across the world, educational institutions have transformed their learning platform from face-to-face classes to virtual classrooms to mitigate the spread of COVID-19 and to slow the spread of the virus. As a result, in Indonesia, for example, the policymaker, i.e., Ministry of Education and Culture, was to close schools as early as mid-March 2020. To prevent learning loss during the period of this pandemic, ITE programme should adapt a new educational framework, i.e., a virtual digital learning platform that may contribute to learning continuity for the students though faced with the uncertainties of the new normal and the escalating pandemic.

On the one hand, online learning may have advantages, including increased accessibility, higher learning quality, better preparing students for a knowledge-based society, a chance for lifelong learning, and many more (Appana, 2008). For example, through these learning platforms, students can access the lectures anytime and anywhere. In contrast, many online learning platforms reveal their limitations. Among

these are (1) startup funding for online learning, (2) organisational readiness, and (3) student preparation. Additionally, not all students have access to an adequate Internet connection. Some students experienced network issues and lacked good learning devices.

Virtual learning, learning supported by digital technologies, is considered vital during the COVID-19 pandemic, despite some practical problems. Digital technology is in global curricula (Harju et al., 2019). Chen et al. (2020) argued that “technologies have been widely applied to teaching and learning, including language education. And the quantity, quality, and diversity of the technologies that have been integrated into language learning are significant” (p. 1). Globally, teacher educators use technology to store, organize, and present information and support multimodal and nonlinear teaching strategies. They may choose a learning management system (LMS), content management system (CMS), virtual learning environment (VLE), or knowledge management system (KMS) (Khan, 2001; Nichols, 2003; Wilen-Daugenti, 2009). To the extent that the terms are used synonymously, some see each term differently.

Gagné et al. (2005) delineated “a CMS as having tools associated with the development and delivery of courses which are placed onto the Internet, further defined as a Collaborative Learning Environment” (p. 219). Still, the authors define “an LMS as more of management system for the delivery of online learning” (p. 339). Nichols (2003) confirmed that the LMS is primarily utilised for online courses and components, but he uses the word ‘eLearning’ to refer to the tools used to offer the learning experience. Two authors use the following terminology interchangeably: Wilen-Daugenti (2009) used CMS, LMS, and VLE interchangeably, but Wagner (2001) used LMS, KMS, and Knowledge Content Distributors, a phrase described as the prototypical term for all three.

Students must have a deep understanding of multimodal texts when discussing and interpreting illustrated fiction, images, films, course book materials, websites, digital learning materials, and their own personal learning environment (Nagy, 2020). Therefore, they understand multiple modalities. Since these students are learning to use and teach language, their visual communication and understanding are often overlooked (Nagy, 2020). Future English teachers (FETs) who use voice, gestures, and bodies to convey meaning, need multimodality literacy. They must use traditional teaching aids such as whiteboards and interactive whiteboards as well as information and communication technology (ICT) tools such as internet, e-dictionaries,

audio-video materials, virtual television, audio graphics, and podcasting, which requires understanding paralanguage (nonverbal communication) (Hood, 2011; Martin & Zappavigna, 2019).

In the era of multimodal literacy, university students have access to richly illustrated textbooks and multimedia components. Studies on the connections between the two domains (e.g., Early et al., 2015; Kress, 2000) show that the connection between language and other semiotic systems did not become clear until multimodality became a topic of discussion in language teaching. Without explicit knowledge of semiotic systems, the educational affordances of the resources may remain unreached, and the meaning potential of the students may remain unequal. As Camiciottoli and Campoy-Cubillo (2018) revealed, the priority now is to “find ways to adapt and integrate multimodal and multimedia resources for classroom materials and activities” (p. 1).

Through FETs reflection, this research explores FETs’ experiences of the benefits and challenges of virtual learning, FETs’ motivation, engagement, and autonomy in their multimodal reading tasks on virtual learning during the current worldwide pandemic, and the resources and solutions that can be offered in the future to address these incidences. Hence, this study examines how COVID-19 affects FETs’ multimodal reading learning. According to Beauchamp (2015), academic and practical ITE programmes emphasize reflection. FETs may not be able to overcome the harmful effects of inappropriate learning perspectives without the ability to reflect on practice (Miller & Shiet, 2016). Including reflective journals in university-level foreign language instruction has been shown to be beneficial (Jewitt, 2005; Kim, 2014; Lee, 2010; Oskoz & Elola, 2016). Besides, literature reveals that FETs’ reflection on multimodal reading tasks on virtual digital platforms is poorly studied and the implementation of this digital instructional learning in the ITE context remains under-explored. To fill this gap, this chapter reports findings drawing on a virtual learning project on the multimodal reading tasks during the COVID-19 pandemic. Additionally, through this paper, the authors attempted to capture the existence of such changes. A research question guiding this study is: What is FETs’ reflection toward multimodal reading tasks through virtual learning platforms?

The following subsections present a thematic review of relevant literature highlighting the variables under study including their emerging trends and issues in the relevant areas including learner autonomy, self-reflection, and multimodal literacy.

Learner Autonomy

The notion of learner autonomy is an elusive construct and intricate to define. A range of terms about learner autonomy used by researchers includes 'self-instruction' (Hughes, 1997), 'self-regulation' (Bown, 2009), 'independent learning' (White, 2008), 'self-access learning' (Reinders, 2000), and 'self-directed learning' (Holec, 1996). The most important thing about learner autonomy from this range of definitions is the importance of learners' engagement in learning. With this in mind, learners are required to take partial or total ownership of their learning processes (e.g., deciding on learning objectives, selecting learning methods, and evaluating progress), which are traditionally assumed to be the role of the teacher (Littlewood, 1999).

Learner autonomy is the ability to make reflective, rational, conscious, and valuable decisions in the learning process. Many researchers consider it a preferred education goal (Jacobs et al., 2016; Morgan, 1996; Tatzl, 2016; Teng, 2019; Winch, 2002). Dearden (1972) defined autonomy as the ability to reflect on one's desires, wishes, and thoughts, make independent decisions, and take responsibility. Promoting students' autonomy in the learning process inspires thinking and develops positive attitudes toward lifelong learning, as Simard (2004) asserts. Sharples et al. (2002) suggested the most effective learning occurs when the learner is in control of the activity and can experiment, ask questions, engage with others, seek out new knowledge, and plan new actions. Self-autonomy in the language classroom helps students take responsibility for their progress, learn how language works, respond better to the target language, set clear goals, and use available strategies and resources to enhance their strengths and solve their weaknesses (Villamizar & Mejía, 2019).

Self-Reflection

Dewey (1933) defined self-reflection as "active, persistent, and careful consideration of any belief or supposed form of knowledge in light of its grounds and further conclusion" (p. 9). Founded upon the work by Dewey, Kolb (1984) foregrounded that individual reflections on their experiences lead to learning and this reflective observation forms part of the Kolb's model of experiential learning. Other scholars also assert that reflective practice in the forms of journal and diary can be advocated in various ways (Cirocki & Farrell, 2017a; Richards & Farrell, 2005). Reflective journals, also called teacher logs or diaries, allow teachers to "experiment, criticize, doubt, express frustration, and raise questions" (Bailey, 1990, p. 218). Journal writing helps clarify understanding and engage in deep critical thinking. Teachers or future teachers can reflect on what they do, how they do it, and why. By keeping

a journal, teachers or future teachers “become more aware of the teaching-learning process” (Cirocki & Farrell, 2017b, p. 10). Such reflective writing is important in initial teacher education and in-service training (Kabilan, 2007). In language education, teachers or future teachers use in- and outside-classroom technologies. These platforms (WhatsApp and Edmodo) engage students in writing reflection (Jewitt, 2005; Kim, 2014; Lee, 2010; Oskoz & Elola, 2016).

Multimodal Literacy

Multimodal literacy “explores the design of discourse by investigating the contributions of different semiotic resources (e.g., language, gesture, image) co-deployed across various modalities (e.g., visual, aural, somatic [physical]) as well as their interaction and integration in constructing a coherent text” (O’Halloran & Lim, 2001, p. 14). According to Hines (2014), multimodal literacy which is a subset of critical literacy theory, intends to transform students into active agents to engage with the world. Multimodal texts communicate meaning through two or more modes. Written, spoken, visual, audio, gestural, tactile, and spatial meaning patterns are modes. Picture books, textbooks, graphic novels, comics, and posters are multimodal texts that express meaning through visual, written, and spatial modes. Film, animation, slide shows, e-posters, digital stories, and web pages use written and spoken language, visual, audio, gestural, and spatial modes. Dance, performance, and oral storytelling are live multimodal texts that combine gestural, spatial, spoken, and audio modes. Each mode creates meaning using semiotic resources (Kress, 2010).

The exclusive term ‘multimodal literacy’ provides us with a framework that approaches literacy through multiple modes of meaning-making. One of its simplest definitions is “the ability to interpret linguistic, visual and audio resources as they combine in traditional and new media” (O’Halloran et al., 2017, p. 18). Van Leeuwen (2017) comprehensively defined the notion of multimodal literacy as “who points out the importance of knowledge of semiotic modes and communicative contexts apart from the ability to combine different modes creatively” (p. 5). Extensive research in multimodal education has demonstrated that such requirements require the growth of multimodal pedagogy at all educational levels (e.g., De Silva & Feez, 2018; Jewitt, 2008; Unsworth, 2008).

Nowadays, language is viewed as a communicative resource. Language pedagogy approaches have focused on educational discourse in authentic contexts of use. Thus, what language learners do with language is mainly

concerned with whole texts in context. Halliday (1978), the God Father of systemic functional linguistics contends, “language arises in the life of the individual through an ongoing exchange of meanings with significant others” (p. 1). He proposed the main concepts of the social theory of language as follows:

1. Language is a resource for making meaning.
2. The resource of language consists of a set of interrelated systems.
3. Language users create texts to make meaning.
4. Texts are shaped by the social context in which they are used.
5. The social context is shaped by people using language.

In this study, the course was based on the text-based pedagogical approach, which aims to “increase understanding of language structure and social context” (Feez & Joyce, 1998, p. 3). The guiding pedagogical principle was the text-based approach which specifies texts language learners must understand, produce, and distribute to participate effectively in social contexts. Language learners engage in teaching-learning cycles to learn text type (genre), social purpose, text organisation (generic structure), and lexico-grammatical features. The cycle of teaching and learning activities in genre pedagogy consists of a number of phases that both the teacher and students experience to gradually create independent text-type control (genre). Each phase of the teaching-learning cycle has a different goal. Each phase involves different activities. FETs went through five stages: building knowledge, modelling text (scaffolding), joint construction, independent construction, and review and assessment (Figure 1).

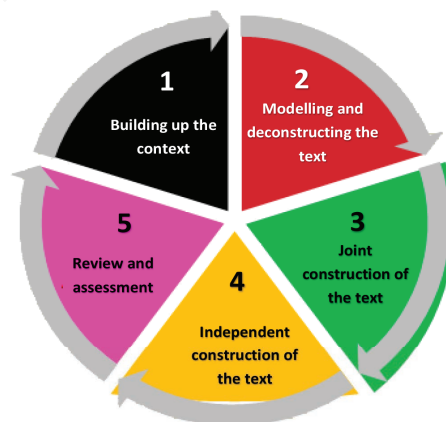


Figure 1 The teaching-learning cycle of genre-based literacy pedagogy
Source: Adapted from Rothery (1994, p. 8)

Previous Research in Virtual Learning

Digital learning is web-based learning that uses IT to teach students. Previous studies have confirmed some results of face-to-face interaction turned into online classroom during the COVID-19 pandemic. Due to the COVID-19 pandemic, a Hong Kong university has switched from face-to-face to online instruction, according to Moorhouse (2020). It highlights the lecturer's changes and the difficulties adapting to the new method. The online content includes readings and session materials on a learning management system (LMS) and an instant messaging platform (IMP) to support outside-class discussion (Moorhouse, 2018). He added that both asynchronous and synchronous teaching methods were used in the online course. Asynchronous online instruction includes readings, session materials, annotated PowerPoints, and instructor voice-over narration. Synchronous online instruction consists of one-hour video-conferencing lessons.

Nguyen (2020) explored the readiness to use ICT in collaborative writing held by teachers and students in a university English as a foreign language (EFL) learning context in Vietnam. Collaborative writing in this study means students collaborate to do the writing tasks in groups as required by their teachers. The objective of this study can also be understood as the investigation of whether teachers were ready to conduct ICT supported collaborative writing among their students and whether students were ready to use ICT for collaborative writing with other students. This study employed a mixed-methods case study with two phases. The focus of this chapter included phase 1, in which quantitative data were collected through online surveys. The findings suggest that both the teachers and the students revealed that they had experienced using ICT in teaching and learning English. All teachers were informed that they used ICT in their teaching. The teachers tended to use ICT primarily when they were teaching vocabulary, listening skills, and grammar. The results of the surveys indicated that although both the teachers and students possessed a high range of technological devices, especially laptops and smartphones, they mainly employed ICT in learning and teaching input skills such as vocabulary, grammar, and reading, but not output skills such as speaking, and writing.

Nagy (2020) implemented multimodal literacy in high school English. She taught "Making Meaning with Visual Narratives" to Hungarian English majors. She collected writing assignments, questionnaires, multimodal texts, and teaching notes. Her research investigates how a multimodal literacy course was created and implemented to help pre-service teachers comprehend and create multimodal texts. Results show multimodal literacy

development is relevant and feasible in higher education. She found that course preparation required multimodal literacy knowledge. Using the teaching-learning cycle and sociocultural theory concepts like mediation and scaffolding, a multimodal classroom was created. She emphasised that most of the discussed resources are paper-based multimodal, and digital multimodal literacy is needed. She concludes that semiotic modes other than pictures and words are part of multimodality and that research into multiple modes is needed to fully understand multimodal literacy (Nagy, 2020).

Lewis and Lewis (2020) conducted a mixed-methods study on 20 Japanese university students' EFL reading achievement and intercultural awareness. They used a cross-cultural graphic novel to overcome language and cultural barriers and boost literacy. They examined asynchronous e-learning discourse for evidence of higher-order literacy and intercultural sensitivity (Edmodo). Student opinions were gathered using a thematic analysis of an open-ended survey. Reading achievement improved, but intercultural awareness did not ($p = 0.05$). Student satisfaction was high with multimodal literacy training, asynchronous computer-mediated discourse (ACMC), and other emerging topics. This study shows that low-level EFL readers can contribute well-reasoned opinions about serious literature when teachers use ACMC platforms. These results suggest that low-level EFL university reading instructors should use non-traditional reading and learning modalities, especially for students with high cognitive maturity and low reading skills.

In short, many policy, institutional, and teacher factors can impact face-to-face and online teaching and learning during the COVID-19 pandemic, as documented in the above literatures. This study reports FETs' reflections on multimodal reading tasks on virtual learning platforms (i.e., Edmodo, Zoom conference, WhatsApp group). The study examines FETs' learning outcomes, such as reflective journals and graphic organisers, after multimodal reading tasks through five-step learning cycles such as knowledge-building, text deconstruction, joint-text construction, independent-text construction, and review and assessment. Marchetti and Cullen (2016) said a multimodal approach is complex because it draws from educational history, sociolinguistics, design, and social semiotics. Multimodality combines linguistic, visual, auditory, gestural, and spatial modes of meaning (Mills, 2009, p. 106).

Through reflection and graphic organisers, FETs' autonomy, agency, engagement, confidence, skill set, and ability to collaborate online will be investigated through graphic organisers (GOs). GOs offer visual representations of knowledge and methods of structuring information or

grouping essential components of a concept or topic using labels (Ellis & Howard, 2007; Bromley et al., 1995). They are standard tools for fostering reading and writing skills, especially argumentative writing (Ellis & Howard, 2007; see also papers in Kirschner et al., 2003). Adcock (2000) asserted GOs reduce cognitive load, allowing students to compare, diagnose, and use parts of the rhetorical problem they are solving (Flower & Hayes, 1981).

The Study

The research question guiding this study was ‘what are future English teachers’ reflections toward multimodal reading tasks through virtual digital platform learning?’ To address this question, the qualitative approach was adopted as it informed individual understandings, meanings, and experiences (Kingley et al., 2010). It was also used to guide us to examine FETs’ reflection multimodal reading tasks through virtual digital learning platform situated in the online classroom. Framed under a narrative case study, this study examined the non-hypothetical question and naturally occurring phenomena as well as attempted to understand multiple constructions of meanings and knowledge situated in a higher education context (Stake, 2010). The adoption of the narrative case study was to capture such a micro-social reality showing lived experiences of FETs who experimented with multimodal reading tasks. In this study, the authors used the term ‘digital learning’ to refer to FETs using digital technology as a part of instruction in a formal educational context. FETs used personal laptops or other types of personal computing devices for studying and learning, i.e., smart phone.

This study was situated in the English Education programme engaging the first year FETs because of two considerations. First of all, the authors obtained entry access to this university, in which the second author played a role as the teacher educator in the university. Secondly, the course was relevant with the curriculum set by the university. Although the participants were FETs under one of the authors, the negotiation process became critical to be considered because it made them more humanized as they were engaged in whole process of this research. Therefore, they also obtained the details of the research, and how it impacted personally and institutionally.

This study was conducted for two months, from March to May 2020. About 25 of the first year FETs as participants were recruited voluntarily in this study. They were trained to become primary or secondary English teachers. Out of 25 FETs (5 males and 20 females) joined the online classroom, 8 of them voluntarily agreed to submit their learning reflection during the online learning. The participants’ age ranged from 19 to 21 years old, and their English

language level was intermediate. For the ethical purpose, pseudonyms were employed in this chapter. Before the study commenced, the authors convened a meeting with the 25 FETs, distributed informed consent form sheets, and explained the details of an informed consent form. The authors asked them to read through and sign off the form to ensure that all the data would be kept confidential and be used for publication purposes. They agreed to sign the consent form as a legal document of their participation in this study. They also deserved the right to withdraw from the study without any penalty.

In this study, sessions were held one evening a week, and each session lasted for ninety minutes. The course introduced text types, meaning, grammar, expression, and assessment embedded in the current mandated curriculum context. The authors collaboratively designed multimodal reading tasks including the dissemination and storage of readings and session materials on a LMS, i.e., Edmodo and the use of an IMP. We also employed a well-known messenger apps (WhatsApp) which aimed to facilitate out-of-class communication. Genre-based reading instruction was employed to facilitate FETs to apply the process of meaning-making in their virtual learning environment. All FETs went through five-step learning activities, such as building knowledge, scaffolding, or modelling, joint construction, independent construction and review, and assessment (Figure 1 and Figure 2) inspired by the teaching-learning cycle (Rothery, 1994). While the second author served as an online classroom teacher educator, the first author, the second author and the third author wrote the materials and learning activities (Figure 2).

At the outset, FETs were asked to search YouTube for multimodal texts on the COVID-19 pandemic, including text, audio, and visuals. They had to understand the video's content and write down why they chose it. This helped them navigate, view, and think critically. In the second week, the teacher provided FETs with virtual scaffolding about the concepts of text types and multimodal texts. This stage aimed to improve their text and multimodal literacy. The virtual class was held using Zoom. Later, FETs discussed their chosen video in small groups on Edmodo, analysed the text type, and reported the result in the reading log in the third week. This third-week learning aimed to tailor FETs collaboration and critical thinking skills. In the fourth week, the teacher demonstrated how to complete the reading log and gave virtual feedback. Zoom was used for the online discussion. In the fifth week, students revised their reading logs to create a graphic organiser based on their multimodal texts. While they could develop their writing skills through experiencing revision, they also benefited the development of creativity throughout the sixth-week learning. In the seventh and eighth

weeks, they submitted their revised graphic organiser for Edmodo discussion. This two-week learning aimed to help students develop their collaboration skills such as the sense of respect, responsibility, and authorship.

The sessions were completed by engaging the students in reflective practice and assessment on week nine and ten respectively. They learned to reflect on their learning experience of multimodal texts to help them understand what they learned, why they learned, how they learned, what they could do to learn better in the future. In addition, the assessment including reading quizzes and e-portfolios (reading log, graphic organisers, and reflective journals) was used to see both individual and collaborative performance. Table 1 summarises the instructional procedures on virtual class activities.

To investigate FETs' reflection toward multimodal reading tasks through virtual learning platform, empirical data were collected through FETs' reflective journals and their graphic organisers as an assessment. Reflection serves to understand personal and professional stories as lived experiences (Hagevic et al., 2012). This reflection was also a tool for action and change because it helped to enhance self-awareness of experience (Widodo, 2015). In this study, to enable reflection, FETs wrote reflective journals as a tool for reflecting on what they experienced in their engagement of online classroom learning activities. They also wrote a reflective diary as a tool for documenting their learning journey and for increasing awareness of their autonomous learning (Widodo, 2015). As the researchers, the authors also wrote reflective journals, which documented our interactions with all the research participants and recorded our research journey over two months. Thus, reflective journals or diaries helped the research participants, and the authors understand our own experiences and practices and become more reflective, critical, and analytical about what the authors did.

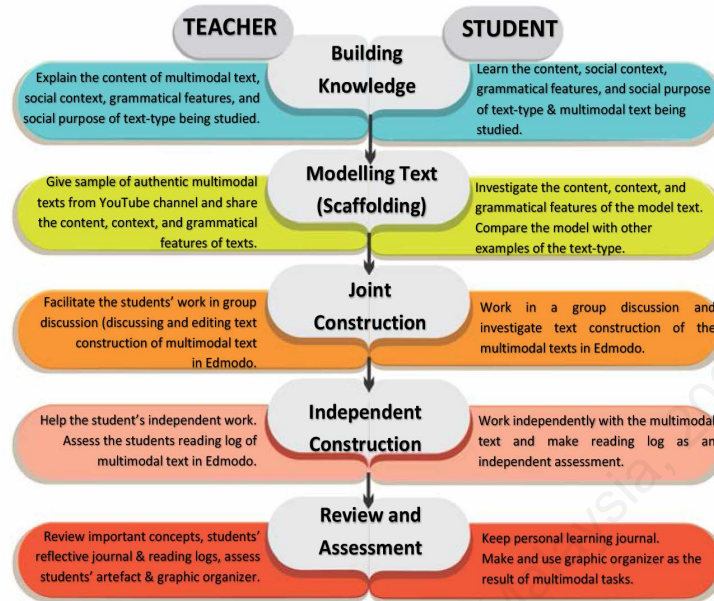


Figure 2 Steps in reflective multimodal reading tasks on virtual digital learning platform
Source: Adapted from Rothery (1994)

Table 1 Instructional procedures on virtual class activities

Job descriptions	Responsibility	Technological tools	Language/skill focus
Building knowledge Student: Explore multimodal texts topics: COVID-19 pandemic. Teacher: Share and explain the concepts of text types and multimodal texts.	To develop students navigating and viewing skills and critical thinking skills in reading multimodal text. To help students develop their literacy skills of texts and multimodal texts.	Edmodo, YouTube channel, Zoom meeting	<ul style="list-style-type: none"> Reading comprehension through content, context, grammatical features of the text Critical thinking
Modelling text Student: Investigate the content, context, grammatical features, social purposes from the model text provided by the teacher.	To develop students navigating and analysing text skills and critical thinking skills in reading multimodal text.	Edmodo, YouTube channel	<ul style="list-style-type: none"> Reading comprehension through content, context, grammatical features of the text Text analysis skill Critical thinking

(continued on next page)

Table 1 (continued)

Job descriptions	Responsibility	Technological tools	Language/skill focus
<p>Teacher: Provide the authentic model text from BBC Learning English with the structure of the text, grammatical features, context of the text (register), social purposes of the text.</p>	<p>To encourage and scaffold the students navigating and analysing text skills and critical thinking skills in reading multimodal texts.</p>		
<p>Joint construction</p> <p>Student: Work in a group discussion discuss their selected video, analyse the text type, text content, grammatical features and context of the text and reported the result of the discussion.</p> <p>Teacher: Provide several questions and table of text construction and grammatical features of the text in students tasks form.</p> <p>Give feedback on the students' work group through virtual scaffolding.</p>	<p>To develop students' collaboration and critical thinking skills.</p> <p>To facilitate and scaffold the students group work in analysing the content of the multimodal texts.</p>	<p>Edmodo, Zoom meeting</p>	<ul style="list-style-type: none"> • Peer review • Collaboration and critical thinking skill
<p>Independent construction</p> <p>Student: Work independently through selected multimodal text by completing the reading log.</p> <p>Teacher: Provide the model of reading log for the students' independent work and assist the student's work.</p> <p>Give feedback on the students' reading logs through virtual scaffolding.</p>	<p>To develop students' independent skill of text analysis and critical thinking.</p> <p>To assist the students independent work and assess the reading log.</p>	<p>Edmodo</p>	<ul style="list-style-type: none"> • Peer review • Text analysis skill • Critical thinking

(continued on next page)

Table 1 (*continued*)

Job descriptions	Responsibility	Technological tools	Language/skill focus
Review and assessment Student: Revise their reading log to help them create a graphic organiser based on the multimodal texts they selected. Make personal learning journal by following the table of student's reflective journal. Teacher: Review important concept of text type (content, context, grammatical features, social purposes). Review the student's reading log and graphic organiser. Review and give feedback on the student's reflective journal. Assess the student' reading artefact.	To develop collaboration skills such as sense of respect, responsibility, and authorship. To see the student's progress of reading works in multimodal texts and reach the learning goals.	Edmodo	<ul style="list-style-type: none"> • Peer review • Interpersonal skill (sense of respect, responsibility, and authorship)

Qualitative data garnered from the reflective journals was analysed using Braun and Clarke's thematic content analysis to identify, analyse, and report patterns of this study (Figure 3). The authors reviewed the collected data, took notes, and began to group the data into classifications. All the data were coded and labelled using critical words or phrases highlighted. Six steps in thematic analysis fluctuated between these phases: familiarising the collected data, generating initial coding, searching for themes, reviewing themes, defining and naming themes, and writing up the final report (Braun & Clarke, 2006, p. 97 for a thorough description of each step). To finalise the emerging themes, the data were classified and coded with regard to the frequent themes. Therefore, this phase helped portray the arising findings, which were relevant to the aims of this research. Although the authors analysed and categorised the journal entries submitted by all 25 participants (using pseudonyms here to procure anonymity), we provided excerpts from only five digital journals. Having finished the online course, the second author collected the data from the participants. All the authors collaboratively analysed the data and wrote the research report. To prevent the bias, the authors collaborated with the participants in order to comprehensively portray and report the findings. The phases of data analysis are presented in Figure 3.

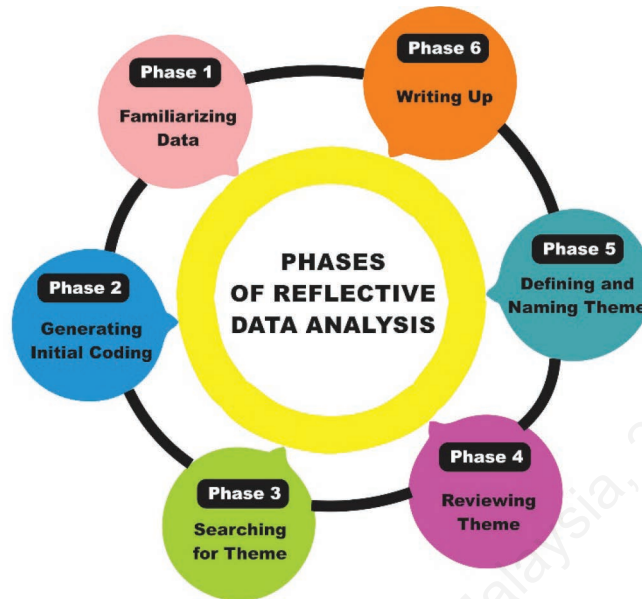


Figure 3 Phases of reflective data analysis

Source: Adapted from Braun and Clarke (2006, p. 97)

Results and Discussion

Based on selective FETs' reflection data analysis and graphic organisers, four finding themes were identified, such as (1) FETs' experiences of the benefits and challenges of a digital learning, (2) FETs' motivation and engagement, (3) FETs' autonomy in their digital learning process, and (4) FETs' reflection towards multimodal reading tasks using graphic organisers. These themes reflect the question under study stated earlier.

FETs' experiences of the benefits and challenges of digital learning

All participants expressed in their reflections that learning reading digital texts was a useful task. It allowed them the opportunity to study the topics anytime and anywhere, this helped minimise feelings of anxiety. They also considered it as a fun and creative exercise that is very different compared to the face-to-face classroom. Regarding FETs' experiences, they had both positive and negative experiences while learning reading digital texts on their computer tools or smart phones. They reported that they had positive experience learning reading through virtual learning. Most of FETs enjoyed their online learning process. For example, Putra (pseudonym) said:

I could understand deeply the materials since I learned them through WhatsApp. It was simple and easy than Edmodo website. We could discuss every material learned by casual chatting and put much attention on the important discussions. I had learned a lot from online discussion. I could see how my classmates organised their graphic organisers. For me, working on graphic organisers was something new. I never did it before. We regularly posted our quiz answer and graphic organisers and invited our classmates to provide feedback on the topic discussed.

Further UMI (pseudonym) wrote:

Learning reading through virtual made my learning activities fun and interesting. Through online discussion I could post and comment my opinion freely toward the materials learned. I could repeat and learn the materials as I wanted. This learning process helped me built my confidence of learning reading that I felt uneasy in the face-to-face classroom. This learning process made me realize the potential of social media for language learning. I was very happy the way my teacher encouraged me and my friends to contribute to online discussion. The source materials are available there; I didn't have to look anywhere else so I could save time. There were articles, PowerPoint slides, and videos. Those were very helpful.

The two FETs' reflections indicate that learning reading through virtual learning were positive for them because this platform allowed them to post, comment on, share, and discuss the topics learned. FETs' voices here reveal that flexibility, agency, engagement, confidence, skill set, and the ability to collaborate through online discussion are the important point that the students experienced during their learning reading digital texts. In these platforms, they could read the source materials at their own time. They read through the materials to have a good understanding of the topics learned, so that they felt more confident to participate in the online classroom. These benefits are also articulated in previous studies that similarly focused on the perceived usefulness of integrating ICT in the teaching and learning process (Aslan & Zhu, 2016; Hinostroza, 2018; Kilinc et al., 2018; Lawrence & Tar, 2018). The availability of myriad sources online that the students could access at their flexible and convenient time was reflected by the students to be helpful in their effort to understand a topic. This statement is in line with Al-Dosari's (2011) finding that online course users considered accessibility to be the greatest advantage of online learning. Online learning is developing as a winner of the games among this COVID-19 pandemic. Consequently, the quality enhancement of online teaching and learning (OTL) is crucial at this time. Carey (2020) contended that in Chinese universities, online education has augmented exponentially after the COVID-19 outbreak. He added that

there was a rapid shift of normal classrooms into e-classrooms. In other words, educators have changed their entire pedagogical approach to deal with new normal conditions and adapt to the changing situations. During this challenging time, the involvement is not about whether OTL methods can provide excellence education; it is rather how academic institutions will be able to adapt and adopt online learning in such a massive manner.

Even though the participants felt that learning reading digitally was useful and attractive, they also described the challenging factors that made them inconvenient. One of these involved frequent disturbances. Due to unstable internet connection, there was difficult to access the learning materials and students were difficult to join the online discussion. Nani (pseudonym) said, "to me the frequent constraints in the learning teaching activity process are the problem of unstable internet connection. Especially when the weather in the area is slightly dark, it will certainly affect the good quality of a signal in the area and cause uncertainty to access the learning materials". Regarding this, Lawrence and Tar (2018) asserted that teachers in using technology are frustrated when the internet is slow and inaccessible; when clicking on a link, it needs a very long time to open it and when the page is open, it is not useful anymore. Nani added, "I think the quality of learning process become ineffective because in online learning sometimes there is a distance between students and a lecturer that make the virtual class interaction was passive. I got a boring time when I should learn online all day. I cannot meet face-to-face with my friends and my lecturer as in the traditional classroom". Yeti (pseudonym) added that, "online class sometimes is not effective because during the discussion I cannot share my difficulties toward the material of grammatical features of the text type due to the limited time and overlap comments from my classmate. And I can't stop loving face-to-face classroom. Personally, I miss the time to learn face to face in the classroom and I hope we can be back to normal situation soon." Nguyen (2020) revealed that teachers utilised ICT most frequently when teaching vocabulary, listening skills, and grammar. She stated that over 81% of the teachers daily utilised ICT to teach vocabulary, and 75% of the teachers daily used it to teach listening and grammar. Nearly 63% acknowledged the everyday use of ICT for teaching speaking. The use of ICT in teaching reading or writing was less popular. Only 56% used ICT to teach these skills every day (p. 247).

FETs' motivation and engagement

The classification of 'affection, attitude, and motivation' collective results associated to feelings, willingness, and attitudes to a certain object or activity. It also included results related to students' engagement in the learning

process or motivation to participate in certain learning activities in terms of learning reading digital texts. At the outset, all the student teachers (FETs) felt pressured to do the activities of reflective multimodal reading through virtual digital platform learning because they had to study, understand, access and download, participate and keep personal learning journal and make and use graphic organisers. As they got accustomed to five tasks: studying the topic learned, understanding the new platform of multimodal text, accessing and downloading the online materials through email, WhatsApp and Edmodo website, participating and keeping personal learning journal and making and using graphic organisers as a tool to help the students in organising ideas and concepts into a meaningful visual which is easier to remember than a long piece of text. The students felt that the learning activities virtual digital platform enabled them to engage in three mutually reinforcing tasks: reading, reflection, and writing. They admitted that they wrote reflective journal and made graphic organisers for their peers and the teacher educator as a tool for reflecting on what they experienced in their class activities and their engagement in the course. The students also wrote a reflective journal or diary as a tool for documenting their learning tour and for increasing alertness of their own learning.

Chan (pseudonym) admitted that:

After a month I joined online learning, I felt it was not yet effective, but it was the best way to keep going on the learning activities and to keep in touch between students and the teacher during pandemic of COVID-19. I was very eager to participate in the online learning. I could understand the materials provided by the teacher in Edmodo website. And we discussed respective materials by casual chatting and put much attention on the discussions. Reflective journal and graphic organisers motivated me to share and discuss what I understood after joining the online classroom. I felt at ease that I could discuss what I did not understand with my friends and teacher in online classroom. This online classroom platform helped me learn reading in different way. This helped me build my confidence of learning English that I felt uneasy in the face-to-face classroom. The teacher always reminded me that I needed to read through the materials in order to understand better. I was motivated to learn because I wanted to understand. I thought that it was a good idea and the solution to keep in touch with the learners at this time. But for future maybe it would be better to return to the traditional.

The FETs also viewed that video viewing were convinced. All of the participants enjoyed watching the video provided in Edmodo website featuring several important modes in terms of the visual, text, and audio. FETs used the videos in learning multimodal texts. In FETs' reflective journals, they wrote that video viewing contained authentic vocabulary that made sense the tasks. The participants implemented meaning-making-oriented readings tasks using both printed texts and digital texts as efforts to complete the reading tasks. The ultimate aim of the tasks was to expose the participants to various texts and engage them in different meaning-making activities (Widodo, 2015).

The FETs' view of multimodal reading activities was convinced. All FETs engaged with these activities. The most significant finding of this study is that virtual learning has a greater influence on learners' motivation compared to conventional pedagogy (Wong et al., 2016). In this study, FETs were engaged in the virtual classroom activities such as accessing and downloading the online materials, video viewing, keeping personal reflective journal, and making graphic organisers that stimulated their motivation and engagement in the virtual learning. This finding leads to the teacher educators' concern in considering their methods in delivering the materials to their students in the pandemic of COVID-19. As Nouri (2019) reported that because of technology, the way university students' self-study in construing or understanding knowledge has evolved from monomodal learning practice to multimodal learning practice. Thus, texts are viewed not only linguistic mode. They are made up primarily of letters and words. However, most of texts are multimodal such as comics/graphic novels, picture books, newspapers, brochures, print advertisements, posters, storyboards, digital slide presentations (e.g., PowerPoint), e-posters, e-books, and social media.

Therefore, the most frequently used students' construction and consumption of learning material mainly take place in a multimodal way. Like what Kress (2010) argued, "different modes offer different possibilities for meaning making" (p. 79), and students use the affordances of different modes (audio, video, images, etc.) because these modes help them construct knowledge more effectively than when restricted to the mode of text alone. By engaging in varied semiotic work with a variety of modalities, students are afforded greater opportunities to interpret course content and course activities.

FETs' autonomy in their digital learning process

All participants agreed that learning multimodal reading through virtual digital platform was time consuming, and it needed efforts. But self-directed tasks had encouraged them to be independent learners or autonomous

learners. Learner autonomy, or the capacity for self-directed study, according to Hu and Du (2013), is the acquisition of subject consciousness and self-awareness throughout a learning activity. However, one-third of them were frustrated by tool difficulties while attempting to download, upload, and distribute submission chores. The majority of respondents indicated that mobile phones, not desktop computers, were problematic while attempting to access the online class. In addition, the internet access facilities were inadequate in terms of both speed and dependability. These indicate that Indonesians have limited and uneven access to computers and the internet (Wahid et al., 2004). In other words, it should not be assumed that all university students have internet access, nor should it be assumed that all students come from varied backgrounds.

Sam (pseudonym) wrote that the internet was helpful in enriching his knowledge on related subjects. He could find a lot of references and materials that were useful for his learning tasks. With the use of the internet, he no longer only relied on books and handouts since he could search other sources from the internet. He added that:

I focused on a self-led learning environment. The lack of dependence on face-to-face communication allowed me to think in abstract ways and make me push myself to work hard and innovate in order to understand the information the lecturer provided online course. The scope of learning was totally depended on my self-discipline and initiative and that could be a great development experience for my individual learning.

Farouk (pseudonym) told that fortunately, my lecturer uploaded a voice recorder to help us understand some theories of text type. It made me understand better about the grammatical features of procedure text and context of the text.

ESY (pseudonym) wrote that:

When I was learning about extensive reading this semester, I got new knowledge about multimodal text that I accessed it every day in social media. This topic of multimodal text opened my mind that reading was not just read a long text, but it could be a mixed text within audio and pictures. I loved the way my lecturer taught me during pandemic by guiding us in virtual group discussion. I learned that a good teamwork was the key to success in virtual learning when time and resources were limited. As everyone had their own point of view, many different ideas could be produced, and I found that the energy of group participation made me feel more energetic in analysing the structure and language features of a text. I discovered

that even the simplest text has its own meaning that the author try to share information to the reader and this social purpose of the text make it different with another text. With WhatsApp, Edmodo and Zoom meeting, we could keep in touch one another like a face-to-face classroom. I learned that every design of graphic organiser of a multimodal text has its weaknesses and strengths and working with a group could help discover what they were and I could prepare myself to work individually. We challenged each other's preconceptions about what would and would not work during virtual and online guiding from my lecturer. We could also see the reality of the way changing design learning in reading multimodal text by using reading log and graphic organiser that actually affected our performance and understanding the structure and meaning of the texts.

According to Kumaradivelu (2003), autonomy does not imply complete independence or being alone during the learning process. In contrast, autonomy is dependent on the teacher scaffolding students' critical thinking, decision-making, and independent action from the beginning. A learner with autonomy can determine their own self-learning processes, including what, how, and why they learn something. This signifies that students are accountable for their own learning, develop self-control and discipline, actively and consciously monitor and examine the use of methods to attain learning goals, and explore their own capability by addressing limitations and deficiencies and finding solutions. In this way, using technology like WhatsApp, Edmodo, and Zoom meetings lets students plan their own ways to learn the target language and go above and beyond what their teachers tell them to do (Allford & Pachler, 2007).

Additionally, Schunk and Zimmerman (1998) contended that when students become more efficient at self-regulating their learning over time, these actions appear to be an expression of autonomy. The change in students' autonomous learning could be particularly affected by the availability of the content and access to the learning activities in the Edmodo website. In other words, control over their learning resources reflects to the basis of students' autonomy not only attempting to do it but also actually managing it successfully. However, student attitudes to learning autonomously vary in terms of their cultural background and according to the personality of the individual. The stage of learner autonomy of any student will always be at a certain point along a continuum. By asking learners to explore the resources available to them in the Edmodo website, as well as encouraging them to take responsibility for their own learning, the authors set the students on the path to full independence. With this in mind, students probably could not stop learning and start the activities without the teacher's teaching and asking questions for clarification when in doubt. In addition, Villamizar and Mejía (2019) contend that self-

autonomy assists students in taking responsibility for their own progress. For this reason, students become more aware of how language works, respond better towards the content of multimodal texts, set clear goals to understand the social purpose of multimodal text types, grammatical features of the multimodal texts being studied, and adopt the use of strategies and resources available in order to optimise their strengths and manage their weaknesses. As a result, the authors confirm that learning multimodal reading tasks through virtual classrooms greatly influenced learners' autonomy compared to face-to-face classroom pedagogy.

FETs' reflection towards multimodal reading tasks using graphic organisers

This section highlights three main points. Firstly, the challenges of the use of graphic organiser for FETs. Secondly, the implication of using a graphic organiser for EFL classroom. Based on FETs' experiences expressed in their reflective journal, there are three challenges in using the graphic organiser in their online learning process. Firstly, 60% of students agreed that in creating graphic organisers during online learning, they needed strong internet connection to access the <https://app.creately.com> (Figure 4). Secondly, 40% of students were not highly familiar with graphic organisers. They had never created the graphic organiser for reading activity; therefore, they had to struggle in creating it. Thirdly, FETs had some misunderstandings about the instruction given by the lecturer during online learning. Therefore, the lecturer made some backup instructions to arrange the FETs' graphic organiser by online scaffolding individually. The individual online scaffolding helped them in accomplishing their graphic organisers properly. However, due to serving 25 students, the individual online scaffolding was time consuming.

GOs are graphic displays that make information simpler to comprehend and remember (Dye, 2000). It provides an organised, comprehensive portrayal of facts and ideas and their interrelationships. The use of GOs has been established in the sciences, social studies, language arts, and mathematics through research-based classroom applications. According to Coburn (2003), visual organisers are diagrams that depict the links between facts, ideas, and concepts. They are available in numerous formats, including flowcharts, webs, concept maps, and matrices. They are not organised in a linear style according to a sequence, as is the case with traditional outlines; rather, they reveal relationships through a visual structure that is linked and ordered by a conceptual framework. The teacher believes that by completing these assignments, FETs may use English as a means of refining their academic language (Yanto & Kusrin, 2020).

The following is the sample of FETs' graphic organiser journal in multimodal reading text. Kurt (pseudonym) wrote that the graphic organiser helped him summarise his reading using charts and pictures. At the first time, this task challenged him a lot. The lecturer gave him a COVID-19 topic to navigate his multimodal reading in BBC Learning English YouTube channel. He chosen the sub-topic about "COVID-19: A New Era for Cyclists?" (Figure 5). He wrote several information in the reading log (Figure 6). He had to complete his reading log to arrange his graphic organiser. When making the graphic organiser he got some challenges in putting the information inside the charts. Although the lecturer gave him clear instruction in making the graphic organiser, he needed individual scaffolding from the lecturer. After getting individual scaffolding, he could accomplish his graphic organiser thoroughly (Figure 7).

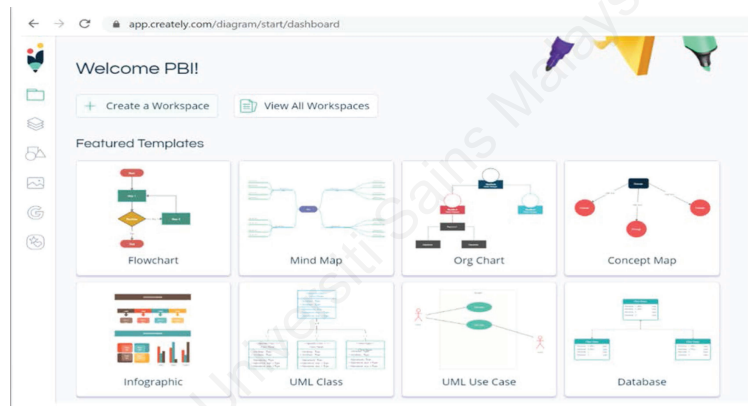


Figure 4 An example of graphic organiser online application

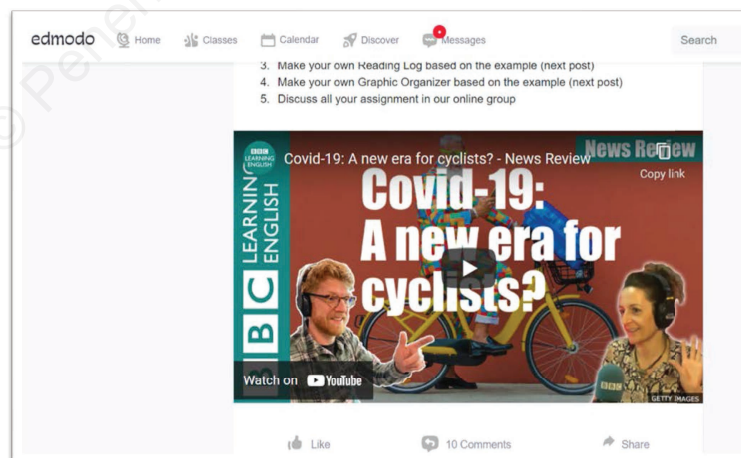


Figure 5 An example of multimodal reading text

Book/Video title : Covid 19 : It's A new era for cyclist ?					
Week/date	Minutes	A summary of the text	Grammar learned	Vocabulary learned	Key concepts
16 of may 2020	12:30 second	(headlines) Covid-19: A new era for cyclists?	<ul style="list-style-type: none"> Simple, compound, complex, compound-complex Verb Modal Subordinate Auxiliary Noun clause Adjective clause Adverb clause 	At the crossroads e.g. a point where an important decision need to be made	Covid 19, forbidden for public transport, a people bought a bicycle and cycle, many people interesting, boom time for cycling.
		(lead) many people avoiding a public transport.		Boom time e.g. a period in which there is a large increase in demand for something	
		(lead development) a lot of people are taking to two wheels.		Golden age e.g. A period in which a particular activity is	

Figure 6 An example of reading log

Summary of findings and implications

This chapter has presented the FETs' reflection towards multimodal reading tasks through virtual digital platform learning. The context of our study was higher education, particularly future English teachers' education programme during the pandemic of COVID-19 but the findings could be implemented in the general context of digital-driven learning. All the participants went through five-step learning activities such as knowledge-building, text deconstruction, joint-text construction, independent-text construction, and review and assessment to focus on making explicit and direct links between past learning related to the students' schemata and new concepts, comprehensible input to consider adjusting teacher modelling multimodal reading to enhance comprehension, practice and application and review and assessment to assess students' learning and provided feedback to students on their output.

FETs were benefited from this digital platform such as the availability of myriad online sources which they could access at their flexible and convenience time. More importantly, autonomy, agency, engagement, confidence, skill set, and the ability to collaborate through online discussion are significant experiences during the multimodal reading tasks. Furthermore, three implications can be drawn in terms of making graphic organiser in FETs' online learning. Firstly, GOs (Figure 7) helps FETs improve their participation and communication skills in multimodal reading texts. By engaging in creating a graphic organiser, FETs get their understanding of the text, as well as receiving guided practice both in how to complete graphic organisers and how to use them to increase comprehension (Smith, 2010).

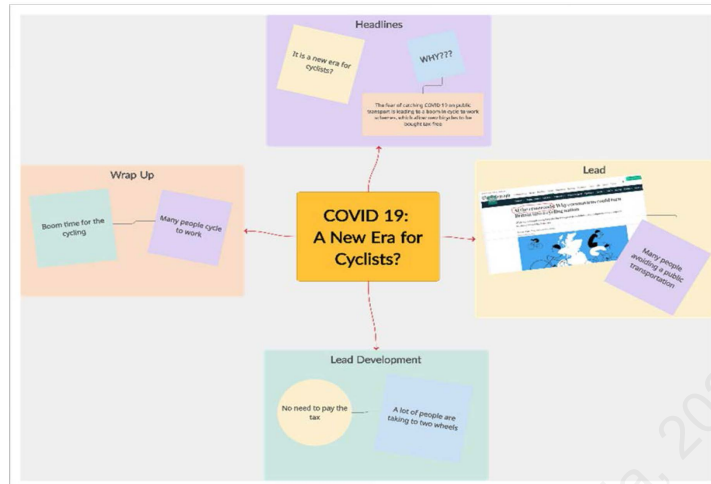


Figure 7 An example of graphic organiser

Secondly, GOs make the FETs more confidence in delivering their opinion about the topics discussed. GOs depict the discourse structure by representing the interrelationship among ideas and patterns of the text (Jiang, 2012). With this in mind, GOs play an important role in representing the text structure from a mere text to content suitable for discussion in classroom instructions (Jiang, 2012). In synchronous meeting using Zoom, the lecturer asked her students to show their graphic organisers by presenting their argument based on online discussion. For passive students, the prior knowledge will be useful for them because they have preparation in delivering their own opinion in their graphic organisers. Therefore, the FETs feel confidence when their lecturer asked them about the reading text that had been read before.

The last implication of using GOs in multimodal reading text is that it increases the student's creativity in reading activities. The use of GOs helps the teachers in engaging the students with the reading comprehension passage by using reading log. The FETs find it more interesting to work on a GOs and fill them with information collected from the reading log. Thus, Creating GOs makes it a task-oriented session. When lecturer demonstrated GOs as a summary of reading tasks, it indirectly motivates the FETs in creating their own GOs for the passages they read and comprehend. This improves FETs' creativity in reading class.

Conclusion

In conclusion, this study suggests that language lecturers or teachers should exploit the usability of GOs to enhance their navigating, viewing, and critical thinking skills in future OTL even in the post-pandemic era based on the following reasonings: (1) GOs help foster autonomous learners, (2) GOs can be easily scaffolded by various digital tools or platforms such as smartphone or computer and internet connection. Considering the fact that OTL will become a norm in the near future, language teachers should consider LMS and social networking system as learning media to improve students' productive and receptive language skills.

There are several limitations in this study. The authors employed the narrative case study approach to acknowledge FETs' reflexivity as a main instrument. The use of data sources was for gathering, interpreting, and re-presenting the 'data' (i.e., stories of FETs' lived experience with their engagement of online classroom learning activities), and views knowledge and knower as interdependent and embedded within history, context, culture, language, experience, and understandings (Etherington, 2004). The accuracy of this research design strongly relies on FETs' ability to track their thought process and report their experience with multimodal reading task activities. Moreover, the study does not provide statistical representation but only collects data solely from FETs' perspectives, hence the interpretation may suffer from subjectivity or bias over time. Another limitation is that the study focused on specific course context which occurred in the one of the English Education programmes in Indonesia.

To gain more comprehensive evidence of multimodal reading tasks on virtual learning platforms, future studies may focus on different populations and different proficiency levels, for instance, second to fourth year FETs at an advanced proficiency level. It is also suggested that future research may conduct longitudinal studies on the topic as a response to the call for minimising small-scale studies which may not help move the research forward.

References

- Adcock, A. B. (2000). *Effects of Cognitive Load on Processing and Performance*. Memphis, TN: University of Memphis, Instructional Media Lab.
- Al-Dosari, H. (2011). Faculty members and students perceptions of e-learning in the English department: A project evaluation. *Journal of Social Sciences*, 7(3), 291.

- Allford, D., & Pachler, N. (2007). *Language Autonomy and the New Learning Environments*. Berlin, DE: International Academic Publishers.
- Aslan, A., & Zhu, C. (2016). Investigating variables predicting Turkish pre-service teachers' integration of ICT into teaching practices. *British Journal of Educational Technology*, 48(2), 552–570. <https://doi.org/10.1111/bjet.12437>
- Appana, S. (2008). A review of benefits and limitations of online learning in the context of the student, the instructor and the tenured faculty. *International Journal on E-learning*, 7(1), 5–22.
- Bailey, K. M. (1990). The use of diary studies in teacher education programs. In J. C. Richards, & D. Nunan (Eds.), *Second Language Teaching Education* (pp. 215–240). Cambridge: Cambridge University Press.
- Beauchamp, C. (2015). Reflection in teacher education: Issues emerging from a review of current literature. *Reflective Practice*, 16(1), 123–141.
- Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Bromley, K. D. A., Irwin-DeVitis, L., & Modlo, M. (1995). *Graphic Organizers: Visual Strategies for Active Learning*. New York, NY: Scholastic Professional Books.
- Bown, J. (2009). Self-regulatory strategies and agency in self-instructed language learning: A situated view. *The Modern Language Journal*, 93(4), 570–583.
- Carey, K. (2020). Is everybody ready for the big migration to online college? Actually, no. *The New York Times*. <https://www.nytimes.com> (accessed on 13 March 2020).
- Chen, X. L., Zou, D., Cheng, G., & Xie, H. (2020). Detecting latent topics and trends in educational technologies over four decades using structural topic modeling: A retrospective of all volumes of *Computer & Education*. *Computer & Education*, 151, 103855.
- Cirocki, A., & Farrell, T. S. C. (2017a). Reflective practice in the ELT classroom [special issue]. *The European Journal of Applied Linguistics and TEFL*, 6(2), 1–2.
- Cirocki, A., & Farrell, T. S. C. (2017b). Reflective practice for professional development of TESOL practitioners. *The European Journal of Applied Linguistics and TEFL*, 6(2), 5–23.
- Coburn, D. (2003). Using graphic organizers. *Science Scope*, 27(1), 46–48.
- Camiciottoli, B. C., & Campoy-Cubillo, M. C. (2018). Introduction: The nexus of multimodality, multimodal literacy, and English language teaching in research and practice in higher education settings. *System*, 77, 1–9. <https://doi.org/10.1016/j.system.2018.03.005>
- Dearden, R. F. (1972). Autonomy and education. In R. F. Dearden, P. H. Hirst, & R. S. Peters (Eds.), *Education and the Development of Reason* (pp. 448–465). London: Routledge & Kegan Paul.
- De Silva, J., & Feez, S. (Eds.). (2018). *Multimodality Across Classrooms: Learning About and Through Different Modalities*. Routledge.
- Dewey, J. (1933). *How We Think*. Boston, MA: Heath and Company
- Dye, G. A. (2000). Graphic organizers to the rescue! Helping students link and remember information. *Teaching Exceptional Children*, 32(3), 72–76.
- Early, M., Kendrick, M., & Potts, D. (2015). Multimodality: Out from the margins of English language teaching. *TESOL Quarterly*, 49(3), 447–460. <https://doi.org/10.1002/tesq.246>

- Ellis, E. S., & Howard, P. W. (2007). Graphic organizers (Go for it): Power tools for teaching students with learning disabilities. *Current Practice Alerts*, 13, 1–4. <http://teachingld.org/alerts#graphic-organizers> (accessed on 22 May 2021).
- Etherington, K. (2004). *Becoming a Reflexive Researcher: Using Ourselves in Research*. London: Jessica Kingsley Publishers.
- Feez, S., & Joyce, H. (1998). *Text-Based Syllabus Design*. Sydney: NCELTR.
- Flower, L. S., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32(4), 365. <http://dx.doi.org/10.2307/356600>
- Gagné, R. M., Wager, W. W., Golas, K. C., & Keller, J. M. (2005). *Principles of Instructional Design* (5th ed.). Belmont, CA: Thomson Wadsworth.
- Halliday, M. A. K. (1978). *Language as Social Semiotics*. London: Edward Arnold.
- Hagevic, R., Aydeniz, M., & Rowell, C. G. (2012). Using action research in middle level teacher education to evaluate and deepen reflective practice. *Teaching and Teacher Education*, 28, 675–684.
- Harju, V., Koskinen, A., & Pehkonen, L. (2019). An exploration of longitudinal studies of digital learning. *Educational Research*, 61(4), 388–407.
- Hines, S. (2014). Multimodal literacy and why it matters: A brief overview. *Against the Grain*, 26(4), 55. <https://doi.org/10.7771/2380-176X.6902>
- Hinostroza, J. E. (2018). New challenges for ICT in education policies in developing countries: The need to account for the widespread use of ICT for teaching and learning outside the school. *ICT-Supported Innovations in Small Countries and Developing Regions* (pp. 99–119). Springer, Cham.
- Holec, H. (1996). Self-directed learning: An alternative form of training. *Language Teaching*, 29(2), 89–93.
- Hood, S. (2011). Body language in face-to-face teaching. In Dreyfus, S. Hood, & M. Stenglin (Eds.), *Semiotic Margins: Meaning in Multimodalities* (pp. 31–52). Continuum.
- Hu, H., & Du, Z. (2013). Web-based inquiry of autonomy in foreign language learning as an English major in higher vocational college. *Advanced Technology in Teaching*, 163, 45–48. <https://doi.org/10.1007/978-3-642-29458-77>
- Hughes, C. (1997). Self-instruction. In M. Agran (Ed.), *Student Directed Learning: Teaching Self-Determination Skills* (pp. 144–170). Detroit, MI: Brooks/Cole.
- Jacobs, G. M., Renandya, W. A., & Power, M. (2016). Learner autonomy. In G. M. Jacobs, W. A. Renandya, & M. Power (Eds.), *Simple, Powerful Strategies for Student Centered Learning* (pp. 19–27). New York: Springer.
- Jewitt, C. (2005). Multimodality, “reading,” and “writing” for the 21st century. *Discourse: Studies in the Cultural Politics of Education*, 26(3), 315–331.
- Jewitt, C. (2008). Multimodality and literacy in school classrooms. *Review of Research in Education*, 32(1), 241–267. <https://doi.org/10.3102/0091732X07310586>
- Jiang, X. (2012). Effects of discourse structure graphic organizer on EFL reading comprehension. *Reading in a Foreign Language*, 24(1), 84–105.
- Kabilan, M. K. (2007). English language teachers reflecting on reflections: A Malaysian experience. *TESOL Quarterly*, 41(4), 681–706.
- Khan, B. (2001). *Web-Based Training*. Englewood Cliffs, NJ: Educational Technology Publications.

- Kilinc, E., Tarman, B., & Aydin, H. (2018). Examining Turkish social studies teachers' beliefs about barriers to technology integration. *Tech Trends*, 62(3), 1–3. <https://doi.org/10.1007/s11528-018-0280-y>
- Kim, S. H. (2014). Developing autonomous learning for oral proficiency using digital storytelling. *Language Learning & Technology*, 18(2), 20–35.
- Kingley, J. Y., Phillips, R., Townsend, M., & Henderson-Wilson, C. (2010). Using qualitative approach to research to build trust between a non-Aboriginal researcher and Aboriginal participants (Australia). *Qualitative Research Journal*, 10(1), 2–12.
- Kirschner, P. A., Buckingham-Shum, S. J., & Carr, C. S. (Eds.). (2003). *Visualizing Argumentation: Software Tools for Collaborative and Educational Sense-Making*. London, UK: Springer. <http://dx.doi.org/10.1007/978-1-4471-0037-9>
- Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. New Jersey: Prentice-Hall.
- Kress, G. (2000). Multimodality: Challenges to thinking about language. *TESOL Quarterly*, 34(2), 337–340. <https://doi.org/10.2307/3587959>
- Kress, G. (2010). *Multimodality: A Social Semiotic Approach to Communication*. Routledge.
- Kumaradivelu, B. (2003). *Beyond Methods: Macrostrategies for Language Teaching*. USA: Yale University Press.
- Lawrence, J. E., & Tar, U. A. (2018). Factors that influence teachers' adoption and integration of ICT in teaching/learning process. *Educational Media International*, 55(1), 79–105.
- Lee, L. (2010). Fostering reflective writing and interactive exchange through blogging in an advanced language course. *ReCALL*, 22(2), 212–227.
- Lewis III, D. R., & Lewis, T. Y. (2020). A multimodal approach to higher order literacy development of low-level EFL university students in Japan. *Innovation in Language Learning and Teaching*, 15(4), 364–383. <https://doi.org/10.1080/17501229.2020.1813736>
- Littlewood, W. (1999). Defining and developing autonomy in East Asian contexts. *Applied Linguistics*, 20, 71–94.
- Marchetti, L., & Cullen, P. (2016). A multimodal approach in the classroom for creative learning and teaching. *Casalc Review*, 5(1) 39–51.
- Martin, J. R., & Zappavigna, M. (2019). Embodied meaning: A systemic functional perspective on paralinguage. *Functional Linguist*, 6(1). <https://doi.org/10.1186/s40554-018-0065-9>
- Miller, K. & Shiet, R. (2016). How memories of school inform PSTs' feared and desired selves as teachers. *Teaching and Teacher Education*, 53, 20–29.
- Mills, K. A. (2009). Multiliteracies: Interrogating competing discourses. *Language and Education*, 23(2), 103–116.
- Morgan, J. (1996). A defence of autonomy as an educational ideal. *Journal of Philosophy of Education*, 30(2), 239–252.
- Moorhouse, B. L. (2018). Using WhatsApp to improve out-of-class communication. *The Teacher Trainer Journal*, 32(3), 22–23.
- Moorhouse, B. L. (2020). Adaptations to a face-to-face initial teacher education course 'forced' online due to the COVID-19 pandemic. *Journal of Education for Teaching*, 46(4), 609–611. <https://doi.org/10.1080/02607476.2020.1755205>

- Nagy, N. (2020). Multimodal literacy development in a higher education English Studies classroom. *Journal of Visual Literacy*, 39(3–4), 167–184. <https://doi.org/10.1080/1051144X.2020.1826218>
- Nichols, M. (2003). A theory of eLearning. *Educational Technology & Society*, 6(2), 1–10.
- Nguyen, L. T. T. (2020). Integrating ICT into collaborative writing: Are we ready yet? *The Journal of Asia Tefl*, 17(1), 243–252. <https://doi.org/10.18823/asiatefl.2020.17.1.16.243>
- Nouri, J. (2019). Students multimodal literacy and design of learning during self-studies in higher education. *Tech Know Learn*, 24, 683–698. <https://doi.org/10.1007/s10758-018-9360-5>
- O'Halloran, K. L., & Lim, F. V. (2011). Dimensions of multimodal literacy. *Viden om læsning (Knowledge About Reading)*, 10, 14–21.
- O'Halloran, K. L., Tan, S., & E, M. K. L. (2017). Multimodal analysis for critical thinking. *Learning. Media and Technology*, 42(2), 147–170. <https://doi.org/10.1080/17439884.2016.1101003>
- Oskoz, A., & Elola, I. (2016). Digital stories: Bringing multimodal texts to the Spanish writing classroom. *ReCALL*, 28(3), 326–342.
- Reinders, H. (2000). Do it yourself? A learners' perspective on learner autonomy and self-access language learning. Unpublished MA thesis, University of Groningen, Netherlands. Available from <http://www.innovationinteaching.org>.
- Richards, J. C., & Farrell, T. (2005). *Professional Development for Language Teachers*. New York: Cambridge University Press.
- Rothery, J. (1994). *Exploring Literacy in School English (Write It Right Resources for Literacy and Learning)*. Metropolitan East Disadvantaged Schools Program.
- Schunk, D. H., & Zimmerman, B. J. (1998). *Self-Regulated Learning: Form Teaching to Self-Reflective Practice*. New York, NY: Guilford Press.
- Sharples, M., Corlett, D., & Westmancott, O. (2002). The design and implementation of a mobile learning resource. *Personal and Ubiquitous Computing*, 6(3), 219–234.
- Simard, D. (2004). Using diaries to promote metalinguistic reflection among elementary school students. *Language Awareness*, 13, 34–48.
- Smith, J. L. (2010). *Reading First Activities*. CA: Teacher Created Resources.
- Stake, R. E. (2010). *Qualitative Research: Studying How Things Work*. New York: The Guilford Press.
- Tatzl, D. (2016). *A Systemic View of Learner Autonomy. New Directions in Language Learning Psychology*. New York: Springer.
- Teng, (Mark) Feng. (2019). *Autonomy, Agency, and Identity in Teaching and Learning English as a Foreign Language*. Singapore: Springer. <https://doi.org/10.1007/978-981-13-0728-7>
- Unsworth, L. (Ed.). (2008). *Multimodal Semiotics: Functional Analysis in Contexts of Education*. New York: Continuum.
- van Leeuwen, T. (2017). Multimodal literacy. *Viden om Literacy*, 21, 4–11.
- Villamizar, A. G., & Mejía, G. (2019). Fostering learner autonomy and critical reflection through digital video-journals in a university foreign language course. *Reflective Practice*, 20(2), 187–200.
- Wagner, E. D. (2001). Emerging learning trends and the world wide web. In B. H. Khan (Ed.), *Web-Based Training* (pp. 33–50). Englewood Cliffs, NJ: Educational Technology Publications.

- Wahid, F., Furuholdt, B., & Kristiansen, S. (2004). Global diffusion of the Internet III. Information diffusion agents and the spread of Internet cafés in Indonesia. *Communications of AIS*, 13, 569–683.
- White, C. J. (2008). Language learning strategies in independent language learning: An overview. In S. Hurd, & T. Lewis (Eds.), *Language Learning Strategies in Independent Settings* (pp. 3–24). Bristol, UK: Multilingual Matters.
- Widodo, H. P. (2015). The development of vocational English materials from a social semiotic perspective: Participatory action research. Unpublished doctoral thesis, University of Adelaide, Australia.
- Winch, C. (2002). Strong autonomy and education. *Educational Theories*, 52, 27–41.
- Wilen-Daugenti, T. (2009). *EDU: Technology and Learning Environments in Higher Education*. New York: Peter Lang.
- Wong, K. T., Hamzah, M. S. G., Goh, P. S. C., & Yeop, M. A. B. (2016). Blended e-learning acceptance as smart pedagogical tools: An initial study in Malaysia. *Turkish Online Journal of Educational Technology-TOJET*, 15(4), 25–31.
- Yanto, E. S., & Kusrin, K. (2020). Engaging preservice teachers in multimodal reading with learning logs: An action classroom-based research. *Jurnal Penelitian Humaniora*, 21(1), 33–42.



3

University Students' Perceptions towards the Implementation of Speaking Assessments on Online Platforms

*Nor Azikin Mohd Omar, Zailani Jusoh & Shaidatul Akma
Adi Kasuma*

Introduction

Oral or speaking ability has always been important in the English learning sphere; as the level of mastery directly influences students' future undertakings (Jalleh et al., 2021). A good command of the English language prepares students to keep pace with the rapid growth of global knowledge and compete in the labour market (Selvaratnam, 2019). Granted, the mastery of the oral skills is not easily achieved and may take years of formal and informal instructions for one to qualify as a proficient speaker; hence, reports on graduates' poor command of English are not unheard of. Some of the most common problems faced by students in the non-English speaking countries are insufficient authentic opportunities to practice skills, language learning anxiety, and oral communication apprehension (Jalleh et al., 2021; Martin & Alvarez Valdivia, 2017; Sun et al., 2017); which makes it difficult for them to even "string a sentence together in English" (Selvaratnam, 2019, p. 17).

As difficult it is to master the skill, the assessment of the oral communicative ability is equally hard, intricate, and challenging (Namaziandost & Ahmadi, 2019). The evaluation of speaking skills is subjective, involving many components of oral ability, pronunciation, fluency, vocabulary, grammar, interactional competence, descriptive

skill, and presentation delivery skill (Ockey et al., 2015). The challenges become even more pronounced as the COVID-19 pandemic redefines and transforms education into a fully online episode, hence, calls for all teaching and learning activities and assessments to be carried out as such.

The novelty of technology integration in education lies in the constant renewal and adaptation of tools and teaching strategies; whose selection depends on the latest global advancement. Universities worldwide have been encouraged to include blended or flipped learning environment as it is believed that this approach improves students' course grades, completion rates, student enrolment to teacher ratio, and the teaching of academic writings, at minimum cost (Ahmad Khiri et al., 2021; Xu et al., 2020). However, the drastic conversion to fully online environment due to the pandemic was taxing on teachers and students. Teachers have to redesign their pedagogy almost overnight, and brush up on their digital skills, while students have to adapt quickly to the new norm of online learning and overcome issues of limited connectivity, non-conducive learning environment and financial constraints (Octoberlina & Muslimin, 2020; Vandeyar, 2020).

Reflecting on the circumstance, Malaysia hits a record high of more than 13,000 COVID-19 cases on 15 July 2021. This number surpasses the Ministry of Health Malaysia's earlier estimation that without proper standard operating procedures, the case count could reach up to 10,000 per day (Arifin, 2021). This circumstance interminably instructs academic institutions to suspend their face-to-face meetings and resume with online learning; hence, calls for teachers and students' revitalisation of motivation, readiness, and strategies for virtual navigation and assessments; as the new normal seems to be staying a while (Mohd Omar et al., 2020). This study, therefore, aims to identify university students' perceptions towards the implementation of online speaking assessments during the critical period of COVID-19. It focuses specifically on an English proficiency course, taken by the first semester/year undergraduate students at an East Malaysian university. Utilising questionnaire, a series of questions on students' perceptions towards the assessments of speaking skills via online was distributed to students who enrolled in this course during Semester 1, Academic Session 2020/2021. The questionnaire items were adopted from different questionnaires as well as those that were self-developed.

An Overview of Speaking Assessment

“Oral assessment refers to any assessments of student learning that is conducted by the spoken word” (Joughin, 2010, p. 3). In Malaysian universities, oral communicative ability or speaking skills are commonly presented as a formative assessment in many English language classrooms. The marks gathered from the speaking task will be deliberated and added to the scores of their summative evaluation. The cumulative marks will then make the students’ final grades. In traditional and blended learning classrooms, speaking assessment is often conducted face-to-face as lecturers and students get to interact directly, ensuring a smooth, uninterrupted process.

The COVID-19 crisis has forced all learning assessments to be conducted online, adding the challenges to both lecturers and students to adapt into fully online learning environment. Not only that they need to adapt with highly developed technology, but there is also no consensus on whether online platforms can be used effectively in both types of evaluation due to strengths and weaknesses of online medium (Singh & Thambusamy, 2016). This is apt as language learning involves both personal and interpersonal undertakings; and students may well develop their skills by socially and actively communicating and constructing their knowledge via a medium of technological tool (Huang, T. K., 2015). Much like the traditional assessment, online evaluation still adheres “to the principles of validity, reliability, and fairness” and take into consideration “issues of accessibility and legality, identity security and academic integrity” (Akimov & Malin, 2020, p. 1205). Lecturers must choose and re-design scoring techniques for speaking tasks, be it in the holistic or analytic format (Namaziandost & Ahmadi, 2019), to reduce biasness; and students must be made aware of this. In academic institutions, however, oral examination as an online assessment is underutilised, both pre-and during the pandemic, which resulted in practically non-existent literature discussing this topic (Akimov & Malin, 2020).

The feasibility of online speaking assessment does not indicate easier implementation, as lecturers and students have to make allowances for a number of concerns. Mohd Yusuf and Ahmad (2020) identified possible obstacles that might hinder effective online sessions including – the lack of students’ focus during and non-attendance to online session, insufficient materials and resources for students, unsatisfactory platform or medium of learning, teachers, and students’ poor internet access. Furthermore, students’ oral communication anxiety and apprehension (Jalleh et al., 2021; Martin & Alvarez Valdivia, 2017) are common issues in language classrooms that may be intensified due to the lack of physical comfort and encouragement from lecturers and peers.

Since students are at the receiving end of this online learning deal, this study, therefore, wishes to highlight their perceptions and experiences of online speaking assessments in the time of the pandemic; and simultaneously adds to the body of literature on oral communication skills as an online assessment in higher education settings. The lack of online oral communication studies (Akimov & Malin, 2020) in English language classes also contributed to the undertaking of this study. The subsequent sections present existing literature on speaking assessments, and past studies on speaking anxiety faced by students during oral assessments. Utilising questionnaire, the authors disseminate a series of questions on students' perceptions towards the assessments of speaking skills via online, with the items adopted from different questionnaires as well as those that are self-developed.

In language classrooms, oral communicative assessment is a frequent measure of students' ability for contextual verbal articulation. The speaking tasks observed in the English language classrooms often come in the forms of presentation, discussion, interrogations, public speaking, and sometimes, conversation (Jalleh et al., 2021; Joughin, 2010). From a study of 286 peer-reviewed articles on computer-mediated assessment tools and strategies for language proficiency courses, Bahari (2021) found that teachers and students used Web 2.0 most frequently as the online medium for teaching and learning activities; which substantiates recent research that utilised social media tools such as WhatsApp to improve L2 speaking ability (Sherine et al., 2020).

Bahari (2021) further discovered that assessment tools and strategies addressing the dynamicity and non-linearity of individual-test-taker differences via adaptive, interactive, and dynamic approaches were on the rise, which projects future approaches to assessment. This finding is not unexpected, as in the last 10 years, research centralising the personalisation and individualisation of online medium have taken precedence. For example, in a small-scale study, Rodrigues and Vethamani (2015) asserted that online learning approach encourages learners to practice their oral conversations in an individualised learning environment at their own pace and time; which alleviates the number one challenge in L2 learning, i.e., restricted authentic opportunities to practice skills (Jalleh et al., 2021; Sun et al., 2017).

Bahari (2021) further cautioned that there is an inconsistency and deficiency of pencil-and-paper duplicates adopted onto computer-assisted assessment environment. Indeed, this is a fundamental issue that must be discussed and deliberated by educators and policymakers. Ultimately, an assessment must measure learning outcomes (Akimov & Malin, 2020), and is dependent on the nature of a course. However, a fundamental question is – do we retain and

transfer pencil-and-paper format assessment onto learning environment, or do we modify existing assessment techniques to reflect the nature of online pedagogy, and signal the removal of face-to-face interaction and observation in the classrooms? (Akimov & Malin, 2020). The format of an oral assessment in online settings will largely be retained as lecturers usually examine students contextualised verbal output based on pre-set criteria. Conveniently, this evaluation process may be supported by many synchronous online tools (Akimov & Malin, 2020) such as Skype, Webex, Zoom, Google Meet, and Microsoft Team. Using this format, students' oral production is appraised in real-time. On the other hand, online environment also allows for asynchronous assessment where students' verbal output may be recorded and sent to the lecturers to be reviewed at a different time. While this may reduce the burden of technological, emotional, and time-constraint (Rodrigues & Vethamani, 2015), it may not well capture the authenticity of students' ability, as it may be re-recorded and edited to showcase the best version of a verbal output. Bahari (2021) therefore, saw a need for the development of integrated skills assessment tools and affordances, supported by the latest technology.

Previous Studies on Speaking Assessments

Previous studies on online oral evaluation pre-pandemic were presented first, followed by current studies elaborating challenges in the implementation of online speaking assessments in time of the COVID-19 crisis.

Much like the face-to-face setting, oral assessment in language classrooms indicates positive outcomes. Comparing between structured and semi-structured flipped learning approach, Amiryousefi (2019) reported improved Iranian English as a foreign language (EFL) students' English speaking and listening skills, and enhanced engagement with materials and activities outside class. In line with this, the usage of WhatsApp as a Web 2.0 tool showed a significant difference in the Indian undergraduates English speaking skills with enhanced fluency and coherence, grammatical range and accuracy, lexical choice, and pronunciation (Sherine et al., 2020). Likewise, the participants of the English Proficiency in Conversation (EPiC) online learning programmes outperformed their peers in the non-EPiC group by showing improvement in speaking grades, vocabulary and listening skills; and reported greater language proficiency and stronger self-confidence in the development of speaking ability (Rodrigues & Vethamani, 2015). Huang, H. C. (2015) found that speaking fundamentally involves personal and interpersonal aspects, thus, it comes as no surprise that a group of Iranian students experienced improved speaking ability via social and affective strategies on Moodle

course management (Abbasi et al., 2021); which, highlights the potential of online tools in supporting students' active communication in the process of knowledge construction (Huang, H. C., 2015).

Treading on the synchronous affordances of Skype, Ockey et al. (2019) measured the effectiveness of computer video-mediated technology in assigning four remote assessment oral tasks. The findings from Ockey et al.'s (2019) resonated with that of Rodrigues and Vethamani's (2015) and Mohd Yusuf and Ahmad's (2020) that the feasibility of online oral assessment is highly dependent on the stability of students and lecturers' internet connection. The variation of internet stability varied considerably in their study, where the participants in the US experienced very few technical disruptions, while the participants in China encountered very frequent interferences (Ockey et al., 2019). In terms of oral assessment tasks, the participants in Ockey et al. (2019) believed that the tasks assigned to them represented interactive speaking activities often encountered on daily basis, hence provided them with practice opportunities that are often limited in L2 learning context (Jalleh et al., 2021; Sun et al., 2017). The tasks assigned were giving short responses to questions, summarising a proposal, defending a position in a group discussion, and giving a prepared presentation and responding to questions from other participants. These tasks resemble those commonly found in language classrooms underlined by Jalleh et al. (2021) and Joughin (2010); which are presentation discussion, interrogations, public speaking, and conversation. Ockey et al. (2019) therefore, concluded that computer video-mediated environment may effectively afford oral assessment when technology cooperates, which may be made more individualised, personalised, non-linear, and more dynamic (Bahari, 2021; Rodrigues & Vethamani, 2015).

Studies on online speaking assessment in time of crisis are rather scarce and many of them are based on Indonesian context. The studies were conducted in university and school environments and gathered mixed results of students' experience and methods of online oral assessments. For instance, a group of university students who used videoconferencing for a live interview online assessment experienced a heightened anxiety, which resulted in a negative perception of the activity (Nova, 2020). Other challenges included poor internet signals, slow running devices and unsupportive environment at home that interrupted their speaking ability and focus, hence contributed to poor performance during the assessment (Nova, 2020). In relation to this, a study by Diana (2021) on students' experience preparing a pre-recorded English video showed that a majority of them committed pronunciation errors on common words such as 'English', 'knowledge', and 'entrepreneur'. This difficulty was not only due to the influence of their mother tongue but

also, presumably, to the absence of the instructors during the preparation processes. In terms of content and vocabularies, many students were found to be making minimal grammatical errors and utilised similar vocabularies since the texts were heavily referenced from the internet. The result thus, suggested that the assessment and students' performance were disconnected, as students failed to achieve independence, competency, and target fluency (Diana, 2021).

On the contrary, there were also some success stories from several research in relation to online speaking assessments in Indonesian setting. A study by Kusumawati (2020) on online speaking assessments for English for specific purposes course at a high school in Indonesia reported positive perceptions among the students. The author claimed that public speaking was comparable to physical public speaking assessment that were conducted pre-pandemic. Following Gagne's Nine Events of Instruction, students were briefed on the task and learning objectives, underwent pronunciation drilling processes, and consulted their instructors about their work progress before uploading the finalised presentation to the specified platform (Kusumawati, 2020). These findings substantiate Mohd Omar et al.'s (2020) conclusion that timely feedback on assessments and constant academic engagement greatly support students' online academic endeavours. On top of that, the synchronous and asynchronous environments afforded by virtual platforms smoothly assist the transition of assessments that were previously conducted physically.

In the same vein, Purnawarman and Darajati (2020) examined teaching approaches used by educators in realising authentic speaking assessment via online platforms for an international standard English course during the pandemic. The teachers were observed on how they planned, implemented, and provided feedback to students prior to being interviewed. The teachers had to firstly transform the physical, authentic speaking assessments to their online equivalence and revised the grading rubric in ensuring accurate evaluation of the students' performance. Some assessment activities included discussions of videos, assessment on students' attitudes during class, online interview, and production of pre-recorded videos. After students' presentations, feedback was given via video conference and online messages. Though successfully executed, the study outlined several measures to further improve students' learning experience that included the use of effective technology as learning tools, and system of support for teachers to overcome potential issues in online learning (Purnawarman & Darajati, 2020).

Undeniably, an extent of studies on online speaking assessments have been conducted during the global health crisis to sustain educational process. These studies however, provided mixed findings and did not place much emphasis

on students' view of their experience. The current study, therefore, fills in this gap by examining Malaysian university students' perceptions of online speaking assessments for an English proficiency course during the critical period of the pandemic. This study hopes to add to the body of literature on the subject, and importantly, suggests alternative speaking tasks or activities that are more suitable to enhance students' creativity and independence when executing online speaking assessments.

Speaking Assessment Anxiety

It is not a surprise that oral assessments cause major anxiety and stress for students (Nash et al., 2016); in fact, research on foreign language anxiety that mostly included writing and speaking skills have been carried out steadily by scholars worldwide. Test anxiety, which is one of the three components of foreign language anxiety, refers to the conscious or unconscious fear or unpleasant experience that a learner holds in relation to failing a language related test (Horwitz et al., 1986).

In relation to online oral assessment, Martin and Alvarez Valdivia (2017) carried out a study on Spanish undergraduates' anxiety and corrective feedback for oral synchronous communication task. One of the most promising aspects of online oral assessment and communication is the provision of direct, immediate feedback for students' language productions by teachers and friends. Rodrigues and Vethamani (2015) saw this as an opportunity especially when communication happens between native (NS) and non-native (NNS) speakers. However, feedback may also cause anxiety to students who might feel embarrassed over their limited linguistic ability or poor verbal performance. The high-level anxiety group of students in Martin and Alvarez Valdivia's (2017) study viewed teachers' feedback as the most valuable, compared to the lower-level anxiety group. The high-level anxiety group also showed preference for recast (teacher's repetition of student's utterance in the correct form without pointing at errors) and metalinguistic (hint or clue given by teacher without specifically pointing out errors) forms of feedback – which indicated students' low confident level in their English ability and not wanting people to know that they have made specific mistakes.

The finding by Martin and Alvarez Valdivia's (2017) can be viewed together with that of Nash et al.'s (2016) that elicited students' perceptions of their emotions and experience after engaging in public speaking exercises (desensitisation) and assessment task among the first-year Australian university students. It was reported that the students experienced increased satisfaction and decreased fear, indecision, and confusion; in contradiction,

their perceptions of their confidence to control nerves, maintain eye contact, use gestures, and comfortably speak in front of a small audience were reduced. This was unexpected and left unexplained by Nash et al. (2016); but the result establishes students' innate speaking anxiety which interferes at the sub-conscious level. For example, the comparison between NS and NNS young speakers of English showed a clear distinction in performance and speech production (Lee & Winke, 2018). The NS looked more at content features of onscreen pictures to build up speech, while the NNS were fixated longer and looked more frequently at the countdown timer which co-occurred with hesitation phenomena like hemming, pausing, and silence (Lee & Winke, 2018) – an indication of restlessness or anxiousness. Jalleh et al.'s (2021) findings both supported and opposed Nash et al.'s (2016) observation. Jalleh et al. (2021) underlined four L2 speaking tasks of group discussions, meetings, conversation, and public speaking for a group of Japanese EFL students; and found that they were most apprehensive during group discussions and conversations, instead of presentations and public speaking. This was attributed to the spontaneous nature of the former assessments, compared to the latter that come with a substantial period of preparation time.

Moving forward, the recommendations made by previous studies emphasised alignment of oral assessment tasks to learning outcomes and activities in minimising the emotional barriers students face (Nash et al., 2016). Likewise, Jalleh et al. (2021) suggested the creation of online environment that supports students' conversations, questions and answers, and general practice of English language to increase their familiarity with spontaneous, more casual forms, that may help them perform better during evaluation. A study by Kusumawati (2020) in the time of COVID-19 crisis reported that students appeared to be more confident when presenting for online public speaking assignment when given guidance, support through practice, and feedback by instructors on their work progress. In Syafiq et al.'s case (2021), the support and feedback sessions were conducted synchronously, while the assessment was done asynchronously through the submission of pre-recorded presentations. It may be fair then to argue that the usage of online synchronous (Rodrigues & Vethamani, 2015) and asynchronous medium afforded by video apps and social media may boost students' confidence and reduce speaking anxiety. The claim can be supported with by Syafiq et al. (2021) who reported YouTube videos as improving students' fluency, vocabulary, pronunciation, grammar, and content knowledge on topics assigned to them. As part of the assessment, students were asked to discuss the topics in groups. Based on the students' performance, the study discovered that the students' speaking abilities and motivations to learn in virtual environment were at optimum levels.

Withal, several studies have highlighted that online platforms may also increase anxiety and thus, hamper one's speaking abilities. Nova (2020) reported that videoconference presumably increased one's anxiety during live interviews conducted as part of oral assessments in time of the pandemic. Although individuals were geographically dispersed, the synchronous interaction afforded by such platforms reflected real time communication and authentic speaking environment. Relatedly, though Archibald et al. (2019) did not study speaking in classroom contexts, he discovered that videoconference helped forge solidarity and good rapport between researchers and participants who met online for the first time. This was due to the presence of nonverbal cues that promoted and facilitated relaxed conversation.

In relation to our study, we are interested to investigate the first semester students' perceptions on speaking anxiety in online environment, as well as their experience working on tasks assigned with 'complete strangers' (although some of them may be acquaintances) via online platforms. This study is supported by Horwitz et al.'s (1986) theory and to the best of our knowledge, far too little attention has been paid to this area of research, and therefore, this study aims to fill this gap.

The Study

This study investigates the students' perceptions towards online speaking assessment for English Proficiency II (EP II) course conducted in a local university in Malaysia. The research is quantitative in nature, whereby questionnaire was used to gather data. The questionnaire was distributed randomly to students who enrolled in this course during Semester 1, Academic Session 2020/2021 via Google form based on the list of provided by the university. These participants were the first to experience EP II in virtual classrooms.

The instrument used in the study consists of two sections A and B. Section A was used to elicit demographic information such as gender, faculty, and grades obtained. Section B, on the other hand, was designed to measure students' perceptions towards the assessments of speaking skill via online. In order to ensure the objective of this study is met, items adopted from different questionnaires as well as those self-developed were used. The original version of the instrument consisted of 33 items covering 3 components. However, after a pilot study was conducted 4 items had to be removed. After the removal of the items, the instrument appeared to have good internal consistency, $\alpha = .81$.

The whole process of data collection completed within three weeks. Initial distribution of the survey progressed slowly, resulting in insufficient responses. Consequently, a snowball sampling technique had to be used to reach the target population. As a result, a total of 182 responses were received. The data for this study were analysed descriptively using both percentages and mean (standard deviation).

EP II is one of the compulsory university courses all degree students have to complete for graduation requirements. Prior to enrolling in EP II, students are required to take English Proficiency I (EP I) course. Nonetheless, EP I is a not prerequisite for EP II and these two courses are not unit sequence as they focus on different skills. While EP I focuses more on enhancing English language skills, EP II exposes students to professional English communication skills at workplace. Originally, EP II is offered in the second semester, however, due to the COVID-19 crisis, the university management instructed students to enrol for all university courses during the first semester. As a result, students are required to sit for EP I and EP II in tandem. Topics covered in EP II include communicating at workplace, memo writing, and managing meetings. All instructional activities were conducted online.

EP II stresses on all language skills, which are speaking, listening, reading, and writing in workplace contexts. Assessment for this course is based on the following weightage:

1. Speaking and listening (50%)
2. Reading (20%)
3. Writing (30%)

Since the focus of this study is on speaking assessment, we will only elaborate on the assessments designed for the skill. There were two group tasks assigned to students. The first task was company presentation whereby students were required to work in a group of four to five and virtually establish an imaginary company. This was an asynchronous task, in which students record a presentation elaborating on the company background, vision and mission as well as the product(s) or service(s) offered. Videos with the duration of 15–20 minutes were then submitted to specified locations and subsequently, they were made public and viewed by the class members by week 5. The second task was online mock meeting presentation. It was a synchronous type of assessment where students were assessed based on their live presentation. Within the same group, students performed a role play within 20–30 minutes; wearing hats into characters such as chief executive officer (CEO) or chief financial officer of their imaginary company. The context was a company

meeting and they were given flexibility in respect to the agenda and purpose of the meeting. The instructors acted as silent observers on the day of the assessment.

Results

A majority of the respondents were female (79%) while the remaining were male students. They were enrolled in eight different faculties at the university. Many of them (60%) obtained grade A+, A or A- while 8% obtained D and below (D+, D, D-) in EP II. Respondents' preference with regard to the assignment mode was also sought. An overwhelming number indicated to have preferred recorded task (51%).

The findings on the general perception towards online speaking assessment (10 items) indicated that the level of agreement ranges from 52% to 77% ($M = 3.55$, $SD = 0.95$) to ($M = 4.01$, $SD = 0.84$). To be specific, the items that reported the highest level of agreement were item 1 (I was comfortable doing online speaking assignments), and item 4, (The online speaking assignments enhanced my ability to speak in English) at 77%. Meanwhile the items with the lowest endorsement from respondents were, 'the online speaking assignments made me focus less on my mistake when speaking English' (52%); and 'the absence of the instructor and classmates physically made me less conscious when speaking English' (56%).

The findings comparing the perceptions between two tasks – company presentation and mock meeting (11 items) show that the students' opinions of the two tasks did not differ too much as both were evaluated in a similar manner. All items in both tasks indicated a high level of agreement with the statements, between 62% and 84% for company presentation; and 62% and 86% for mock meeting. Item 5 (I dedicated a lot of time when completing the task) received the lowest agreement rate for both tasks at 62% each.

The findings of the six items that examined students' agreement towards the ease of conducting online discussions on the completion of group tasks for both assignments ranged from 40% ($M = 3.28$, $SD = 1.00$) to 86% ($M = 4.26$, $SD = 0.78$), with a high agreement rate of many items ($n = 4$). The item that received the highest endorsement from the respondents was item 1 (We held regular online discussions to complete Mock Meeting and Company Presentation tasks) (86%). On the other hand, the only item that received a low agreement rate from the respondents was item 6 (The discussions went well without internet disruption) (40%).

Discussion

Based on the findings highlighted in the above section, it is clear that when it comes to general perceptions towards online assessment practiced at the university, students reported having moderate level of agreement with the statements included in the survey. Though moderate, the results were encouraging as they were inclined towards the agreement scale. For many of the students, this was the first time they attempted a fully online semester of courses. Without much prior experience or exposure to online learning (when they were in secondary schools), they still showed some agility as they were able to adapt to the new learning environment well. The findings contradicted an earlier observation by Mohd Omar *et al.* (2020) who reported Malaysian students' non-optimal level of readiness for fully online environment; but their findings on students' needs for timely feedback and constant engagement lends support to the above result. These needs may be realised through the use of WhatsApp and Telegram Messenger among lecturers and students (Bahari, 2021).

A majority of EP II instructors interacted with the students via a personal group in a preferred messaging platform, making interactions more convenient and allowing for timely feedback, thus keeping them connected during the life of the course. It is also worth pointing out that 84% of the students agreed that they were informed on how marks were awarded (for instance, for delivery and content), which suggested that the information about the course were promptly and sufficiently distributed. During the semester, students were given information in relation to the course in week 1 or week 2, via the official learning management system. With consistent support and adequate instructions given throughout the course (Kusumawati, 2020; Purnawarman & Darajati, 2020), it comes as no surprise that students' perceptions on distance learning are positive.

Another finding with regard to speaking anxiety indicates that virtual speaking tasks did not necessarily reduce the nervousness associated with speaking as students reported a rather low agreement on items measuring this aspect. What this suggests is that speaking anxiety, although common among students (Nash *et al.*, 2016; Martin & Alvarez Valdivia's, 2017), neither influenced nor increased by the virtual platform used to speak. Comparable to Nova (2020), the participants in this study indicated that the implementation of online speaking assessments, both live and recorded did not have a significant effect towards their speaking anxiety. As indicated, 77% students claimed that they were given ample time to complete the tasks while 86% agreed that they had regular discussions to complete the tasks. The findings suggested that

students were satisfied with the duration given for them to complete the tasks, but most importantly, had ample time to rehearse with the group members in preparation for the real presentations. Through sufficient practice, students became more confident in their ability to deliver and therefore, may felt less anxious during the assessments. On the flip side, what may be presumably influence the findings on the anxiety level is the nature of tasks assigned on them. These tasks, although suitable to be conducted online, can be heavily scripted. This means that students could refer to the pre-prepared scripts while recording or doing live presentations. The observation hence suggested that students had the opportunities to refer to pre-written texts while presenting in both modes of online assessments. With scripts presented on screen and the absence of physical contact with instructors, students were neither worried nor anxious about their performance. One of the authors had the privileged to teach the course and the observation was true to some extent.

The above finding is consistent with Akimov and Malin (2020, p. 3) who asserted that “one of the main challenges of online assessment revolves around the subject of academic integrity and the associated issues of identity security, plagiarism, unauthorised collaboration (collusion) and cheating”. Despite the fact that these problems also occur in the traditional learning environment, they are however, amplified in the online setting since the instructors do not physically see the students and their surroundings. Simultaneously, many characteristics of online technology too, enhance the opportunity and temptation for dishonest behaviour (Akimov & Malin, 2020). In the case of our data, the modes of assessments and technologies affordances may not have effectively demonstrated students’ true potentials for oral proficiency since the assessments provided rehearsal opportunities for students to showcase the best version of a verbal output, as confirmed by Rodrigues and Vethamani (2015). While we agree that the assessments may have reduced their speaking anxiety levels (Jalleh et al., 2021) and gave them a sense of achievement which may elevate their level of motivation (Syafiq et al., 2021), it is of paramount importance for instructors to re-design speaking assessments that emphasis on communication strategies such as paraphrasing and circumlocution in digital video recordings, as they would typically do in face-to-face speaking assessments. Our data thus confirmed the argument that online oral assessment reduce authentic opportunities for students to showcase their communication skills (Rodrigues & Vethamani, 2015; Sun et al., 2017; Jalleh et al., 2021), and to a certain degree, failed to enhance L2 students’ fluency (Diana, 2021).

The earlier observation yielded similar results for the following findings. When respondents were asked to give their opinion on the two tasks they had to perform for the course, the students despite indicating their preference towards recorded task (mock meeting) to the live assessment (company presentation), did not favour any particular task. The two tasks were rated in exactly the same manner. This indicated that their preference towards recorded task did not influence their opinion towards the other task. Both tasks received high rate of agreement, which suggested that students were satisfied with both tasks they performed. The finding is expected, as the students were given ample opportunities to practice their speaking skills, hence did face major challenges with the nature of interactivity and spontaneity in speaking. On another note, we opine that the speaking assessments for EP II did not account for the contexts of the students' wider life, whereby the tasks of business-related presentations about their imaginary companies are deemed unfit for first year undergraduates. Although these assessments may be considered as authentic learning that allows students to explore, discuss, and meaningfully construct relationships in real-world problems, the contexts of business presentations may not be highly relevant with the students' direct experiences. The assessments require the students to play diverse business roles that range from executive-level titles such as CEO, also known as C-suite executives, to more operational roles like an administrative assistant or finance manager. Such roles are generally distant and isolated from their former and current experiences, hence making the learnt skill less purposeful and practical with the linguistic challenges and needs fundamental for their upcoming academic life. The assessments are possibly more appropriate for students who are reaching their final year of undergraduates' studies, in which the practical benefits are more beneficial at the prospect for their career life milestone. This claim is supported by Sun *et al.* (2017), Ockey *et al.* (2019), and Jalleh *et al.* (2021) who noted that the tasks assigned to students should represent daily interactive speaking in order to provide genuine speaking opportunities that are often limited in L2 learning context.

The present finding provides important implications for fostering L2 learners command of oral communication skills in an online environment. Consistent with the past literature (Jalleh *et al.*, 2021; Akimov & Malin, 2020; Abbasi *et al.*, 2021; Syafiq *et al.*, 2021; Mohd Yusuf & Ahmad, 2020), the authors agree that online instructional speaking assessments in L2 online context should expose students to authentic language opportunities that assist in constructing concepts and contexts that are close to them, and best prepare students for their future professional life and contributes towards their personal development. Like traditional classrooms, online L2 instructional assessments too, should maximise students' involvement, increases students'

satisfaction, enhances students' motivation to learn and decrease the feeling of isolation (Abbasi et al., 2021), without comprising the overall objectives of the instructional practices. With the COVID-19 pandemic that has sped up digital transformation and technologies by several years, it is thus a prime time for educators to rethink the way we teach and learn and to transform our assessment practices so that we can support more active and meaningful speaking online environment. As suggested by Bahari (2021), the use of Web 2.0 technologies such as blogs, wikis, podcasting, social bookmarking, and social networking sites may be able to encourage speaking activities and assessments in a more innovative way.

As both tasks assigned for the course required students to perform them in groups, students were expected to have regular online discussions in the process of their completion. The respondents indicated to not having a lot of issues with the discussions as they managed to do that with ease. Despite the fact they were newly acquainted with each other (although some may be acquaintance or friends before enrolling for the course), they reported little challenges working with colleagues whom they met for the first time online. The findings too, showed that groupwork helped to foster relationships, just as they might face-to-face, and that online platforms were not the barrier for team productivity. The result partially supported the findings by Archibald et al. (2019), who asserted that videoconference could effectively help build relationships between researchers and participants during online interviews. Nonetheless, the previous result is inconclusive as studies related to the issue have been relatively scanty in online learning settings.

When asked about any other challenges that they faced for discussions, the students agreed that poor internet connection was the main problem that caused interruptions during discussions. This shows that although they allocated resources such as time and effort for discussions, their attempts were hampered by poor internet connectivity faced by some group members. Similarly, this was one of the major challenges that Rodrigues and Vethamani (2015), Mohd Yusuf and Ahmad (2020), and Nova (2020) highlighted in their studies. The issue is not surprising, in fact, is expected as up to now, many students worldwide are still experiencing limited internet access for online learning. This situation reminded us to the findings by Mohd Omar et al. (2020) who reported internet accessibility as one of the main concerns that Malaysian university students' have prior embarking upon fully online learning.

Conclusion

Overall, this study found out that students' perceptions towards online speaking assessment to be moderate, yet encouraging, as participants agreed that they were comfortable completing the given tasks online. Students also showed no specific preference towards asynchronous and synchronous modes of online oral assessments. What concerned them most was the issue of unreliable internet access. In actuality, it is one of the highest rated problems for many students worldwide, and despite the fact that the Malaysian government and non-governmental organisations have provided multiple online learning incentives, the result suggested that the support may not have reached the targeted populations, or presumably insufficient. With the pandemic that is barreling into its second year, the study urges stakeholders to rigorously assess the impact of this issue and provide maximum support for students to better cope with the new normal in learning.

Another striking issue worth highlighting is the relations between virtual platform and speaking anxiety. In response to this situation, it is imperative for the instructors to adopt critical approaches when redesigning, implementing, and executing online speaking assessments in order to minimise the risks of plagiarism. It is also important to note that this study does not advocate the notion of increasing one's speaking anxiety in virtual environment. Most importantly, we strongly believe that oral assessments can be more tailored towards enhancing students' quality of work, fostering problem-solving and creativity skills, while simultaneously achieving the learning objectives set for speaking skills. That being said, the tasks for oral assessments (in this case, EP II course) may be improved by providing synchronous tasks that allow them to interact extemporaneously (with ample time to rehearse), without negotiating the aspects required when assessing students' oral abilities. Suggestions to such tasks include debates, Q&A sessions, and presentation of case studies or one that is based on their personal experience within the context of the course. The long-term implications of this study will greatly impact students whose speaking skills are honed and developed with right assessments in line with the features of asynchronous and synchronous modes of online learning. In a longer run perhaps, this is the best time for educators and students to create networks of online communication with native speakers from all over the globe in exposing students to the wider context of English language use, looking at how speaking skills were taught and assessed in online modes.

At this rate, there is no guarantee that the pandemic will end in the nearest time, and the possibility of following waves makes it especially urgent for us to reflect on teaching experience gained during the initial period the

pandemic. Not only we are able to evaluate existing assessment techniques to suit the nature of online pedagogy, but we too should also make some important distinctions between suitable and less suitable online speaking assessments, strengthen good assessment practices and overcome its pitfalls to better construct pedagogically appropriate speaking assessments especially for competency-based online course like EP II. Fundamentally, the course and task that we designed for our students must be related, situated and appropriate for real-world practices so that they can see the practical implications of the exercise. We hope that this study has given new ideas to language educators and practitioners in executing online speaking assessments, while at the same time taking into considerations the limitations and difficulties faced by students. It is important to realise that besides internet connectivity issue, many students have relatively adapted to the demands of online learning environment after going through it for a year. This should not make us educators complacent, but to strive further in designing and creating more novel, creative, and effective strategies in facilitating online speaking assessments. Clearly, more research is necessary to better understand the various tasks conducted for online speaking assessments, and we would like to encourage future research to pay more attention to the issue in online speaking assessments, where concerns such as suitability of tasks in asynchronous and synchronous modes is particularly visible.

References

- Abbasi, S., Chalak, A., & Tabrizi, H. H. (2021). Impact of Online Strategies-based Instruction on Iranian Advanced EFL Learners' Speaking Scores. *International Journal of Foreign Language Teaching & Research*, 9(36), 21–37.
- Ahmad Khiri, M. J., Ali, M. F., & Saini, N. (2021). Adapting to online blended learning for the teaching of American Psychology Association (APA) during Covid 19 pandemic: A case study of undergraduates at a public university. *International Social Science and Humanities Journal*, 4(1), 98–112.
- Akimov, A., & Malin, M. (2020). When old becomes new: A case study of oral examination as an online assessment tool. *Assessment and Evaluation in Higher Education*, 45(8), 1205–1221. <https://doi.org/10.1080/02602938.2020.1730301>
- Amiryousefi, M. (2019). The incorporation of flipped learning into conventional classes to enhance EFL learners' L2 speaking, L2 listening, and engagement. *Innovation in Language Learning and Teaching*, 13(2), 147–161. <https://doi.org/10.1080/17501229.2017.1394307>
- Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using Zoom video conferencing for qualitative data collection: Perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods*, 18, 1–8. <https://doi.org/10.1177/1609406919874596>

- Arifin, L. (2021, May 5). Tidak mustahil kes COVID-19 cecah 10,000 lepas raya. *Berita Harian Online*, 6. <https://www.bharian.com.my/berita/nasional/2021/05/814135/tidak-mustahil-kes-covid-19-cecah-10000-lepas-rya>
- Bahari, A. (2021). Computer-assisted language proficiency assessment tools and strategies. *Open Learning*, 36(1), 61–87. <https://doi.org/10.1080/02680513.2020.1726738>
- Diana, L. (2021). Problems faced in speaking assessment during the COVID-19 pandemic. Study case of Universitas Pembangunan Nasional Veteran Jawa Timur. *Jurnal Ilmu Sosial dan Pendidikan*, 5(1), 447–451.
- Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, 70(2), 125–132. <https://doi.org/10.2307/327317>
- Huang, H. C. (2015). From web-based readers to voice bloggers: EFL learners' perspectives. *Computer Assisted Language Learning*, 28(2), 145–170. <https://doi.org/10.1080/09588221.2013.803983>
- Huang, T. K. (2015). Exploring the antecedents of screenshot-based interactions in the context of advanced computer software learning. *Computers and Education*, 80, 95–107. <https://doi.org/10.1016/j.compedu.2014.08.011>
- Jalleh, C. M., Mahfoodh, O. H. A., & Singh, M. K. M. (2021). Oral communication apprehension among Japanese EFL international students in a language immersion program in Malaysia. *International Journal of Instruction*, 14(2), 155–178. <https://doi.org/10.29333/iji.2021.14210a>
- Joughin, G. (2010). A short guide to oral assessment. *A Short Guide to Oral Assessment*, January 2010, 1–23.
- Kusumawati, A. J. (2020). Redesigning face-to-face into online learning for speaking competence during covid-19: ESP for higher education in Indonesia. *International Journal of Language Education*, 4(2), 276–288. <https://doi.org/10.26858/ijole.v4i2.14745>
- Lee, S., & Winke, P. (2018). Young learners' response processes when taking computerized tasks for speaking assessment. *Language Testing*, 35(2), 239–269. <https://doi.org/10.1177/0265532217704009>
- Martin, S., & Alvarez Valdivia, I. M. (2017). Students' feedback beliefs and anxiety in online foreign language oral tasks. *International Journal of Educational Technology in Higher Education*, 14(1). <https://doi.org/10.1186/s41239-017-0056-z>
- Mohd Omar, N. A., Jusoh, Z., & Adi Kasuma, S. A. (2020). Malaysian university undergraduates' perceptions towards comprehensive online instructions amidst COVID-19. *Universal Journal of Educational Research*, 8(12), 7131–7140. <https://doi.org/10.13189/ujer.2020.081280>
- Mohd Yusuf, B. N., & Ahmad, J. (2020). Are we prepared enough? A case study of challenges in online learning in a private higher learning institution during the COVID-19 Outbreaks. *Advances in Social Sciences Research Journal*, 7(5), 205–212. <https://doi.org/10.14738/assrj.75.8211>
- Namaziandost, E., & Ahmadi, S. (2019). The assessment of oral proficiency through holistic and analytic techniques of scoring: A comparative study. *Applied Linguistics Research Journal*, 3(2), 70–82. <https://doi.org/10.14744/alrj.2019.83792>
- Nash, G., Crimmins, G., & Oprescu, F. (2016). If first-year students are afraid of public speaking assessments what can teachers do to alleviate such anxiety? *Assessment and Evaluation in Higher Education*, 41(4), 586–600. <https://doi.org/10.1080/02602938.2015.1032212>

- Nova, M. (2020). Videoconferencing for speaking assessment medium: Alternative or drawback? premise. *Journal of English Education and Applied Linguistics*, 9(2), 11–128. <https://doi.org/10.24127/Pj.V9i2.3068>
- Ockey, G. J., Koyama, D., Setoguchi, E., & Sun, A. (2015). The extent to which TOEFL iBT speaking scores are associated with performance on oral language tasks and oral ability components for Japanese university students. *Language Testing*, 32(1), 39–62. <https://doi.org/10.1177/0265532214538014>
- Ockey, G. J., Timpe-Laughlin, V., Davis, L., & Gu, L. (2019). Exploring the potential of a video-mediated interactive speaking assessment. *ETS Research Report Series*, 2019(1), 1–29. <https://doi.org/10.1002/ets2.12240>
- Octaberlina, L. R., & Muslimin, A. I. (2020). EFL students perspective towards online learning barriers and alternatives using moodle/google classroom during Covid-19 pandemic. *International Journal of Higher Education*, 9(6), 1–9. <https://doi.org/10.5430/ijhe.v9n6p1>
- Purnawarman, P., & Darajati, U. (2020, August). *Authentic speaking assessment applied by English teachers during online learning*. Paper presented at the 4th International Conference on Language, Literature, Culture, and Education (ICOLLITE 2020), Universitas Pendidikan Indonesia, Indonesia.
- Rodrigues, P. D., & Vethamani, M. E. (2015). The impact of online learning in the development of speaking skills. *Journal of Interdisciplinary Research in Education*, 5(1), 43–67.
- Selvaratnam, V. (2019). Malaysia's national language policy and graduate employability. *International Higher Education*, 96(28), 16–18.
- Sherine, A., Seshagiri, A. V. S., & Sastry, M. M. (2020). Impact of whatsapp interaction on improving L2 speaking skills. *International Journal of Emerging Technologies in Learning*, 15(3), 250–259. <https://doi.org/10.3991/ijet.v15i03.11534>
- Singh, P., & Thambusamy, R. (2016). To cheat or not to cheat, that is the question: Undergraduates' moral reasoning and academic dishonesty. *7th International Conference on University Learning and Teaching (InCULT 2014) Proceedings* (Issue InCULT). https://doi.org/10.1007/978-981-287-664-5_58
- Sun, Z., Lin, C. H., You, J., Shen, H. jiao, Qi, S., & Luo, L. (2017). Improving the English-speaking skills of young learners through mobile social networking. *Computer Assisted Language Learning*, 30(3–4), 304–324. <https://doi.org/10.1080/09588221.2017.1308384>
- Syafiq, A. N., Rahmawati, A., Anwari, A., & Oktaviana, T. (2021). Increasing speaking skill through YouTube video as English learning material during online learning in pandemic COVID-19. *Elsya: Journal of English Language Studies*, 3(1), 50–55. <https://doi.org/10.31849/elsya.v3i1.6206>
- Vandeyar, T. (2020). The academic turn: Social media in higher education. *Education and Information Technologies*, 25(6), 5617–5635. <https://doi.org/10.1007/s10639-020-10240-1>
- Xu, D., Glick, D., Rodriguez, F., Cung, B., Li, Q., & Warschauer, M. (2020). Does blended instruction enhance English language learning in developing countries? Evidence from Mexico. *British Journal of Educational Technology*, 51(1), 211–227. <https://doi.org/10.1111/bjet.12797>



4

Adapting to New Norm: TESOL Students' Online Collaborative Learning Experiences with Arts Students

Nur Hilyati Ramli, Safia Najwa Suhaimi, Muhammad Kamarul Kabilan & Muhanniz Mesri

Introduction

The COVID-19 virus hit the world unexpectedly and explosively in 2020, causing disruption to people's normal work and life including the education sector. According to United Nations Educational, Scientific and Cultural Organization's (UNESCO) report, about 158 countries throughout the world had closed their educational institutions as of 15 May 2020, affecting about 70% of the world's student population due to the rapid spread of COVID-19 (UNESCO, 2020). Malaysia's cancellation of all face-to-face classes starting 18 March 2020, was due to the implementation of the national total lock down aimed to halt the pandemic's spread. As a result, educators and learners alike were instructed to mandate all the teaching and learning activities remotely, and rapidly switch their teaching and learning methods virtually (Saif et al., 2020).

The unplanned or forced shift of teaching and learning methods has created a litany of challenges and restrictions for English language learning. It is proposed that although the "negative effect of transitioning" to a digital learning environment "is nearly negligible for TESOL teachers", it hinders and undermines students' English language development (Hartshorn & McMurry, 2020, p. 151). When collaborative group projects are involved, students are

found to be a lot more overwhelmed, especially if the projects have begun prior to the transition (Davies et al., 2020). This may be due to the limited accessibility of dynamic discussions and brainstorming sessions afforded by face-to-face interactive learning.

Adding to this, English language teaching (ELT) course facilitators found that it was more challenging to foster oral proficiency and interactive engagement among students during digital learning sessions (Shaikh et al., 2021). The problem of participation and engagement in online learning was also outlined by Gillett-Swan (2017), where a significant decrease from 95% student interaction in the first week to 37% interaction by the third week. The lack of proper interaction with instructors is another major concern associated with online learning as most of the content in online courses is usually discussed with the relevant course instructor by e-mail, which requires response time (Zhong, 2020). Delayed responses and lack of physical presence also contribute towards the feelings of isolation and sense of detachment among the students (Yusuf & Al-Banawi, 2013).

On the contrary, the abrupt transition towards digital learning does benefit students learning English – offering an opportunity for blended learning and digital transformation of English language education delivery (Lanmantchion, 2020). As students are “required to be more autonomous” (Azizpour, 2021, p. 18), their autonomy skills including learning management and material sourcing can be developed successfully through an e-learning environment (Baru et al., 2020). Learning during adversity such as COVID-19 may increase students’ resilience and adaptability, as well as improve the quality of their learning experience (Ahmed et al., 2021). Particularly in terms of language learning, the digital platform has indirectly required students to communicate more with peers, they “write more than before, asking questions through messages and learn the “etiquettes” of communicating online” (Ahmed et al., 2021, p. 118). In short, during the pandemic, the students were able to put their 21st century skills including effective communication, digital literacy, and collaboration skills to practice in demonstrating their learning.

In structuring the online teaching and learning (OTL) to accommodate learners’ needs and expectation, Duraku and Hoxha (2020) suggested that even if the nature of courses is not designed to be information and communication technology friendly, educators should play a significant role in the successful implementation of online learning during the pandemic. Educators should adapt and master the blended synchronous and asynchronous applications in teaching and learning in order to make sure the learning activities will be sustained in the long run (Lim et al., 2021). Also, the use of technology in

OTL should be customised and tailored to cater the objectives and course syllabus (Orlando & Attard, 2016). Thus, a proper measurement and planning should be done prior to the shift from physical classroom settings to online learning base in order to guarantee a continuous learning process despite this transition (Orlando & Attard, 2016). A number of factors should be taken into account for successful English language OTL including taking necessary precautions in student motivation and supporting teacher and learner in accessing the necessary infrastructure needed (Erarslan, 2021). A plan should be developed for a compassionate learning environment focusing on effective communication and connection between students and teachers (Gacs et al., 2020). Otherwise, the “global practices of teaching English online may yield weaknesses in terms of teaching and learning” (Erarslan, 2021, p. 359).

One of the possible methods that can be adapted in OTL methods is collaborative-based learning, as it requires students to work in synergy with one another. This allows authentic student engagements with real world endeavours that enhance their learning process altogether (Donnelly & Fitzmaurice, 2005). Moreover, the layout of most of the curriculum that uses this approach usually embodies designated problems that call for the learner’s gain of critical knowledge, ability to problem-solving, self-directed learning strategies, and team participation skills in order to replicate the commonly used systemic approach of problems solving or challenges that are encountered in life and career (Donnelly & Fitzmaurice, 2005). Hence, one of the strategies that are often used to develop tasks for students that cover all the above criteria is by applying the framework that is based on collaborative work and student-centred philosophy, as the teacher only functions as a facilitator or coach.

In this study, we provided the teaching English as a second language (TESOL) students the opportunity to experience learning in a collaborative-based project involving two different groups of fine arts students from a local public university, i.e., acting and directing (AD) and graphic design (GD) students. These three groups of students were required to work together in their respective groups in a semester-long project that would culminate in a live-performance. The aim of this project was to advance TESOL students’, AD students’ and GD students’ learning through creativity, and hence, the project is named ACT (Advancing Creativity Together). Apart from creativity, ACT also intends to provide real-world experience in the professional contexts and engage meaningfully with all the three groups of students based on the simulation that we would create. The tasks in ACT are designed to challenge and facilitate TESOL students’ abilities to: (1) perform and act, (2) use the English language meaningfully and realistically in the real-world and, (3) act,

react, adjust, and adapt and respond to situations while performing. These are to mimic possible scenarios an English language teacher would face in a classroom in the real school in future as they learn the understanding of their responsibilities involving organisational skills, time-management, and visionary goals for the final performance (Ramli et al., in press).

As for the AD students, ACT gives them the opportunity to be involved in directing and training actual actors and actresses, and experience the authentic interaction and communication between them, as directors, with the TESOL students, as the performers. For the GD students, who are required to promote the event, as well as prepare and create various props, tools, marketing tools and publicity methods and instruments, ACT is a genuine event that needs to be promoted and publicised, and their contribution determines if the event succeeds or fails. This experience is as real as it can get – it is laced with the pressure of getting the project successfully completed, as well as trying to manage and satisfy the demands and requirements of the performers, directors, and the public. That being said, this process will enable the students to demonstrate and exemplify “shared leadership” where TESOL, GD and AD students are being participatory and involved (as both leaders and subordinates) in leading and making decisions related to the final performance (Kramer, 2006, p. 144). All the previous necessitate the students to generate their creative thinking, problem-solving skills, peer coaching abilities and most importantly, develop their language and communication skills, which are very much needed as future English teachers in schools, as well as for the AD and GD students when they venture into the real-world. As a result of this study, the TESOL students should become “their own teachers” as they should exhibit desirable attributes that include “self-monitoring, self-assessment, and self-teaching”, especially when they would be required to think, reflect and develop various effective strategies in surmounting problems and challenges in completing the task given (Chen et al., 2015, p. 11).

However, in the middle of commencing the first part of this collaborative project, the nation was suddenly struck with a national lockdown due to the COVID-19 pandemic. The rapid quarantine and isolation practices that were implemented in response to the pandemic did affect the efficiency as well as the productivity in completion of the given tasks. Changes had to be made, whereby the online technologies and environment were utilised to facilitate the aims of ACT, especially the learning process, and how the three groups of students would interact, communicate, and complete the ACT project. This study will describe how the TESOL students learn collectively (during the pandemic) and undergo the transition, develop, and construct knowledge, and use online technologies and platforms to restructure their formal and

informal learning. The outcome of the study would offer fresh insights to future researchers as TESOL students' experience and adaptation to online teaching and learning environments in the middle of the pandemic COVID-19 are investigated. Empirically, this study would be able to suggest how such a project could be planned and conducted, and what are the possible challenges that one should be aware of when planning such an online collaborative learning (OCL) experience. With that, the present study aims to answer the following research question: How do OCL methods affect the TESOL students' learning experiences?

Online Collaborative Learning

The notion of collaborative knowledge-building present in the OCL environment, can be traced back to the pedagogy structured by Scardamalia and Bereiter (2006). The theory of knowledge-building refers to "refashioning education" and "a coherent effort to initiate students into a knowledge creating culture" (Scardamalia & Bereiter, 2006, p. 98). This pedagogy aims to develop a community of students with knowledge-building competencies and able to advance the knowledge frontiers, using technology and digital means. This is in line with collaborative learning, that can be defined as "the instructional use of small groups so that students work together to maximize their own and each other's learning" (Johnson et al., 2014). An example of such a digital environment that fits the knowledge-building process is the knowledge building forum, in which learners work together with the main purpose of sharing ideas and creating knowledge collectively (Bereiter & Scardamalia, 2014).

Although that is so, knowledge construction within a digital community involves more than just knowledge sharing and content creation among members. It is expected that learners should be able to expand and modify contents and incorporate or link appropriate technology or multimedia to the contents (Jimoyiannis & Roussinos, 2017). A study by Kimmerle et al. (2017) extended the pedagogy of knowledge-building and analysed the shared decisions and opinions during students' collaborative English writing tasks. It is proposed that there are three main stages involved in knowledge-building including knowledge introduction, restructuring, and shared opinion (Manegre et al., 2019) when it comes to language learning.

In developing the theory of OCL, Harasim (2012) noted that knowledge construction built upon shared experiences and interests is indeed present in the constructivist theory, but cooperation is not emphasised in the model. The OCL learning process focuses on cooperative learning, convergent, and

divergent thinking that leads to alternative responses and solutions, and the need for sophisticated learning technology (Harasim, 2012). In an extension of how collaborative learning should be structured, another fundamental theory that addresses this is the community of practice (CoP) theory pioneered by Wenger (1998). Collaborations situated within a community of practice differ from just a mere network or set of relationships, as it is a self-organising system (Wenger, 1998). It is a shared practice and collective process of learning, and members develop their practice together to respond and adapt to situations involving external constraints or influences (Wenger, 1998). This supports the notion of the importance of having ideas for alternative responses and solutions to adapt to unprecedented situations as proposed by OCL theory. This is important in the case of the present study, in which students had to adapt to the sudden transition that involves various external constraints of learning resources and methods due to COVID-19.

Online Collaborative Learning and English Language Learning

In introducing OCL projects, there are also many setbacks and obstacles that have to be considered as students may be facing certain issues such as technical problems, internet connectivity, language level, and time issues. However, it also has been made clear that to promote collaboration among students can be proven to be a difficult task due to the lack of participation from both the instructor as well as the student (Ellis & Hafner, 2008). Therefore, instructors are required to have the ability to adapt as well as anticipate these challenges by using OCL as means to promote language learning, at the same time, providing students within the domain of the organisation to which they belong more responsibility in line with their participation (Wenger-Trayner & Wenger-Trayner, 2015). Hence, according to Anderson (2020) and Margaliot et al. (2018), OCL can be considered as an effective way to train future English teachers as it enables the development of a more practice-based learning environment and is considered a useful method for enhancing active, meaningful, and purposeful communication between students. It can enhance the learning of English language skills, especially the writing skill, as long as the students put enough effort in their collaboration.

In addition, practice-based learning in OCL does encourage the student teachers' participation in the project as well as enhance their development on their perception of the idea of learning. Moreover, it also helps boost their knowledge on technology application which may result in strengthening and changing their views on the use of technology. This change of mindset may lead to the development of a progressive outlook towards the appliance of

technology (Hur et al., 2020; Magen-Nagar & Shonfeld, 2018) and lead to a more enhanced use of OCL in their future teaching as it is a combination of a shared practice and collective process of learning as suggested in CoP. OCL allows students to learn and explore the many ranges of topics enabling them to construct their own reports as well as presenting them in oral or written forms. In line with this, it also provides the means for these English language learners to encourage the use or require them to be able to produce a form of an authentic language. Thus, this opportunity can lead to the progression of the academic vocabulary as well as the acceleration of language acquisition (Stripling et al., 2009). An example of participants' satisfaction with the OCL had been examined by various researcher such as Ku et al. (2013) and Magen-Nagar and Shonfeld (2018) as they postulate that members are able to develop their practice together to respond which also includes group members' acquaintance with peers, instructor support and feedback, and reliable and easy-to-use technology in an OCL setting. That being said, when students are given the chance to work collaboratively in project-based activities, it directly fosters the interest in learning the language and in return it leads to making a change to the learners' attitude in a positive manner as well as motivating them towards learning the target language (Huffman, 2010).

On the other hand, OCL also helps in for prepare them to teach in complex teaching settings, formulate their own educational visions, and enable them to expand their self-understanding as teachers as they adapt to situations involving external constraints or influences (Hur et al., 2020; Margalio et al., 2018). This could be done by stimulating and enhancing active, meaningful, and purposeful communication between students by designing an OCL based project that could enhance their learning of English language skills, especially the writing and speech skills. Thus, adapting an arts-integrated instructional activity that allows teachers to dramatize content learning by infusing basic performance elements with classroom subject matter (Flynn, 2007, p. 2). Therefore, an arts-integrated technique requires the incorporation of a wide range of practices that can be considered as an array of approaches that will bring about some significant changes, which can be deemed as a typical instruction for English language learners and therefore, indirectly increasing their achievement. Moreover, the instructors also embrace new approaches of teaching that facilitate them to meet the needs of their learners with a diverse background, interest, and specialisation. In addition, based on the learners' experience with OCL, some obvious social behaviour changes are noted among them. These changes are due to their increased self-efficacy that allows space for shared rehearsal of learning, enhanced motivation and need for learning, and heightened sense of autonomy as learners as they adjust their learning depending upon the task, self as well as context conditions (McCardle & Hadwin, 2015).

Nevertheless, the OCL environment has been applied and adopted in various English language learning as part of their process of teaching and learning prior to the COVID-19 pandemic. Studies by Alavi (1994), Fjermestad (2004) and Cacciamani (2010) have shown that the engagement of university students in an OCL have provided openings for them to be vaster in the exploration of ideas and strategies in their ability to problems solve as well as be more present in when put in a challenging and complex situation. As an addition, the learners are also more open to accepting and relating the knowledge they receive to personal experience which will indirectly play a role when it comes to their decision-making skills in terms of applying it in real situations which coherently aligns with the objective of ACT.

The Study

This is a phenomenological study that attempted to establish a valid reasoning of how OCL methods affect the TESOL students' learning experiences. We examined how the collaborative system designed within the ACT project has helped the TESOL students in achieving their learning outcomes, while benefiting from the real-world simulation for their future careers as teachers. The interpretive phenomenological approach by Heidegger (2019) was infused in this study, in which the students' real experiences, including their narratives and descriptions of feelings related to the experience were examined. This is to see how the ACT project, the transition to OTL and the whole collaborative system of the project affected their learning experiences (Cilesiz, 2009).

In the structure of ACT, OCL environment focusing on shared knowledge-building competencies was used to benefit students across three different study backgrounds. In the ACT project, students came together to produce live musical theatre performances under the theme of 'Broadway'. Tasks and activities, authentic to the context of real theatre performances, were experienced by TESOL students, as they were assigned as the actors of the musical performances. In terms of language acquisition and competencies, specifically, they were able to explore voice projection, script-reading practices, speaking techniques such as diction, intonation, and other oral techniques.

Despite the set structure and timelines given on the 25 March 2020, the ACT project aka live musical theatre performance was changed into Broadway online video performance presented in YouTube platform, due to the restrictions of COVID-19. Thus, the transition process of the ACT project and how it affects the students was also recorded in the weekly reflective writing on Facebook. The videos include: (1) The Cast Introduction Video, (2) The

Behind the Scenes Video, (3) Illustrated Lyrics video, and iv) a Broadway Medley Video. Despite the changes in the medium of the performance from live to online (videos), each group was still required to maintain their original script and production members. Nonetheless, they were also given the freedom to restructure their story line as well as the concept of the performance to fit the presentation medium. Due to these changes, students had to convert to online platforms to carry out their rehearsals and meetings as they work towards the development of the outcome as a team.

Students were divided into eight groups and were required to develop live performances within 20–25 minutes that consist of singing, acting, and dancing based on the given Broadway musical theme. The TESOL students, in particular, focused on the performing (acting, singing, and dancing) while the rest of the arts students focused on directing and visual design of the performance. That being said, all of the three departments had to play their role and worked hand in hand in order to finish the tasks within the timeframe that was given.

A total of 206 students were involved in this study (TESOL = 85, GCD = 80, AD = 41). They were divided into 8 groups, comprising 27 students, with 10 or 11 TESOL students (participants of the study), working together with 6 or 7 students from the fundamental of AD class and 10 students from GD class. In this study, only 66 TESOL students responded to the open-ended items (OEI) with complete answers for all components, and therefore only the data of these 66 TESOL students will be used for the qualitative analysis.

The present study used a qualitative approach that aimed to establish a valid conclusion about the TESOL students' learning experiences in an OCL environment. In identifying and determining TESOL students' experiences of OCL methods and its effects on their learning process, two different data sources are utilised. The instruments include (1) reflective writing on Facebook and (2) OEI. Both instruments are intended to answer the research question 'how do collaborative OTL methods affect the TESOL students' learning experiences?'

In identifying the TESOL students' learning experiences, analysing their written reflections provided us with insights on how they are involved in the project in different stages, how they interact with each other using the reflective writing platform and how the tasks or activities set in the projects have affected their learning outputs. At the beginning of the course, the TESOL students were asked to write weekly reflections on a Facebook page created for the ACT project. Every week, TESOL students had to post at least

one reflective writing on the Facebook page that depicted and explained their experiences, feelings, thoughts, views, perspectives, and challenges faced related to the tasks and outcomes they needed to accomplish for ACT. In addition, they were also encouraged to note any negative feelings, experiences, or complaints which might occur during the project. As the weekly reflections initially started before the transition into online platforms due to COVID-19, thus their reflections towards the transition process were also noted as part of their learning experience within the OCL environment. The narrative given by students in their reflective writing was able to provide us with a valid reasoning in identifying and understanding the elements of the ACT project that have affected their learning process. We were also able to identify both positive and negative experiences that the students gained from the collaboration.

In total, there are three OEIs consisting of questions that are aimed at giving detailed clarification of how the OCL environment affects the TESOL students' learning experiences. The first OEI focused on the ACT's tasks or activities that were meaningful and benefited their learning experience. The second OEI was to understand why the learning experiences were meaningful to them. The third OEI is about their overall assessment of the ACT project in terms of affecting their learning experiences. From these OEIs, the responses of the TESOL students including their feelings related to the task's completion, working within a team and how they find the transition process affect their learning experiences were also recorded.

The OEI were given to the participants at the end of the ACT project, after all the musical performances and activities related were completed. As there were 66 participants who responded with complete answers, their entries were examined ($n = 66$) and used as the raw data. In analysing the OEI, the thematic analysis framework by Braun and Clarke (2006) has been adopted as the data analysis method for the study. It was used to examine how the participants describe their collaborative learning experiences in ACT, as well as their experience in adapting with the transition from physical classes to OCL. Firstly, all 66 entries were analysed, and key initial themes were recorded. The complex phenomena of the qualitative data means that some excerpts may suggest and cover more than one theme. The complex nature of the data may suggest several intertwining or overlapping themes. When this occurred, the researchers independently analysed data to identify the emerging themes, and come up with the final, most suitable themes to be used for thematic analysis.

Apart from OEI, the participants' reflective writing on Facebook were also analysed and categorised into themes using situation and activity coding strategies (Bogdan & Biklen, 1998). The situation codes were assigned to units of data that showed how the participants described their learning experiences in the OCL environment, ACT project and the learning transition process. For systematic analysis, each student was coded as S1, S2, S3 ... S20, respectively and their excerpts were identified by their respective codes. For example, 'S1E' would refer to data obtained from the first student from the OEI. For a systematic management of qualitative data, codes were used for the labelling of input from the students, i.e., reflection and OEIs. For example, 'S1 R5' refers to 'Reflection Week 5' completed by 'TESOL student no. 1', and 'S2 OE2' refers to 'Responses to Open-ended Item 2' by 'TESOL student no. 2'.

Braun and Clarke (2006) suggested structure and construction of the themes were used in the study. The phases include:

Phase 1: Familiarising yourself with your data – getting familiar with the depth and breadth of the content.

Phase 2: Generating initial codes – produce codes based on the most basic but meaningful feature/element of data that may form the basis of repeated patterns (themes) across the dataset.

Phase 3: Searching for themes – analyse and sort/combine codes into themes that can be main themes or sub-themes.

Phase 4: Reviewing themes – refining the themes by considering each theme's validity in relation to the data set, some irrelevant themes may be discarded or changed.

Phase 5: Defining and naming themes – identify the 'essence' of each theme, conduct detailed analysis of each theme's relevance in relation to how it fits the whole data set.

Results and Discussion

The qualitative data collected in the form of reflective writing on Facebook and OEI indicates that OCL methods have positively contributed to TESOL students' learning experiences. The sudden shift towards OTL did cause some difficulties to the respondents such as miscommunication, time management, and lack of resources in completing the task. Nevertheless, at the end of the project, respondents described the whole ACT project as providing them with

the ability and skills that are needed to be an English teacher in the coming future. These include enhanced oral and communication skills, creativity, higher confidence level as well as being professional in all aspects.

Particularly in the perspective of collaboration, respondents stated that working with other people has allowed them to explore a different side of 'understanding others' and being 'respectful towards other people's views'. They were also more 'flexible' in accommodating certain demands from other parties (S18 OE2, S37 OE2, S22 OE2, S38 OE1, S51 OE2). As future TESOL teachers, many found that it is important for them to develop creativity and critical thinking skills in terms of planning, solving problems, and creating activities that will gain the interest of their future students ($f = 40$; 60.6%). These abilities would also help them in providing a more interesting learning environment for their future students based on their abilities.

To further understand the elements of the OCL environment that have affected the TESOL students' learning experiences, data from OEI 1 (OE1), OEI 2 (OE2) and weekly reflective writing on Facebook were analysed. These themes were identified; (1) collaborative knowledge-building, (2) problem-solving, (3) creativity, and (4) self-management and project management skills.

Collaborative knowledge-building

All participants of the study have acknowledged that the transition of learning methods from physical to online not only requires one to work with each other but also to "support one another as a team" (S36 OE2) physically and emotionally and coherently "building knowledge" (S53 OE2) despite the "difference in backgrounds" (S38 OE2, S52 OE2). For instance, the feedback from the participants have shown that by working collaboratively, the completion of their task was made possible as they "share opinions and ideas" (S38 OE2), and "communicating every time" in order to ensure everyone plays a role in the given project, as these are the "keys to group positive success" (S40 OE2).

Among the knowledge-building skills that they gain in the project include the ability to "learn a lot of new things from other perspectives" (S25 OE2) as the participants work with people of different study backgrounds. In the knowledge-building process, participants understood that they "need to tolerate each other" (S30 OE2) and be "more matured in handling a conflict" (S35 OE2) to achieve their common learning goals. Moreover, S18 has also mentioned how they adjusted to make the collaborative learning a positive experience:

Collaborating with other departments is hard because we are far from each other, and different people have different reactions to certain words, ideas or commands. Getting one department to give full cooperation throughout the making of the theatre is hard because none of us is very experienced in our field. This teaches us to accept the weaknesses of others and try to make the best of what we got.

S22 also shared his view on the knowledge-building process and how it has helped her:

I learned how to work well with others, be friendly with them but still maintain a professional work ethic.

In terms of the sudden transition towards fully online learning, participants did mention how it has affected the dynamic of the collaboration work between the participants as it “seem quite hard and challenging to be done” (S9 R11). The participants have also shared that “sometimes, face to face communication is really better” (S17 R14) as compared to going online. However, some of them have also mentioned that they are “trying (their) best to not get lost in track of it” (S6 R7) for this is the best option for “everyone can continue learning” (S36 R23) as they start to “divide the task according to the departments” (S27 R20). Hence, S15 does highlight how important it is for each department that plays a role in “helping their own group members” (S15 OE2) as it is one of the “good way of learning from all the parties” (S34 OE4) and in this case, gaining “more knowledge from other students” (S27 OE2). This has pointed out how the challenging environment has helped them more in independent knowledge-building. Through this, S64 have also pointed out that one will have the ability to “share the knowledge, experiences and ideas to each other to achieve a common goal and objective” which will directly “improves competence and experience” (S64 OE2).

From the data, it is apparent that the transition from physical to OCL did help the knowledge-building process of students in terms of their learning independence as well as immersing in collective learning. The ACT project guidelines gave an opportunity for students to actively work with each other to work towards the tasks and activities involved with the theatre performance through online means. This method allows them to improve their coherence and collective knowledge as they discuss their information, negotiate, and modify the various ideas while engaging in knowledge-building discourse (Hmelo-Silver & Barrows, 2008). The structure of ACT is also in line with the International Society for Technology in Education standard in knowledge

construction for students. An enhanced “understanding of the world” helps in their “creative and intellectual pursuits” that “encourages the development of theories and ideas” (Morgan, 2020, p. 138).

Problem-solving

Another learning experience gained by TESOL students during the OCL is problem-solving skills as they try to surmount all the problems that occur in completing the tasks, especially the ones that were “outside (of their) field” (S1 OE2). Most of the participants reflect that they are facing difficulties in grasping the practical techniques in performing art such as acting, dancing, and singing as they have to do their rehearsal online (S15 OE3, S19 OE3, S27 OE3, S34 OE3, S56 OE3). However, over time they managed to find a way to “discuss together” (S5 OE3) as a team and keep on “practicing” (S17 OE3, S52 OE3, S53 OE3) to master the skills. Nevertheless, the participants also realised that some of the problems that they faced in OCL can only be solved within oneself as S35 mentioned as follows:

As an actor, I face difficulty acting confidently since I am a shy person. I solve this issue by pushing myself to get out of my comfort zone. I practice a lot in front of the mirror and look for some handy tips on the Internet. Another difficulty is the environment noise such as animal noise and vehicle noise which distracted my dialogue. I solved this issue by recording the scenes early in the morning.

This shows how the participants are trying their best to use problem-solving skills that they might not have discovered if not for a real-life environment structured by ACT project.

Another challenge in OCL that contributes to problem-solving among the participants is the lack of “effective communication between TESOL and Directing students” which was resolved by having discussions and informing the “director regarding the problem” (S32 OE3). Not only does this enable the student in “confronting conflicts” but also allowing them to “be thinking out of a box” (S55 OE4) to solve a problem collaboratively. Moreover, S38 also mentioned that one of the problems they faced was not having “a proper place to shoot my videos” but they managed to overcome the problem as they decided to “travel other places” to complete the task. S38 also addressed that without an “understanding group” and “motivation” they would have not been able to finish the task within the time given (S38 OE3). Therefore, when these students are given the opportunity to solve authentic problems in an OCL setting, they can cope with the complexity of teaching and learning (Anderson, 2020; Morgan, 2020). On that account, this process will also help

in developing a sense of autonomy among the students as it will shape their views and behaviour about the future of education and innovation, primarily in the teaching and learning domain.

Self-management and project management skills

There are three key elements that the participants highlight that worked in their favour in terms of developing their management skills such as preparation, organising schedule and setting priorities. To ensure that their respective team members are prepared for their respective roles in the task, S41 mentioned that “dividing the tasks and setting a time is vital for their group as it does help them in completing their task based on each “individual’s ability” (S41 OE2). Moreover, part of the preparation to ensure the team “works effectively” and “performs greatly” is by having each team “assign a leader to handle their teammates” (S57 OE4) which enables them to “complete all works accordingly” (S10 OE2).

S19 did reflect that “it is crucial to work within the time limit” to ensure the task can be completed within the deadline given in which they had to adhere to a “schedule to complete every task” (S17 OE2). Thus, to “adapt to the tight schedule” (S32 OE2), being “flexible” is one of the requirements needed as “terrible time management” (S52 OE2) will lead to conflict and misunderstandings which will affect the dynamic of the team. They also understood the importance of being “strict about time” (S13 OE2), “alert” (S12 OE2), and carefully “dividing time for different tasks” (S4 OE2). This not only shows how the ACT project has helped in developing project management skills such as adhering to deadlines and timeframes, but more importantly, discovering their personal skills that are useful in dealing with unprecedented or challenging situations. Furthermore, S30 also pointed out that they had to be “understanding towards other departments” as they were also given a specific period of time to “finish the tasks such as editing” (S30 OE2).

In terms of adapting to transition, participants see that some of their team members were affected during the final stages of the project. The final element that was seen as important by participants is in setting priorities to ensure that the task and project is completed within the given time. As mentioned by S52, “online class for me was very stressful” and participants had to re-organise their schedules, set aside their priorities and “make sure I did my part” (S52 OE2). Nevertheless, not all the participants managed to set their priorities in completing the tasks as claimed by S55 that some “people (were) missing in action” and “did not submit their parts” (S55 OE2) which had affected all the preparation and scheduling made earlier.

The data shows how the ACT project has indirectly trained students to be better at time management, especially regarding managing their own schedule. They were also aware of the importance of organising their priorities accordingly. Other management skills related to projects were also learned including dealing with task divisions among team members of a project. Through the OCL environment, students were exposed to the different types of circumstances and thus allowed them to practice their management skills, as not all team members or students are keen to collaborate due to the unwillingness of making changes or modifications of other people's works (Britcliffe & Walker, 2007). The ACT project tested their skills in managing and adapting to situations where online visibility may create a sense of discomfort among users (Lee, 2010). As future teachers, this is a good practice for the TESOL students to adapt to future situations involving the management of their own teaching as well as their students.

Creativity

Last but not least, the development of creativity among the participants was greatly enhanced as this project had given the participants the opportunity to "think creatively" (S2 OE2, S21 OE4, S31 OE4, S64 OE4, S65 OE4) in completing the tasks. For instance, given the situation of the pandemic, the participants had to figure out "how to do the production while living apart from each other" (S2 OE2), at the same time also thinking about "how to manoeuvre the situation in pandemic" (S40 OE4) while taking into consideration the "limited resources" since they are not physically on campus. Thus, as highlighted by S57, it is important to think about the common goal and use their creativity to achieve that goal:

Each person has different creativity, so me and a few TESOLians together with the director team, discussed the script. We decided on a few scenes that are essential for our video to portray the message we were trying to provide. Thankfully, in the end of the video, by adding new scenes and cutting a few scenes, we were able to indicate the message clearly.

This shows that participants' creativity skills were pushed beyond their imagination. Participants agree that it is crucial to think creatively in "adapting (to) the script", "costume", and "set" based on the current circumstances they are in as they are not physically together as compared to the earlier stages of ACT project before the transition to OCL (S6 OE4, S57 OE2, S60 OE2).

Apart from that, the participants also contributed and channelled their ideas and creativity to help out other students from different departments as they gave out “some ideas on the animation” at the same time trying to find the “easier (way) for them to edit” (S15 OE2). Furthermore, creative thinking skills are not only required in completing a task or project, but more importantly in overcoming other issues arose such as the ability to face other group members with “various type of characters” (S6 OE4), “commitment issues” (S32 OE2) as well as “communication issues” (S). Thus, in order to overcome and adapt to the transition they have managed to figure out a creative solution as a group without causing any complications that will affect their collaborative work, such as being able to “understand and cooperate” (S30 OE4) team members better, “follow and cooperate” (S30 OE4), “prepared better” (S19 OE2). According to Harasim (2017), the existence of many variables like attitude and problems faced by students during the collaboration work have enabled them to embrace the situation of agreeing to disagree as they complete the task. This can be seen from the data as this transition towards OCL does affect ACT’s participants’ creativity developments as their intellectual synthesis and consensus take place during their collaboration work.

Summary of findings and implications

The findings from the qualitative data (weekly reflection and OEIs) confirm how the OCL environment has positively contributed to the TESOL students’ learning experiences. This is possible due to the project nature of ACT that allowed the OCL environment to be challenging and beneficial for the developments of the TESOL students. By structuring ACT to reflect real-world practice of collaborative work, the TESOL students were able to develop ability and skills that are crucial for them as future English teachers, including enhancing their oral skills, creativity, confidence, and professionalism in all aspects.

Although the sudden transition has affected the TESOL students such as miscommunication among team members, challenging time, project management, and lack of resources in completing the tasks, all these factors have indirectly benefited their learning process and experience. This was shown through the four different themes that summarised their learning experiences including (1) collaborative knowledge-building, (2) problem-solving, (3) creativity, and (4) self-management and project management skills. For example, in collaboratively acquiring and building knowledge throughout the project, participants learnt about the importance of understanding a topic from different views and perspectives. As ACT was set for TESOL students to build knowledge collaboratively with students from

other study backgrounds, they were able to learn about negotiation, accepting other people's weaknesses and being professional in achieving their common learning goals. This was one of the key findings of the study that has helped shed light on how such an OCL environment is able to help TESOL students' professional development especially in training them as future teachers that will face different types of learners in the future be it in an online or offline learning context.

As for the development of creativity, problem-solving and management skills, the sudden transition from physical to online setting has helped the TESOL students to discover new skill sets and abilities. For example, all their project planning and execution had to adhere to the current situations, available limited resources and communication means that they have, which are not only challenging, but can be difficult at times. From the data, the participants were able to overcome all the challenges through creative solutions, effective management, and out-of-the-box techniques. They also understood how all these challenges were able to be solved through good collaboration among team members and working together as a unit.

Though the TESOL students have benefited from the above four meaningful learning experiences in this project, they also faced difficulties and challenges, and found certain tenets of the project that, to some extent, hindered or affected their learning. There are a few challenges faced by the students in adapting to the transition from physical performance to video such as the lack of resources, lack of communication and mental health management. In terms of resources, S7 described that the biggest challenge faced "comes from (the) recording (of) our scenes in the musical" as they "lack of resources and filming equipment's" (S8). Other than that, S40 does mention that the space to carry out the video recording at his house "is not spacious for filming and no one (is) help(ing) me in recording my video". Moreover, the lack of a proper space is proven to be rather difficult due to the "environment(al) noise such as animal and vehicle noise" (S35) is quite a hindrance for them to come up with a musical video of decent quality. Another challenge of this project is the lack of communication as these students have to interact with each other through online platforms which can cause a few issues "due to miscommunication" (S35). Several others agreed that due to miscommunication, they face some difficulties in terms of receiving instructions in which some were "unclear" (S55) and "not given clearly or proper(ly) to the actors" (S32, S39). This does affect the efficiency of completing the task "need to reshoot/do the same work repetitively" (S32) and "course conflict" (S35) among the team members. The state of mental health is another challenge faced by the students in completing the OCL task as they feel "it's too heavy for them to complete (it)" and "its

effect (on) my mental health” (S50). In similar manner, other factors such as assignments from their other classes and lack of collaboration from other team members does affect their emotion (S9) and mental stability (S18).

Although this has impeded the students to complete the tasks, the researchers’ view on this matter is that this kind of challenge reflects the authentic setting of what they would encounter in the real world and therefore, should be seen as a positive take-away of the project. One pedagogical implication from the above is that the educators, in planning and implementing a collaborative learning in an online environment, should always support and guide the students when they are faced with challenges and facilitate them on how they could surmount those challenges in the actual work or professional setting. In light of this, it will help the students not only to benefit from the creative processes throughout the project but also helps them to understand, challenge their previous conceptions, requiring them to think in new ways and make new connections with prior knowledge and beliefs (Timperley et al., 2007). Giving examples of challenges in the actual context, just like the ones above, would ease students’ understanding of their roles, as well as ensure the solving of the problems much more effectively as they undergo the process of “approaching different types of people and the need to avoid emotions from taking over their decision-making process” (Ramli et al., in press).

Conclusion

The phenomenological approach by Heidegger (2019) that was applied in this study explicates the TESOL students’ learning experience in OCL as they experience the real-world situation that is granted upon them throughout the period of completing the task. With this in place, the anecdotes and the accounts of the students’ state of well-being are also examined based on their experience of the transition to OCL during the COVID-19 pandemic. Results show that OCL environment has positive impact on the TESOL students’ learning experiences, thus enabling them to develop ability and skills that are crucial for them as future English teachers especially when OTL soon becomes a normality. To provide a more comprehensive picture of OCL, future studies could examine its effects on TESOL students’ learning experiences in situations where students would not have to deal with limited resources or other technical difficulties relating to communication means (for example, internet connectivity). Would the students be able to produce a better-quality outcome, and hence achieve much more in terms of the curriculum learning outcome? How would their collaborative work and tasks be carried out and what kind of other challenges that they might face? Data from such studies can be used to compare with the present study and see how students develop their

own skills in different situations. Nevertheless, the present study has shown that despite the challenges in terms of adapting and transitioning to OCL, students were able to gain positive experiences from an OCL environment and achieve the desired learning goals and more.

References

- Ahmed, U., Ismail, A. I., Fati, M., & Akour, M. A. (2021). E-learning during COVID-19: Understanding the nexus between instructional innovation, E-psychological capital, and online behavioural engagement. *Management in Education*, 08920206211053101.
- Alavi, M. (1994). Computer-mediated collaborative learning: An empirical evaluation. *MIS Quarterly*, 159–174.
- Anderson, L. (2020). 'Smiles are infectious': What a school principal in China learned from going remote. *EdSurge*. <https://www.edsurge.com/news/2020-03-20-smiles-areinfectious-what-a-school-principal-in-china-learned-fromgoing-remote>
- Azizpour, S. (2021). Transition from face-to-face to online instruction during the COVID-19 pandemic: An exploration of Iranian EFL University lecturers' attitudes. <https://doi.org/10.21203/rs.3.rs-658850/v1>
- Baru, M., Tenggara, W. N., & Mataram, M. U. (2020). Promoting students' autonomy through online learning media in EFL class. *International Journal of Higher Education*, 9(4), 320–331. <https://doi.org/10.5430/ijhe.v9n4p320>
- Bereiter, C., & Scardamalia, M. (2014). Knowledge building and knowledge creation: One concept, two hills to climb. *Knowledge Creation in Education* (pp. 35–52). Singapore: Springer. https://doi.org/10.1007/978-981-287-047-6_3
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Britcliffe, W., & Walker, R. (2007). Making wikis work: How do we create the conditions for effective collaborative learning. *ALT-C 2007*, 9, 91–92.
- Bogdan, R. C., & Biklen, S. K. (1998). *Qualitative Research for Education: An Introduction to Theory and Methods* (3rd ed.). Needham, MA.
- Cacciamani, S. (2010). Towards a knowledge building community: From guided to self-organized inquiry. *Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie*, 36(1).
- Cilesiz, S. (2009). Educational computer use in leisure contexts: A phenomenological study of adolescents' experiences at Internet cafes. *American Educational Research Journal*, 46(1), 232–274. <https://doi.org/10.3102/0002831208323938>
- Chen, F., Andrade, H., Hefferen, J., & Palma, M. (2015). Formative assessment in theater education: An application to practice. *Drama Research*, 6(1), 1–21.
- Hmelo-Silver, C. E., & Barrows, H. S. (2008). Facilitating collaborative knowledge building. *Cognition and Instruction*, 26(1), 48–94. <https://doi.org/10.1080/07370000701798495>

- Davies, J. A., Davies, L. J., Conlon, B., Emerson, J., Hainsworth, H., & McDonough, H. G. (2020). Responding to COVID-19 in EAP contexts: A comparison of courses at four Sino-foreign universities. *International Journal of TESOL Studies*, 2(2), 32–51. <https://doi.org/10.46451/ijts.2020.09.04>
- Donnelly, R., & Fitzmaurice, M. (2005). Collaborative project-based learning and problem-based learning in higher education: A consideration of tutor and student roles in learner-focused strategies. *Emerging Issues in the Practice of University Learning and Teaching* (pp. 87–98).
- Duraku, Z. H., & Hoxha, L. (2020). The impact of COVID-19 on education and on the well-being of teachers, parents, and students: Challenges related to remote (online) learning and opportunities for advancing the quality of education. [Manuscript submitted for publication]. Faculty of Philosophy, University of Prishtina.
- Ellis, T., & Hafner, W. (2008). Building a framework to support project-based collaborative learning experiences in an asynchronous learning network. *Interdisciplinary Journal of E-Learning and Learning Objects*, 4(1), 167–190.
- Erarslan, A. (2021). English language teaching and learning during Covid-19: A global perspective on the first year. *Journal of Educational Technology and Online Learning*, 4(2), 349–367. <https://doi.org/10.31681/jetol.907757>
- Fjermestad, J. (2004). An analysis of communication mode in group support systems research. *Decision Support Systems*, 37(2), 239–263.
- Flynn, R. (2007). *Dramatizing the Content with Curriculum-Based Readers Theatre, Grades 6–12*. Newark, DE: International Reading Association.
- Gacs, A., Goertler, S., & Spasova, S. (2020). Planned online language education versus crisis-prompted online language teaching: Lessons for the future. *Foreign Language Annals*, 53(2), 380–392. <https://doi.org/10.1111/flan.12460>
- Gillett-Swan, J. (2017). The challenges of online learning: Supporting and engaging the isolated learner. *Journal of Learning Design*, 10(1), 20–30. <https://doi.org/10.5204/jld.v9i3.293>
- Harasim, L. (2012). *Learning Theory and Online Technology: How Near Technologies Are Transforming Learning Opportunities*. Routledge Press. <https://doi.org/10.4324/9781315716831>
- Harasim, L. (2017). *Learning Theory and Online Technologies*. Taylor & Francis.
- Hartshorn, K. J., & McMurry, B. L. (2020). The effects of the COVID-19 pandemic on ESL learners and TESOL practitioners in the United States. *International Journal of TESOL Studies*, 2(2), 140–156. <https://doi.org/10.46451/ijts.2020.09.11>
- Heidegger, M. (2019). *Being and Time* (J. Macquarrie & E. Robinson, Trans.). Martino Fine Books. (Original work published 1962).
- Huffman, S. (2010). *The Influence of Collaboration on Attitudes Towards English Vocabulary Learning*. Iowa State University.
- Hur, J. W., Shen, Y. W., & Cho, M. H. (2020). Impact of intercultural online collaboration project for pre-service teachers. *Technology, Pedagogy and Education*, 29(1), 1–17.
- Jimoyiannis, A., & Roussinos, D. (2017). Students' collaborative patterns in a wiki-authoring project: Towards a theoretical and analysis framework. *Journal of Applied Research in Higher Education*. <https://doi.org/10.1108/jarhe-05-2016-0034>

- Johnson, D. W., Johnson, R. T., & Smith, K. A. (2014). Cooperative learning: Improving university instruction by basing practice on validated theory. *Journal on Excellence in University Teaching*, 25(4), 1–26.
- Kimmerle, J., Moskaliuk, J., Brendle, D. & Cress, U. (2017). All in good time: Knowledge introduction, restructuring, and development of shared opinions as different stages in collaborative writing. *International Journal of Computer Supported Collaborative Learning*, 12(2), 195–213. <https://doi.org/10.1007/s11412-017-9258-6>
- Kramer, M. W. (2006). Shared leadership in a community theater group: Filling the leadership role. *Journal of Applied Communication Research*, 34(2), 141–162.
- Ku, H. Y., Tseng, H. W., & Akarasriworn, C. (2013). Collaboration factors, teamwork satisfaction, and student attitudes toward online collaborative learning. *Computers in Human Behavior*, 29(3), 922–929.
- Lanmantchion, F. D. (2020). Teaching English during Covid-19 pandemic in Africa: On the value of learning from experiences.
- Lee, L. (2010). Exploring wiki-mediated collaborative writing: A case study in an elementary Spanish course. *Calico Journal*, 27(2), 260–276. <https://doi.org/10.11139/cj.27.2.260-276>
- Lim, C. K. N., Yow, C. L., & Chow, O. W. (2021). Coping with teaching and learning creative arts in Malaysian public universities in the time of Covid-19 pandemic. *International Journal of Academic Research in Business and Social Sciences*, 11(14), 337–358. <https://doi.org/10.6007/IJARBS/v11-i14/8942>
- Magen-Nagar, N. & Shonfeld, M., (2018). The impact of an online collaborative learning program on students' attitude towards technology. *Interactive Learning Environments*, 26(5), 621–637. <https://doi.org/10.1080/10494820.2017.1376336>
- Manegre, M., Gutiérrez-Colón, M., & Gisbert, M. (2019). Foreign language learning in knowledge forums: Using a knowledge-building forum in an EFL classroom. *The EuroCALL Review*, 27(1), 3–13. <https://doi.org/10.4995/eurocall.2019.11150>
- Margaliot, A., Gorev, D., & Vaisman, T. (2018). How student teachers describe the online collaborative learning experience and evaluate its contribution to their learning and their future work as teachers. *Journal of Digital Learning in Teacher Education*, 34(2), 88–102.
- McCardle, L., & Hadwin, A. F. (2015). Using multiple, contextualized data sources to measure learners' perceptions of their self-regulated learning. *Metacognition and Learning*, 10(1), 43–75. <https://doi.org/10.1007/s11409-014-9132-0>
- Morgan, H. (2020). Best practices for implementing remote learning during a pandemic. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 93(3), 135–141.
- Orlando, J., & Attard, C. (2016). Digital natives come of age: The reality of today's early career teachers using mobile devices to teach mathematics. *Mathematics Education Research Journal*, 28(1), 107–121. <https://doi.org/10.1007/s13394-015-0159-6>
- Saif, N., Khan, I. U., & Khan, G. A. (2020). Investigating the impact of mobile application on learning among teachers based on technology acceptance model (TAM). *Glob. Educ. Stud. Rev*, 2, 45–54.
- Scardamalia, M., & Bereiter, C. (2006). *Knowledge Building: Theory, Pedagogy, and Technology*. <https://doi.org/10.1017/cbo9780511816833.008>

- Shaikh, T., Memon, M., & Ansari, S. (2021). Keeping the doors of learning open: Exploring innovative English language teaching practices during COVID-19 pandemic.
- Stripling, B., Lovett, N., & Macko, F. C. (2009). Overview of project-based learning. Project-based learning: Inspiring middle school students to engage in deep and active learning (1). http://schools.nyc.gov/documents/teachandlearn/project_basedfinal.pdf
- Ramli, N. H., Suhaimi, S. N., & Kabilan, M. K. (in press). The effects of an authentic collaborative project on university directing students' learning experiences. *The Qualitative Report*.
- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher Professional Learning and Development*. Best Evidence Synthesis iteration (BES).
- UNESCO. (2020, March 30). Education: From disruption to recovery. <https://en.unesco.org/covid19/educationresponse> (accessed on 16 June 2021).
- Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems Thinker*, 9(5), 2–3.
- Wenger-Trayner, E., & Wenger-Trayner, B. (2015). *Communities of Practice: A Brief Introduction*.
- Yusuf, N., & Al-Banawi, N. (2013). The impact of changing technology: The case of e-learning. *Contemporary Issues in Education Research (CIER)*, 6(2), 173–180. <https://doi.org/10.19030/cier.v6i2.7726>
- Zhong, R. (2020, March 17). The coronavirus exposes education's digital divide. *The New York Times*. <https://www.nytimes.com/2020/03/17/technology/china-schools-coronavirus.html>



5

Exploring Student Satisfaction and Perceived Learning in Online Learning Environment

Umi Kalsom Masrom & Nik Aloesnita Nik Mohd Alwi

Introduction

The unpredictable conditions caused by COVID-19 have pushed online teaching and learning (OTL) to become an essential teaching and learning medium. COVID-19 have greatly influenced the education system and teaching-learning activities. Delivering online lessons has become an essential and integral element for teaching and learning at various levels, from preschools to tertiary levels. The shift from a traditional teaching approach to online delivery has affected many higher education institutions during the pandemic. Many educational institutions are still struggling to cope with the new norms (Johnson et al., 2020; Mukhtar et al., 2020). In coping with the new norms, higher education institutions have made tremendous efforts to guarantee the effectiveness of online learning programmes. Access, cost and learning effectiveness, and student satisfaction are the essential elements to ensure the quality of online learning programmes (Wang, 2006).

During the conception of this study, researchers in other countries have examined student satisfaction in online learning at the tertiary level. Some studies showed positive perceptions of online learning (Agarwal & Kaushik, 2020; Almusharraf & Khahro, 2020), while other studies demonstrated students' dissatisfaction with online learning

(Adnan & Anwar, 2020; Himat et al., 2021). Hence, investigating student satisfaction is vital in determining the effectiveness of online education programmes. The present study is a pioneer in investigating the effectiveness of online education programmes from the student satisfaction viewpoint.

Although several studies have been undertaken on students' perception and satisfaction, the present study is among the first to distinctively employ structural equation model-partial least square (SEM-PLS) tool in methodologically analysing student satisfaction. By employing this analysis, the current study theoretically contributes to the knowledge insight on understanding student satisfaction, particularly on online learning during the COVID-19 pandemic. The analysis identified the asymmetric relationship between the importance and levels of student satisfaction and perceived learning. SEM-PLS permits the prioritisation of constructs to improve certain targeted constructs, notably student satisfaction and perceived learning in this study. Identifying the priority factors of student satisfaction and perceived learning could assist relevant parties in better understanding the importance of student satisfaction and perceived learning and their performance in the online learning environment.

The Early Years of Online Learning

Previous studies investigated students' cognitive traits and also the affective factors. For example, Biner et al. (1997) mentioned that student satisfaction is one of the crucial elements in learning because it is related to academic achievement. According to Kuo et al. (2014), student satisfaction refers to how students perceive their learning experiences and can be considered one of the critical indicators of student-related outcomes (Liao & Hsieh, 2011). In the early years of online learning, researchers studied the importance, the effects of certain traits and the predictors of student satisfaction and perceived learning.

In a recent study, Kumar et al. (2021) found significant relationship between student satisfaction and e-learning quality. The study proposed institutions to improve the content of e-learning to promote greater student satisfaction. In addition, the importance of student satisfaction has also been emphasised in a flipped classroom study. In a longitudinal study using the SEM technique among undergraduate students in China, Zhai et al. (2017) indicated that perceived quality and perceived value are two important mediators of student satisfaction. Conversely, prior learning experience and personalised learning climate can be the determinants forecasting student satisfaction.

Self-efficacy is one of the most researched constructs concerning student satisfaction. As introduced by Bandura (1977), self-efficacy refers to a person's views and expectations of their capability to achieve a specific task. Self-efficacy has been recognised as one of the leading factors in learning because self-efficacy influences learner motivation (Liang et al., 2011), learning outcomes (Tsai et al., 2011) and learning process (Tsai, 2012). Self-efficacy and student satisfaction have been explored in various environments. For example, Artino's (2007) online study among military training participants in the United States (US) Navy found that task value, self-efficacy, and prior experience are related to student satisfaction. Additionally, Shen et al. (2013) investigated the role of self-efficacy in an online setting involving self-efficacy to complete an online course, interact socially with classmates, handle tools in a course management system (CMS), interact with instructors in an online course, and interact with classmates in an online course. The findings revealed that all the studied constructs except self-efficacy to handle CMS were significant predictors of student satisfaction in an online learning setting. Conversely, self-efficacy to complete an online course has the highest variance in satisfaction compared to self-efficacy to interact with instructors, with classmates socially, and for academic purposes. The findings suggested that students perceived their ability to complete an online course as more critical than other types of self-efficacy.

Researchers also examined the effects and determinants of student satisfaction. Lim (2001) stated that students' computer self-efficacy significantly affects their satisfaction and opinions regarding their future participation in online courses. On the contrary, several studies were undertaken to explore student satisfaction in a blended learning environment. For example, Masrom et al. (2018) undertook a study among Malaysian undergraduates to determine the predictors of student satisfaction. By using an online survey, the study revealed that student satisfaction significantly correlated with learner readiness in a positive direction. In addition, the results based on the multiple linear regression analysis suggested five predictors of student satisfaction, namely performance expectation, self-directed learning, online communication self-efficacy, motivation for learning, and learner control. In another study, Masrom et al. (2019) found that students were satisfied with perceived quality, personalised learning climate, prior learning experience and perceived value, course management and technology. Conversely, students were found to be dissatisfied with instructor-related factors, namely interaction, instruction, and instructor.

Numerous studies have been conducted on the relationship between interaction and student satisfaction. For instance, Kuo et al. (2014) used a regression model to study the online learning interaction among undergraduates and graduates. The study found that the interaction between learner-instructor and learner-content is the student satisfaction determinant, while interaction between learners did not contribute to student satisfaction. Similarly, Zhang and Lin (2019) examined the factors contributing to the satisfaction among high-school students in US virtual schools. The findings demonstrated that learner-content interaction was the only significant predictor of satisfaction.

Conversely, Li and Jhang (2020) determined student satisfaction by comparing the roles of three types of interaction (learner-content, learner-learner and learner-instructor). The study found that the interaction between learner-content and learner-learner were positively linked with student satisfaction, while learner-instructor interaction was not the predictor. Muzammil et al. (2020) found that interactions between learner-learner, learner-instructor, and learner-content positively impacted student engagement and positively affected student satisfaction. The findings of previous studies were rather inconclusive. Some studies indicated that learner-content interaction is essential, while others highlighted the significance of learner-learner and learner-instructor interaction. Hence, the role of interaction in influencing student satisfaction and perceived learning requires further investigation, particularly in the context where online learning has gradually replaced traditional classrooms in the current pandemic situation.

The Current Shift in Online Learning

Rapid technological developments have enabled ease of access to online education. Since the COVID-19 outbreak in the early 2020s, online learning implementation has aggressively taken place worldwide, attracting researchers to explore the potential of online learning to the fullest. For example, Agarwal and Kaushik (2020) reported positive student perception on Zoom application usage among paediatric postgraduates in India. Similarly, Almusharraf and Khahro (2020) highlighted positive satisfaction among post-secondary students in Saudi Arabia concerning Google Hangouts, Google Classroom and learning management system usage in teaching and learning.

Examining student satisfaction in online learning has greatly attracted the attention of researchers from various countries, particularly during the pandemic. For instance, the findings on student satisfaction in Pakistan were rather inconclusive. Faize and Nawaz (2020) conducted two study phases to gain insights on student satisfaction in online learning. The study results

demonstrated that students exhibited greater satisfaction in the second phase of online learning, which was assessed after modification of instructional practices. Conversely, Adnan and Anwar (2020) contended that online learning during the pandemic was unable to produce the intended learning outcomes, particularly in under-developed countries such as Pakistan. The failure to achieve the intended outcome was due to the lack of internet connection facilities and financial factors.

Similarly, Himat et al. (2021) reported that most Afghan university students were dissatisfied with the online learning implementation due to the limited internet connection access, less preference for web-based learning and online learning process compared to face-to-face teaching and learning sessions. Surahman (2020) concluded that dissatisfaction among Indonesian undergraduates was caused by limited internet access and lacking instructors' guidance. Thus, internet access could be one of the significant challenges hindering students' learning process and their progress in online learning.

Various factors have been found to contribute to student satisfaction in China. Chen and Wang (2020) discovered that learning materials, learning environment, platform design, and final course assessments significantly influenced the overall satisfaction of online learning. Likewise, Jiang et al. (2021) concluded that computer self-efficacy, the usefulness of the platforms and perceived ease of use influenced Chinese university student satisfaction with online learning platforms.

Avsheniuk et al. (2021) explored student satisfaction in English for specific purposes (ESP) online courses in Ukraine during the pandemic. The results revealed that students have greater satisfaction with ESP courses taught online. In addition, the study also suggested that academic, technical and communication matters were significant concerns that could impact online ESP learning. Besides, Baber (2020) explored the factors predicting student satisfaction and perceived learning outcomes undertaken in a cross-country study in South Korea and India. The study demonstrated that interaction, motivation, course structure, instructor's knowledge and facilities influenced student satisfaction and perceived learning outcomes in both countries.

Alternatively, Basuony et al. (2020) surveyed 280 undergraduates from a business school in Egypt. They found that internet connection, class time, platform, online assessments, motivation, and interest significantly affected student satisfaction in online learning. Furthermore, students were reported to have more preference for synchronous sessions compared to asynchronous sessions. In addition, Dubey and Pradhan (2020) conducted a study among

Indian university students. They revealed that the quality of information, subject interest, compatibility, and institutional branding of technology-enhanced learning positively influenced student satisfaction. Conversely, no effect was found concerning self-efficacy and the availability of resources on student satisfaction.

Besides student satisfaction, perceived learning has been remarked to predict learning success. Perceived learning is commonly referred to as learners' perception of their skills and knowledge to perform in a specific learning environment. Previous studies denoted that interaction plays a significant role in predicting student satisfaction and perceived learning. For instance, Alqurashi (2019) revealed that learner-content and learner-instructor interactions were essential in determining student satisfaction and perceived learning. In addition, the study also reported that online learning self-efficacy was the strongest predictor of perceived learning. Similarly, Kwok (2020) found that online learning self-efficacy and learner-content interaction were the strongest determinants of perceived learning. Both studies were conducted in online learning settings.

Undeniably, based on the findings, online learning self-efficacy should support the role of interaction in online learning to promote greater student satisfaction and perceived learning. The findings corroborated with earlier studies by Jiang and Ting (2000) and Fredericksen et al. (2000). The researchers concluded that online learning self-efficacy and interactions play a significant role in positively impacting student satisfaction and perceived learning. Unfortunately, only limited empirical evidence exists on how these constructs interacted in the online learning environment during the pandemic. Thus, this study attempted to explore the impacts of interaction and self-efficacy on student satisfaction and perceived learning. This study is relevant for uncovering the importance and performance of interaction and self-efficacy in the online learning setting.

The following hypotheses are formulated:

H1a: Learner-instructor interaction has a significant positive relationship with perceived learning.

H1b: Learner-instructor interaction has a significant positive relationship with student satisfaction.

H2a: Learner-content interaction has a significant positive relationship with perceived learning.

H2b: Learner-content interaction has a significant positive relationship with student satisfaction.

H3a: Learner-learner interaction has a significant positive relationship with perceived learning.

H3b: Learner-learner interaction has a significant positive relationship with student satisfaction.

H4a: Online learning self-efficacy has a significant positive relationship with perceived learning.

H4b: Online learning self-efficacy has a significant positive relationship with student satisfaction.

The Study

This study employed a quantitative approach to ascertain the assumptions on the population's several characteristics, attitudes or behaviours as suggested by Creswell (2014). The participants were undergraduates of business management and accounting in a Malaysian private higher education institution. An online survey was distributed among 189 students enrolled in English language and communication courses during the online learning implementation. Four incomplete questionnaires were removed before data analyses were performed.

The questionnaire comprised 30 items using a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). The items contained six constructs and were adapted from previous studies, involving online learning self-efficacy (Shen et al., 2013), learner-content interaction, learner-instructor interaction, learner-learner interaction (Kuo et al., 2014), student satisfaction (Zhai et al., 2017) and perceived learning (Artino, 2007). The instrument was tested for validity and reliability. Two experts evaluated the survey before the actual study to ensure the items included all aspects of the measured constructs. The items had high reliability because the Cronbach Alpha values for all the constructs ranged from 0.791 to 0.877 (Hinton et al., 2004).

The research aimed to explore the effects of online learning self-efficacy, learner-content, learner-instructor, and learner-learner interactions on student satisfaction and perceived learning. The research model is shown in Figure 1. Four constructs (online learning self-efficacy, learner-content

interaction, learner-instructor interaction, and learner-learner interaction) were examined to identify the association between student satisfaction and perceived learning.

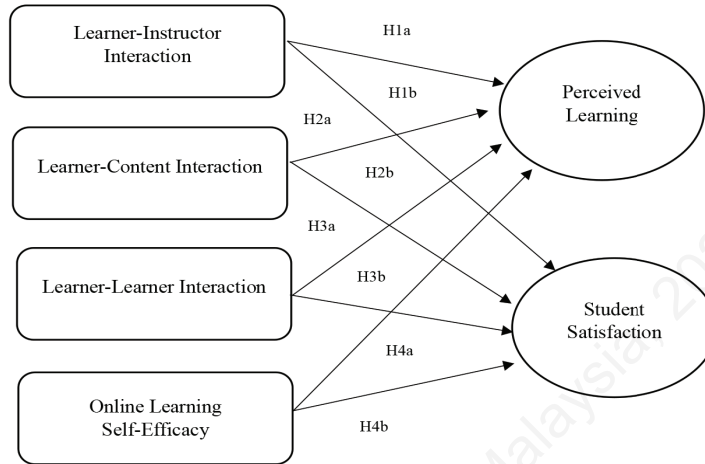


Figure 1 Student satisfaction and perceived learning model

Results and Discussion

This section focuses on analysing the demographic information and conducting descriptive and structural analysis to explore student satisfaction and perceived learning in an online learning environment.

Demographic information

The summary of the demographic information is presented in Table 1. The demographic data consists of the information on participants' gender and year of study.

Descriptive analysis

The mean and standard deviations of the six constructs are presented in Table 2. A descriptive analysis was performed to identify the mean and standard deviation of online learning self-efficacy, learner-content interaction, learner-instructor interaction and learner-learner interaction. Each construct had a score above the midpoint of their corresponding scale. Among the six constructs, learner-learner interaction ($M = 4.163$, $SD = 1.100$) had the highest mean score, followed by perceived learning ($M = 4.111$, $SD = 1.205$), online

learning self-efficacy ($M = 4.100$, $SD = 1.434$), learner-instructor interaction ($M = 4.079$, $SD = 1.182$) and student satisfaction ($M = 3.953$, $SD = 1.119$). Learner-content interaction ($M = 3.895$, $SD = 1.102$) had the lowest mean score.

Table 1 Demographic information

	Number of students	Percentage (%)
Gender		
Male	87	47
Female	98	53
Year of study		
Year 1	62	33.5
Year 2	78	42.2
Year 3	45	24.3

Table 2 Mean and standard deviation

Constructs	Mean (M)	Standard deviation (SD)
Online learning self-efficacy	4.100	1.434
Learner-content interaction	3.895	1.101
Learner-instructor interaction	4.079	1.182
Learner-learner interaction	4.163	1.100
Student satisfaction	3.953	1.119
Perceived learning	4.111	1.205

Data analysis

Measurement model

Data were analysed using partial least squares (PLS) modelling using the SmartPLS 3.2.8 version to examine the measurement and structural model. The two-step approach suggested by Anderson and Gerbing (1988) was utilised to test the model. Firstly, the measurement model analysis was undertaken to test the validity and reliability of the instrument. Subsequently, a structural model analysis tested the hypotheses developed. Both approaches adhered to Hair et al.'s (2019) guidelines.

The first step to measure the model was investigating the internal consistency reliability. Internal consistency reliability is the degree to which the items measure the latent constructs (Hair et al., 2017) and are assessed through composite reliability (CR). According to Hair et al. (2017), the CR value should

be ≥ 0.700 . As shown in Table 3, the CR value was found higher than the minimum requirement. Subsequently, factor loadings and average variance extracted (AVE) were assessed to determine the convergent validity of the constructs. The values of loadings should be ≥ 0.600 , and the AVE should be ≥ 0.500 . Five items were dropped from the study due to poor indicator reliability (< 0.6). The dropped indicators were OLSE5 = -0.295 , LCI5 = -0.235 , LII4 = -0.230 , LLI2 = 0.041 and LLI6 = 0.046 (Hair et al., 2019). Additionally, as presented in Table 3, the AVEs values are all > 0.5 , proving all items measured were in agreement with the empirical standards (Hair et al., 2017).

The discriminant validity was assessed using the Heterotrait-Monotrait (HTMT) criterion suggested by Henseler et al. (2015) and updated by Franke and Sarstedt (2019). The HTMT values should be ≤ 0.85 (the stricter criterion) and ≤ 0.90 for the mode lenient criterion. If the HTMT value is higher than the threshold value (0.85/0.90), the HTMT criterion detects the collinearity problems among the latent constructs (multicollinearity). The value indicates an issue with the construct where probably most items are measuring the same thing. In summary, the constructs contain overlapping items from the respondents' perceptions in the affected constructs. Table 4 shows that HTMT values were all lower than the stricter criterion of ≤ 0.85 . Thus, the respondents understood that the six constructs were distinct. Therefore, the distinct constructs did not measure the same thing. Both validity tests indicated that the measurement items were valid and reliable.

Table 3 Reliability and validity result

Constructs	Items	Loadings	CR	AVE
Online learning self-efficacy (OLSE)	OLSE1	0.778	0.876	0.542
	OLSE2	0.703		
	OLSE3	0.752		
	OLSE4	0.705		
	OLSE5	Deleted		
	OLSE6	0.745		
	OLSE7	0.731		
Learner-content interaction (LCI)	LCI1	0.84	0.885	0.659
	LCI2	0.88		
	LCI3	0.809		
	LCI4	0.709		
	LCI5	Deleted		

(continued on next page)

Table 3 (continued)

Constructs	Items	Loadings	CR	AVE
Learner- instructor interaction (LII)	LII1	0.775	0.855	0.542
	LII2	0.782		
	LII3	0.622		
	LII4	Deleted		
	LII5	0.709		
	LII6	0.78		
Learner-learner interaction (LLI)	LLI1	0.758	0.875	0.541
	LLI2	Deleted		
	LLI3	0.691		
	LLI4	0.735		
	LLI5	0.624		
	LLI6	Deleted		
	LLI7	0.807		
	LLI8	0.784		
Student satisfaction (SS)	SS1	0.891	0.899	0.747
	SS2	0.822		
	SS3	0.879		
Perceived learning (PL)	PL	SIM	NA	NA

Notes: SIM = Single item measure; NA = Not applicable

Table 4 Discriminant validity (HTMT)

	1#	2#	3#	4#	5#	6#
#1 Learner-instructor interaction						
#2 Learner-content interaction	0.791					
#3 Learner-learner interaction	0.793	0.693				
#4 Online learning self-efficacy	0.894	0.886	0.792			
#5 Perceived learning	0.588	0.779	0.469	0.687		
#6 Student satisfaction	0.558	0.899	0.524	0.776	0.84	

Structural model

As suggested by Hair et al. (2019), the path coefficients, standard errors, t-values, and p-values for the structural model were analysed using a 5,000 re-sample bootstrapping procedure (Ramayah et al., 2018, see Figure 2). Table 5 exhibits the summary of the criteria used to test the developed hypotheses. Firstly, the effect of the four predictors on student satisfaction was tested. The R² value of 0.719 implied that all four predictors explained 71.9% of

the variance in student satisfaction. The results in Table 5 shows that a significant relationship exists between learner-content interaction and student satisfaction ($\beta = 0.559$, t -value = 7.449), and also for online learning self-efficacy and student satisfaction ($\beta = 0.400$, t -value = 5.452). Subsequently, the effect of four predictors on perceived learning were tested. The R^2 of 0.542, indicated that all the four predictors explain 54.2% of the variance in perceived learning, supporting learner-content interaction ($\beta = 0.456$, t -value = 4.885) and online learning self-efficacy ($\beta = 0.334$, t -value = 2.906).

Next, the Stone-Geisser test of predictive relevance was performed further to assess model fit (Geisser, 1983). The blindfolding results in Table 6 indicate that the estimates are stable. The value of the communality Q-square is greater than 0 for all constructs (Hair et al., 2019). All outcomes have positive redundancy Q-square values, suggesting that the model has a good predictive ability.

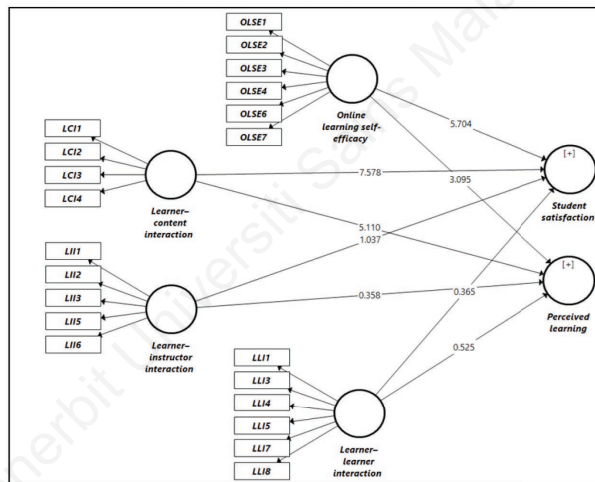


Figure 2 Structural equation modelling – bootstrapping

Table 5 Hypothesis testing direct effects

Hypotheses	Std beta	Std error	t-value	p-value	Decision
H1a Learner-instructor interaction -> Perceived learning	0.024	0.066	0.363	0.712	Rejected
H1b Learner-instructor interaction -> Student satisfaction	-0.062	0.057	1.084	0.277	Rejected
H2a Learner-content interaction -> Perceived learning	0.456	0.093	4.885*	0.000	Accepted
H2b Learner-content interaction -> Student satisfaction	0.559	0.075	7.449*	0.000	Accepted

(continued on next page)

Table 5 (continued)

Hypotheses	Std beta	Std error	t-value	p-value	Decision
H3a Learner-learner interaction -> Perceived learning	-0.041	0.08	0.515	0.598	Rejected
H3b Learner-learner interaction -> Student satisfaction	-0.022	0.057	0.381	0.700	Rejected
H4a Online learning self-efficacy -> Perceived learning	0.334	0.115	2.906*	0.003	Accepted
H4b Online learning self-efficacy -> Student satisfaction	0.400	0.073	5.452*	0.000	Accepted

Notes: *p < 0.05, > 1.960

Table 6 Blindfolding results

Constructs	SS0	SSE	Q-1) ² SSE/SS0)
Learner-instructor interaction	950	649.524	0.316
Learner-content interaction	760	429.267	0.435
Learner-learner interaction	1140	734.558	0.356
Online learning self-efficacy	1140	736.992	0.354
Student satisfaction	570	271.027	0.525
Perceived learning	190	92.592	0.513

Importance performance matrix analysis

Besides, importance performance matrix analysis (IPMA) was conducted to examine item performance and the importance of all four constructs, namely learner-instructor, learner-content, learner-learner interactions and online learning self-efficacy on student satisfaction and perceived learning. Table 7 shows that the most crucial performing interaction factor in determining student satisfaction are learner-content interaction (0.62) and online learning self-efficacy (0.504). Similarly, learner-content interaction (0.567) and online learning self-efficacy (0.472) were essential for perceived learning.

Table 7 IPMA results

	Student satisfaction		Perceived learning	
	Importance	Performance	Importance	Performance
Learner-instructor interaction	-0.088	63.961	0.038	63.961
Learner-content interaction	0.62	61.205	0.567	61.205
Learner-learner interaction	-0.028	63.653	-0.059	63.653
Online learning self-efficacy	0.504	61.856	0.472	61.856

Figure 3 shows the IPMA for student satisfaction, whereas Figure 4 presents IPMA for perceived learning. As shown in the figures, the grid has four quadrants comprising Quadrant I (concentrate here), Quadrant II (keep up the work), Quadrant III (lower priority), and Quadrant IV (possible overkill).

Based on Figure 3, two constructs are in concentrate here quadrants (learner-instructor interaction and learner-learner interaction). The other two constructs (learner-content interaction and online learning self-efficacy) are in the keep up the good work, implying that the factor in the quadrant is performing at the optimum level. Similarly, Figure 4 also shows that learner-instructor and learner-learner interactions are in the concentrate here quadrant. In contrast, learner-content interaction and online learning self-efficacy are in the keep up the good work quadrant.

Each quadrant requires different instructors' strategies. The study findings highlight the importance of focusing on two constructs, notably learner-instructor and learner-learner interactions, to contribute to student satisfaction and perceived learning. Quadrant I (concentrate here) denote that the constructs are of high importance but exhibit low performance. This area requires immediate instructor attention for improvement and are major weaknesses. Learner-instructor and learner-learner interactions are perceived to be essential to learners, but performance levels (total effects) are relatively low.

The interaction between learner-instructor and learner-learner could be considered major weaknesses because they are important, but the performance is low compared to other constructs. This finding corroborates Masrom's et al. (2019) findings, which recommended that the learner-instructor interaction be further improved to promote greater satisfaction among learners. The result is consistent with previous studies that found learner-instructor interaction as the student satisfaction predictor (Alqurashi, 2019; Kuo et al., 2014) and perceived learning (Alqurashi, 2019). Furthermore, this finding aligns with Li and Jhang (2020), who highlighted learner-learner interaction as the determinant of student satisfaction.

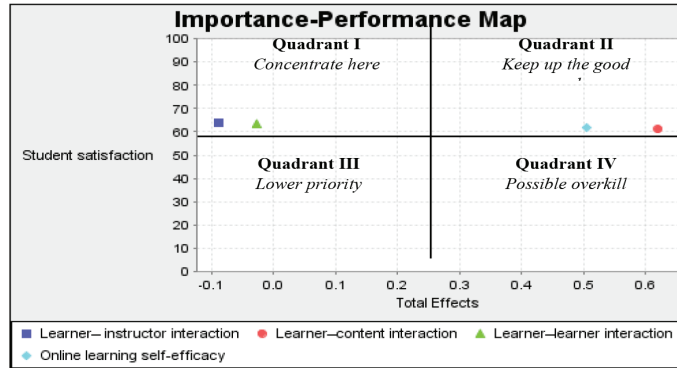


Figure 3 IPMA for student satisfaction

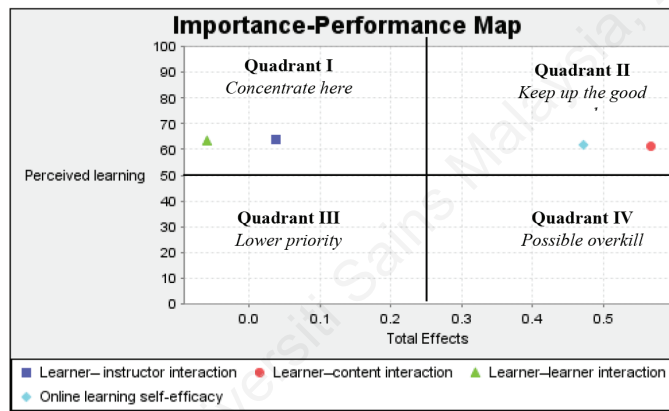


Figure 4 IPMA for perceived learning

Learner-instructor and learner-learner interactions are two crucial constructs that require more attention from instructors. The requirement might be attributable to a lack of experience in the online setting. A sudden transformation from the face-to-face mode to a fully online mode has impacted instructors and also learners. Instructors have to shift from a teacher-centred to learner-centred approach by pushing learners to learn more independently. Learner-instructor interaction includes asking and answering questions, providing and receiving feedback, giving and listening to ideas.

In second language learning, the interaction between learner and instructor is substantially crucial in an online learning environment compared to face-to-face sessions. Interaction with instructors on the learning process and the learners' progress could guide learners to complete the tasks assigned and provide in-depth lesson understanding. The situation is termed scaffolding, occurs inside and outside of the classes and could motivate learners to become

more independent in their learning. Consequently, scaffolding provides them with guidance to successfully complete assessments and activities assigned. Thus, an instructor's role is crucial in providing support to learners to assist them to achieve the intended learning outcomes.

Similarly, learner-learner interaction is essential in online learning. For instance, learners might have opportunities for active interaction with their peers in class discussions during synchronous sessions. However, the interaction between peers is limited in an asynchronous mode, mainly when lessons are designed for individual learning. Hence, instructors should design tasks that promote greater interaction among peers, such as tasks requiring group discussions, collaboration and promoting active learning in asynchronous and synchronous sessions. In addition, the interaction quality in learner-learner interaction can be promoted if instructors encourage learners to participate actively in class, offer feedback, communicate effectively and share thoughts. Therefore, the benefits of satisfaction and perceived learning in second language classrooms could be attained if the interaction between learner-learner and learner-instructor can be improved and implemented in online learning.

Conversely, learner-content interaction and online learning self-efficacy are in Quadrant II (Keep up the good work), implying that the constructs are imperative and high performing. Learners seem to perform very well in this zone as opportunities exist for achieving or maintaining advantages and are considered as major strengths. Learner-content interaction and online learning self-efficacy are perceived to be crucial, and learners seem to have a high-performance level in these constructs.

Learner-content interaction represents interactions between learners and the course content. Contrariwise, online learning self-efficacy is a learner's perception of own abilities to complete specific tasks required in online learning. Hence, learner-content interaction and online learning self-efficacy are the key to student satisfaction and perceived learning in the online learning environment. This result aligns with Shen et al. (2013), who discovered that online learning self-efficacy predicts student satisfaction. The finding also ratifies the assertion made by Lim (2001) that self-efficacy significantly impacted student satisfaction and perceived learning. Similarly, the result is consistent with Kwok (2020), who confirmed that online learning self-efficacy and learner-content interaction were determinants of perceived learning.

In the online learning environment, learners devote much time reading, searching for information, accumulating materials, and completing tasks and activities assigned by their instructors. Learners must have the knowledge and related skills to access materials, complete assessments, and activities, and digest the information gathered. The process triggers them to engage in reflective thinking. Therefore, their interaction with the content could be more critical, leading to self-rewarding, and consequently, promoting greater satisfaction in their learning.

Alqurashi (2019) and Kwok (2020) asserted that the combination of interaction and online learning self-efficacy could influence students' perceived learning and satisfaction in the online learning environment. Therefore, instructors can encourage learners' self-efficacy in several ways. Firstly, instructors should foster learners' interest in exploring and familiarising themselves with various applications in education, such as Padlet, Canva, Genially and MindMeister, to enable them to apply the knowledge and skills in learning. Learners should be provided with relevant training on using the applications. Secondly, instructors can also assist learners to build confidence throughout the learning process, regularly provide constructive feedback and implement scaffolding whenever needed. Instructors must regularly monitor learners learning progress and offer them encouragement in completing the course as learners face many challenges in online learning ranging from personal matters to course-related matters.

This study confirms that, to some extent, student satisfaction and perceived learning in the context of learning English as a second language were affected by online learning self-efficacy and the interactions between learner-content, learner-learner, and learner-instructor. Therefore, instructors and researchers, in teaching second language, ought to recognise their learners' interest and preferences in OTL environment before they plan, coordinate, and execute their teaching and learning lessons. They also need to find suitable approaches to encourage greater interaction between learners and with instructors and explore in what way the interaction could be utilised efficiently because as indicated by the findings of this study, interaction and self-efficacy are both important in influencing student satisfaction and perceived learning.

Conclusion

The current study explored the significant factors for student satisfaction and perceived learning in an online learning environment using IPMA. The findings demonstrated that online learning self-efficacy, learner-content, learner-learner, and learner-instructor interactions significantly influenced

student satisfaction and perceived learning. The IPMA also revealed that learner-instructor and learner-learner interactions are priority factors that should receive attention for student satisfaction and perceived learning. Thus, the study offers practical implications for higher education institutions in the public or private sectors. The findings underline primary areas requiring administrative attention to foster greater student satisfaction.

Institutions should provide the greatest urgency to learner-instructor and learner-learner interactions by training and developing instructors towards performing their responsibilities diligently. Institutions should be student-focused, such as timely responding to student queries and providing more scaffolding in online learning. In addition, instructors should be well-trained to handle class activities (synchronously or asynchronously) to ensure that the interaction between learners can be utilised efficiently. Institutions are recommended to develop a programme that regularly measures and upscale instructors' competencies to meet the changing trend when OTL soon becomes increasingly prevalent and perhaps a standard practice in the educational context in the near future.

The present study highlights several theoretical implications. The study is one of the recent probes that distinctively employed the SEM-PLS and IPMA analyses. Furthermore, the study promotes the improvement and applicability of online learning self-efficacy and interaction towards improving student satisfaction and perceived learning among students. Additionally, findings on student satisfaction and perceived learning that are of top priority to students are still subjective. Likewise, the current study theoretically contributes more insight to the OTL domain.

This study has several limitations. Firstly, the study is limited to a Malaysian private higher education institution and not the entire sector. Therefore, any attempt to generalise the study results should be made with caution. Future research could replicate the study in other higher education institutions to confirm the results across the institutions. Furthermore, further studies could be conducted to examine longitudinal or comparative studies on student satisfaction in other higher education institutions. Moreover, this study applied a quantitative approach through an online survey. Hence, future studies are recommended to be undertaken using a qualitative approach to analyse student satisfaction and perceived learning in the online learning environment.

Acknowledgement

Authors express appreciation to Yayasan Canselor UNITEN for funding this research.

References

- Adnan, M., & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. *Online Submission*, 2(1), 45–51.
- Agarwal, S., & Kaushik, J. S. (2020). Student's perception of online learning during COVID pandemic. *The Indian Journal of Pediatrics*, 87(7), 554–554.
- Almusharraf, N., & Khahro, S. (2020). Student satisfaction with online learning experiences during the COVID-19 pandemic. *International Journal of Emerging Technologies in Learning (IJET)*, 15(21), 246–267.
- Alqurashi, E. (2019). Predicting student satisfaction and perceived learning within online learning environments. *Distance Education*, 40(1), 133–148.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411.
- Artino Jr, A. R. (2007). Online military training: Using a social cognitive view of motivation and self-regulation to understand students' satisfaction, perceived learning, and choice. *Quarterly Review of Distance Education*, 8(3), 191.
- Avsheniuk, N., Seminikhyna, N., Svyrydiuk, T., & Lutsenko, O. (2021). ESP students' satisfaction with online learning during the COVID-19 pandemic in Ukraine. *Arab World English Journal (AWEJ) Special Issue on Covid*, 19.
- Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. *Journal of Education and e-Learning Research*, 7(3), 285–292.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191.
- Basuony, M. A., EmadEldeen, R., Farghaly, M., El-Bassiouny, N., & Mohamed, E. K. (2020). The factors affecting student satisfaction with online education during the COVID-19 pandemic: An empirical study of an emerging Muslim country. *Journal of Islamic Marketing*, 12(3). <https://doi.10.1108/JIMA-09-2020-0301>
- Biner, P. M., Welsh, K. D., Barone, N. M., Summers, M., & Dean, R. S. (1997). The impact of remote-site group size on student satisfaction and relative performance in interactive telecourses. *American Journal of Distance Education*, 11(1), 23–33.
- Creswell, J. W. (2014). *A Concise Introduction to Mixed Methods Research*. SAGE Publications.
- Dubey, P., & Pradhan, R. (2020). Factors affecting student' satisfaction on technology-enhanced learning in higher education. *Journal of Xi'an University of Architecture & Technology*, XII(IV), 625–634.
- Faize, F. A., & Nawaz, M. (2020). Evaluation and improvement of students' satisfaction in online learning during COVID-19. *Open Praxis*, 12(4), 495–507.
- Franke, G., & Sarstedt, M. (2019). Heuristics versus statistics in discriminant validity testing: A comparison of four procedures. *Internet Research*, 29(3), 430–447.

- Chen, G., & Wang, Y. H. (2020). A study on college students' online learning satisfaction during the COVID-19 epidemic. *2020 2nd International Conference on Education, Economics and Information Management (EEIM 2020)*. DEStech Publications.
- Fredericksen, E., Pickett, A., Shea, P., Pelz, W., & Swan, K. (2000). Student satisfaction and perceived learning with on-line courses: Principles and examples from the SUNY learning network. *Journal of Asynchronous Learning Networks*, 4(2), 7–41.
- Geisser, S. (1983). *On the Prediction of Observables: A Selective Update*. University of Minnesota.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, J. F., Matthews, L., Matthews, R., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107–123.
- Henseler, Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135.
- Himat, A. N., Takal, M. H., & Hakimi, M. F. (2021). Afghan student satisfaction from online learning during COVID-19 at Kandahar University, Afghanistan. *American International Journal of Social Science Research*, 6(1), 16–29.
- Hinton, P. R., Brownlow, C., McMurray, I., & Cozens, B. (2004). *SPSS Explained*. Routledge.
- Jiang, H., Islam, A. A., Gu, X., & Spector, J. M. (2021). Online learning satisfaction in higher education during the COVID-19 pandemic: A regional comparison between Eastern and Western Chinese universities. *Education and Information Technologies*, 1–23.
- Jiang, M., & Ting, E. (2000). A study of factors influencing students' perceived learning in a web-based course environment. *International Journal of Educational Telecommunications*, 6, 317–338.
- Johnson, N., Veletsianos, G., & Seaman, J. (2020). U.S. faculty and administrators' experiences and approaches in the early weeks of the COVID-19 pandemic. *Online Learning Journal*, 24(2), 6–21.
- Kumar, P., Saxena, C., & Baber, H. (2021). Learner-content interaction in e-learning – The moderating role of perceived harm of COVID-19 in assessing the satisfaction of learners. *Smart Learning Environments*, 8(1), 1–15.
- Kuo, Y. C., Walker, A. E., Schroder, K. E., & Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *The Internet and Higher Education*, 20, 35–50.
- Kwok, D. (2020). Predictors of students' perceived learning in off-campus learning environment: Online interactions are not enough. Paper presented at 37th International Conference of Innovation, Practice and Research in the Use of Educational Technologies in Tertiary Education, ASCILITE First Virtual Conference (ASCILITE 2020), Australia.
- Li, F., & Jhang, F. (2020, December). The relationship between interaction and student satisfaction with online learning in social work undergraduates in China. *2020 6th International Conference on Social Science and Higher Education (ICSSHE 2020)* (pp. 23–27). Atlantis Press.

- Liang, J. C., Wu, S. H., & Tsai, C. C. (2011). Nurses' internet self-efficacy and attitudes toward web-based continuing learning. *Nurse Education Today*, 31(8), 768–773.
- Liao, P. W., & Hsieh, J. Y. (2011). What influences Internet-based learning? *Social Behavior and Personality: An International Journal*, 39(7), 887–896.
- Lim, C. K. (2001). Computer self-efficacy, academic self-concept, and other predictors of satisfaction and future participation of adult distance learners. *American Journal of Distance Education*, 15(2), 41–51. <https://doi.org/10.1080/08923640109527083>
- Masrom, U, K., Mohd Alwi, N. A. N., & Nor Asshidin, N. H. (2019). Understanding learner satisfaction in blended learning among undergraduate student in Malaysia. *Universal Journal of Educational Research*, 7(10), 2233–2238. https://www.hrpub.org/journals/article_info.php?aid=8335
- Masrom, U, K., Mohd Alwi, N. A. N., & Nor Asshidin, N. H. (2018). The underlying factors of learner readiness and satisfaction in blended learning environment. *Proceedings of the IEEE 6th International Conference on MOOCs, Innovation and Technology in Education (MITE) 2018* (pp. 69–73).
- Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, limitations and recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4), S27.
- Muzammil, M., Sutawijaya, A., & Harsasi, M. (2020). Investigating student satisfaction in online learning: The role of student interaction and engagement in distance learning university. *Turkish Online Journal of Distance Education*, 21(Special Issue-IODL), 88–96.
- Ramayah, T. J. F. H., Cheah, J., Chuah, F., Ting, H., & Memon, M. A. (2018). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using smartPLS 3.0. An Updated Guide and Practical Guide to Statistical Analysis*. Pearson.
- Shen, D., Cho, M. H., Tsai, C. L., & Marra, R. (2013). Unpacking online learning experiences: Online learning self-efficacy and learning satisfaction. *The Internet and Higher Education*, 19, 10–17.
- Surahman, E. (2020, October). Student Satisfaction toward Quality of Online Learning in Indonesian Higher Education during the Covid-19 Pandemic. 2020 6th International Conference on Education and Technology (ICET) (pp. 120–125). IEEE.
- Tsai, C. C., Chuang, S. C., Liang, J. C., & Tsai, M. J. (2011). Self-efficacy in Internet-based learning environments: A literature review. *Journal of Educational Technology & Society*, 14(4), 222–240.
- Tsai, C. C. (2012). The development of epistemic relativism versus social relativism via online peer assessment, and their relations with epistemological beliefs and internet self-efficacy. *Journal of Educational Technology & Society*, 15(2), 309–316.
- Wang, Q. (2006). Quality assurance – Best practices for assessing online programs. *International Journal on E-learning*, 5(2), 265–274.
- Zhai, X., Gu, J., Liu, H., Liang, J.-C., & Tsai, C.-C. (2017). An experiential learning perspective on students' satisfaction model in a flipped classroom context. *Educational Technology & Society*, 20(1), 198–210.
- Zhang, Y., & Lin, C.-H. (2019). Student interaction and the role of the instructor in a virtual high school: What predicts online learning satisfaction? *Technology, Pedagogy, and Education*, 1–20.

COVID-19 Milieu and Learners' Demotivation in Online Classes

Sahib Khatoon, Mohammad Jafre Zainol Abidin, Zahid H. Pathan & Muhammad Usman Thaheem

Introduction

A novel coronavirus COVID-19 outbreak extensively affected worldwide thus, numerous countries closed their educational institutes, with the functional standstill of institutions students took their classes sitting at homes since the beginning of February 2020 (Muthuprasad et al., 2021; Mirza et al., 2021). Similarly, countries like Pakistan were also met with the COVID-19 pandemic and lockdown circumstances, because of such circumstances Pakistani educational institutions also shifted their education from face-to-face classes to online classes. This shift suggested positive as well as negative effects on students and teachers (Thaheem et al., 2021). Nonetheless, the COVID-19 milieu has become the trigger for all educational institutions globally to hunt the creative methods in a short period. In such conditions, almost all higher educational institutes have shifted their teaching from face-to-face classes to online by using, Microsoft Teams, Zoom, or other online mediums (Muthuprasad et al., 2021).

As face-to-face classes was shifted in the COVID-19 milieu to the online classes so it was noticed, the online education milieu differed intensely from the face to face classroom context vis-a-vis to learner's motivation, gratification, and communication (Bignoux & Sund, 2018). Thus, it

is postulated, learning context has a great effect on English as a second language/English as a foreign language (ESL/EFL) learning vis-à-vis to students' motivation (e.g., Dornyei & Ryan, 2015). Which is considered to be a catalyst in the learning procedure to trigger learners for actions to attain their set goal, or complete the learning process conferring to the set goals (Gopalan et al., 2017).

Online teaching and learning (OTL) is not new but there is a difference between teaching online in a normal situation and during a pandemic (Gacs et al., 2020). In normal circumstances, normally, the teaching material is planned and prepared with the time and schedule, although, during a pandemic, it's an emergency call to shift the normal classes to online thus, their preparation and planning is not according to cope the online context, thus the class needs extra efforts in changing the format (Kaluge, 2020). Moreover, psychologically, also there is a change in the attitude and motivation of the learners either to accept or resist the sudden changes (Oreg, 2003).

The English language has remained influential in Pakistan. Its prominence as a lingua franca and, before to that, as the official language, has given it a prominent position in Pakistan's multilingual society. A Pakistani student is motivated to study English for a variety of reasons, according to Akram and Mahmood (2007), including studying abroad, possibilities for job outside of his hometown, to attain social, religious, or military objectives, trade, and commerce, and for the aim of education.

Moreover, technology and its acceptance have long been recognised in Pakistan, according to Farhat and Dzakiria (2017), its use is limited to sending emails, accessing the internet, and writing papers therefore, online education is not prevailing in its full shape in Pakistan. Although, survey studies conducted by (Farhat & Dzakiria, 2017; Khan, 2009; Rafiq et al., 2021; Shahzad et al., 2020) showed students are motivated to learn by online mediums yet the teachers training, and resources are required along with technology integration in its full form.

Yet, there is a scarcity of research studies probing the influence of several dimensions of context on ESL/EFL learning's motivation, as the social situation can influence the learning of the students and teachers (King et al., 2019). Thus, to know whether students and teachers accepted this shift and change in the pandemic situations positively or they are not motivated for this change in Pakistan so, the subsequent idea became the main probes for the current study:

1. Can online teaching and learning predict students' motivation in the ESL context during the COVID-19 pandemic milieu?
2. What factors were affecting learners' motivation in online class during the COVID-19 milieu?

The previously mentioned probes are investigated by using the mixed methods approach following the quantitative and qualitative data analysis.

Online Teaching and Learning During COVID-19 Milieu

The digital era of the 21st century has necessitated the need for the active involvement of students in the learning procedure, teachers are finding ways to make student-centred classes, which requires novel and alternative teaching techniques (Song, 2020). Because a learning environment in a typical classroom can be characterised as active interactions between learner and instructor or between learner and other learners. In distance learning environments, opportunities for those interactions are often limited due to physical separations (So & Brush, 2008). In face-to-face classes, teachers apply task-based methodology, whereas in online video-based interaction same tasks could not be performed, but teachers must learn and maintain the student interaction and student attention in an electronic platform (Baralt & Gómez, 2017). Otherwise, students become disinterested and demotivated if they do not find the learning environment feasible, Haider et al. (2020) identified that students prefer to attend face-to-face classes rather than online before COVID-19 lockdown circumstances.

As in the COVID-19 pandemic situation, all classes were shifted from face-to-face to online suddenly, and such drastic change was not planned, that unplanned change brought many opportunities of learning along with challenges in teaching and learning ESL context (Leena, 2020). According to Gacs et al. (2020), there is a great difference between planned and unplanned teaching and learning in which the most noticeable difference is the designed and planned course which is designed for face-to-face class can benefit face-to-face class rather in online because of its format and delivery and using that course in the unplanned classes can be challenging. Similarly, Baralt and Gómez (2017) stated, planned online education is intentionally designed according to the need of the students and context with trained teachers, with carefully evaluated resources, along with subject specialist, technology trained experts' collaboration whereas, unexpected unplanned programs are not designed accordingly, that's why they do not fit in the situations like COVID-19 pandemic circumstances. Such unplanned educational programmes mostly do not present positive results on students' learning

rather they can create troublesome botheration for students and teachers. According to Tracy et al. (2011), depressing situations can increase the risks of depression, anxiety, and stress, and university students are vulnerable to developing stress disorder and depression because for many reasons, and they feel burden if they do not enjoy learning and in the COVID-19 milieu students are effected with psychological challenges (Othman et al., 2019).

All such pandemic experiences related to online education were investigated in a plethora of studies (e.g., Akhtarul Islam et al., 2020; Gacs et al., 2020; Kaluge, 2020; Mirza et al., 2021; Nasution, 2020; Thaheem et al., 2021). The study conducted by Kaluge (2020) investigated the university students' perceptions in Surabaya, Indonesia regarding the shift of face-to-face classes to online classes during pandemic COVID-19 which they conducted through WhatsApp. The findings revealed, students felt comfortable taking online classes from home according to them, they were easy to follow. Though students expressed some issues which they encountered as unstable signals of the internet during the course, and they felt difficulty in getting feedback from teachers which affected their motivation to be actively involved in the course (Kaluge, 2020).

Similarly, another study explored how students and teachers expect from the sudden change during the pandemic in an online context thus, findings revealed students and parents did not expect the equivalent experience as they expect from face to face class, and many students (and instructors) struggled in the COVID-19 duration in online classes (Gacs et al., 2020). Another study with a mixed method approach, exploring the effects of online education in Pakistani universities and Indonesian universities related to the challenges and benefits teachers were expecting in COVID-19 context. The findings exposed that there were personal, pedagogical, and technological challenges, like anxiety, internet instability, readiness, motivation, unplanned material faced by both countries' teachers while teaching online to university students (Thaheem et al., 2021).

Besides, the study investigated the relationship between online learning and students' motivation, and the findings proved that online learning and students' motivation have a weak correlation in the COVID-19 milieu. Online learning weakens students' willingness to learn online rather students were demotivated through online learning due to several reasons including lack of technical skill, poor online learning designing, money and time consumption, and inadequate internet access (Nasution, 2020). The study was conducted to know the occurrence of depression and anxiety among Bangladeshi university students during the COVID-19 pandemic. The study revealed students were

facing heightened depression and anxiety (Akhtarul Islam et al., 2020). Moreover, another study was conducted in Pakistani universities to investigate students' reading habits in an ESL context. The content analysis revealed that COVID-19 negatively impacted the academic lives of the university students with many difficulties they were facing as a dearth of resources for online education, incompetence in technological tools' access. All these factors arose depression and anxiety among students and declined their reading habits of learners (Mirza et al., 2021).

Learners' Motivation

Since past, motivation remained probably one of the most frequent-researched themes in psychology and education fields. It is derived from the Latin word *move*, having meaning to move or to carry. So, it can be defined motivation as a force, which aggravates our constant move to do the activities (Kzltepe, 2008). Motivation is considered an attribute or distinctive characteristics of an individual which he uses to do something, and if anyone would be highly motivated would perform better and would put his all potential efforts to achieve his goal, according to Gardner (2005, p. 3), "motivation refers to the choices people make as to what experiences or goals they will approach or avoid, and the degree of effort they will exert in this respect". According to Wu et al. (2011, p. 86), "motivation of learners is a dynamic process and the learner's motivation could change from time to time, similarly, the influencing factors on learners' motivation may also vary from phase to phase". Thus, the online context may have a positive influence on students' learning commonly but in the pandemic, days can be different, and may bring changes in the motivation of students during the COVID-19 milieu (Kaluge, 2020).

Motivation is widely considered as a significant aspect influencing the accomplishment of language learning specifically EFL/ESL because, learning the first language is natural whereas for learning the second language one should be motivated enough to acquire that (Csizér & Dörnyei, 2005; Ushioda, 2013). Moreover, learners' motivation could be affected at the same time by many elements, i.e., environment, material, teacher, medium, etc (Shahbaz et al., 2017; Wu et al., 2011). Language learners' motivation is shaped by two kinds of motivation, i.e., intrinsic motivation and extrinsic motivation (Ushioda, 2013).

Intrinsic motivation is related to the primary propensity of individuals to get engaged in the activities which they feel comfortable and interesting doing, thus, they learn, develop, and increase their capacities (Sansone & Harackiewicz, 2000; Usher & Kober, 2012). Play, investigation, and curiosity

are intrinsic motivational behaviours, they generate not because of any external pressure or force but rather an individual enjoy or get satisfaction from them (Ryan & Deci, 2017). Similarly, if a learner is intrinsically motivated to learn, he explores the new knowledge in a learning context with enjoyment and would find pleasure in learning and would spend considerable time in learning (Marinak & Gambrell, 2008). Predictably, teachers have well-thought-out that, intrinsic motivation brings better results in learning than extrinsic motivation (Deci et al., 1999). In contrast with intrinsic motivation, extrinsic motivation relates with the behaviours done for reasons other than their inherent satisfactions learner will be instrumentally motivated externally, whereas those instrumental factors also can vary in content and character (Ryan & Deci, 2020a).

As intrinsic motivation is related to the inherent feeling of enjoyment or interest in doing something (Ryan & Deci, 2000a, p. 55). Besides, extrinsic motivation is related to the external factors that force or push to do the tasks (Ryan & Deci, 2000b, p. 55). Nevertheless, now and then, both extrinsic and extrinsic motivators interrelate each other to encourage or weaken one's intrinsic motivations in social contexts (Ryan & Deci, 2000c). Thus, while learners are intrinsically motivated, learning results could be maximised. whereas extrinsic motivation sometimes inclines to weaken intrinsic motivation in one's social context. While a learner feels controlled by external factors, the level of intrinsic motivation is undermined (Mandigo et al., 2008).

Similarly, in Pakistan, a plethora of studies vis-à-vis to motivation have been conducted in the ESL context. Pathan (2012) explored in his longitudinal doctoral studies the motivation of engineering students in the ESL context and found very positive results for learning English in engineering university in Pakistan. Similarly, Mirza et al. (2018), investigated the different perceptions of male and female engineering students' motivation in learning English. The study conducted by Raza, W. et al. (2018) investigated the dynamic nature of motivational factors in the ESL context.

Learners' Motivation in the Online ESL Class

OTL are shifted from text-based and asynchronous communication towards multimodal and synchronous communication (Blake, 2011; Lau & Chan, 2003; Stockwell, 2007). Moreover, with the technology and social media advancement, teachers and learners are moved towards technological tools to use in the ESL context for learning the English language (Pathan, 2021; Subaidi & Punan, 2020; Yunus et al., 2020). Thus, learners' motivation in the online class context also matters a lot for the continuation of the learning

process in which learners decide whether they are interested to learn in the online techno-based environment or not (Bonk & Khoo, 2014). The degree of learners' involvement and engagement would decide their motivation towards learning online (Hartnett, 2016).

A plethora of research studies have revealed the usefulness of technology-based instruction in enhancing learners' engagement and motivation (Chen Hsieh et al., 2017; Özdemir & Aydın, 2015; Strayer, 2012; Traxler & Riordan, 2003; Wang et al., 2018). Besides Özdemir and Aydın (2015) gave a review of some of the studies related to the motivation and technological tool 'blogs', they mentioned the usefulness, and effect of the blogs on learners' motivation concerning the online classes of ESL writing. Besides, Edmodo usage in the ESL writing class and its effects on learners' motivation was investigated in Greek high school. The findings revealed very positive effects of this online tool on students' writing motivation in the ESL context, Edmodo integration enhanced students' motivation in learning writing, their engagement in the class, their writing habits, and their attitude was also improved in such environment (Tsiakyrودي, 2018). Moreover, the study by Kvashnina and Martynko (2016) mentioned that the flipped class has positive effects on students' learning motivation and there was a significant increase in students' performance on the course in the ESL context.

Technology-integration in the ESL classes is at its embryonic stage in Pakistan, nonetheless they have positive and negative impacts on students' motivation. In the COVID-19 days, the survey research was undertaken to determine the influence of OTL on ESL students' behaviour and motivation. According to the findings, students were motivated to study through online classes because of the significant loss of their classes during the pandemic days (Farhat & Dzakiria, 2017). As a result, they were persuaded to use online learning to make up for the loss (Shahzad et al., 2020).

Besides, another study explored students' readiness, motivation in ESL online classes in pandemic days in a university of Pakistan (Rafiq et al., 2021). The findings of the study revealed Pakistani students were ready for online learning during the country's COVID-19 shutdowns. They were motivated about studying online, open to new ideas, willing to learn from their errors, and eager to communicate and engage with their classmates online. Moreover, a study was conducted by Khan (2009) in the Virtual University of Pakistan, which offers degree programmes online. Online students were investigated to express their perspectives about online courses, internet access, motivation, contentment, and experience with the online programmes. According to the findings, students preferred online learning since it was convenient and

accessible from anywhere. A meaningful online course, empowered teachers, and the integration of technology into teaching and learning encouraged them to succeed. Since the Higher Education Commission and the Higher Education Department in Pakistan, like many other countries around the world, have mandated that all public and private sector educational institutes conduct all teaching and learning activities online until the COVID-19 spread curve is flattened (Rafique et al., 2021).

Learners' Demotivation

Demotivation can be the result of (1) external distractions or if there are some more attractive alternatives; (2) ongoing failure of attention; or (3) an inner method of reflection devoid of any particular exterior prompt (Evans & Tragant, 2020). Innovative pedagogies are keeping learners engaged and motivated (Wu et al., 2020). But, Dornyei and Ryan (2011) cited in Ghafournia and Farhadian (2018), stated that there can be many demotivating factors that affect learning and students' motivation to learning. Those negative factors can be learning-related, for example, anxiety, maybe students' poor test results, or the atmosphere where they are learning and studying. According to Ghafournia and Farhadian (2018), if there is demotivation it can severely effect on the students' practices of learning and ultimately on students' results. According to Dornyei and Ryan demotivation dismisses the existence of the motivation fully or it can reduce the level of the motivation for the existing learning due to some external factors (p. 143).

There is a plethora of researches on motivation but demotivational factors in the ESL context are explored in a very less number of the researches, or it can be said this topic is neglected (Raza, S. et al., 2018). As research has shown student demotivation to play a large role in learning outcomes (Falout, 2012; Molavi & Biria, 2013; Pawlak, 2017). In Pakistan a study was conducted by Mirza et al. (2016) investigated the demotivating factors in the engineering university. It investigated the students' perceptions concerning demotivating factors, thus the findings revealed, students were more demotivated due to boring material used in the ESL class, another factor of demotivation was students' anxiety, fear of low scoring, and feeling of inferiority because of less knowledge demotivated them. A study conducted in a higher technical school (Russia) examined motivating and demotivating factors in using Moodle online ESL class with a survey to know the teachers' and students' perceptions concerning Moodle-based learning. The findings of the study revealed, there are various factors (pedagogical, management, and technical) that are motivating and demotivating the students and teachers for the implementation of the Moodle (Aikina & Bolsunovskaya, 2020).

A study conducted at the tertiary level in ESL reading classes in Bangladesh by Mohib et al. (2013) explored the demotivating factors of students learning reading in the ESL context. With qualitative and qualitative analysis, findings revealed that the learners were demotivated due to being shy, hesitating, and fearful. Aside from internal issues, there were some external factors such as inadequate teachers' training, teacher-centred classes, and without planning or ill planning of the lessons demotivated the students in reading class. Besides the material was also one of the causes of the demotivation of the students, which decreased students' focus and interest in reading, moreover, the environment was also not friendly thus, students were not improving the reading and they become demotivated. Besides, Mirza et al. (2018) found in their study there were many motivational factors but the course contents became the demotivating factor for the engineering students in the ESL class. Moreover, the study of flipped ESL writing instruction in Taiwan investigated the demotivational factors which can demotivate students, i.e., students' interest, classroom atmosphere, and teaching material, and students' scores, and teaching method along with the content type can demotivate students if they are not properly followed in the ESL context (Wu et al., 2020).

The Study

The current study has followed mixed methods approach following the quantitative and qualitative data. For quantitative data collection the questionnaire was used to collect students' ideas vis-à-vis to their motivation in the online classes during the COVID-19 milieu. For quantitative data collection, first, the researcher obtained permission from the directors of the concerned departments from where the data was to be collected. Moreover, students were made aware about the study and taken their consent to involve them in the data collection process. Whereas for detailed investigation of students' views and experiences regarding online ESL class in COVID-19 milieu semi-structured interviews were conducted. According to Creswell (2007), interviewer follows the systematic scheme of probes by following the semi-structured interview guide. The quantitative data is analysed by SPSS 26 software and for qualitative data analysis, thematic analysis was used. To answer the second question of the study, the data was collected by semi-structured interviews thus, for data analysis Braun and Clarke's (2006) six steps thematic analysis was followed which are shown in Figure 1.

The sample of the study was taken from an engineering university in Pakistan. For the selection of the sample, a random sampling technique was applied to administer the questionnaire. Four departments (electrical, civil, computer system, software engineering) students were involved in the current study.

The sample size for quantitative data collection was ($n = 150$) students including 100 males and 50 females who were third-year undergraduate students. After quantitative data collection, ten students (male and female) ($F = 5$ and $M = 5$) were selected from them for semi-structured interviews for the detailed exploration of the queries of the research.

For collecting the data to analyse that quantitatively, the current study adapted Gardner's (1985) Attitude/Motivation Test Battery (AMTB) with the detailed socio-educational model and five scale AMTB battery to measure the learners' motivation/attitude (Shahbaz et al., 2017). The AMTB has been testified to have good reliability and validity but this current study had also included a few designed items, thus the reliability of the questionnaire was checked using item reliability analysis for all the 30 items in the questionnaire based on two constructs of motivation (intrinsic and extrinsic which were associated with the organismic integration theory, Ryan & Deci, 2020a, 2020b) and the value for the Cronbach's alpha reliability test was 0.839. Since the COVID-19 milieu is the focus of the study, thus a few items were added by the researchers to explore the COVID-19 milieu's effects on students' motivation. The questionnaire items covered two aspects of motivation, i.e., intrinsic motivation and extrinsic motivation, each comprised 15 items.



Figure 1 Steps in thematic analysis

Source: Adapted from Braun and Clarke (2006); Clarke and Braun (2013)

Results

As this study is following mixed methods approach thus, quantitative analysis was carried out to assess how respondents gave their consent on questionnaire about their online learning process.

Quantitative results

Simple linear regression was carried out to investigate the relationship between OTL in the COVID-19 pandemic milieu and students' extrinsic motivation. The scatterplot showed that there was a weak linear relationship between the two, which was confirmed with a Pearson's correlation coefficient of .004. Simple linear regression showed an insignificant relationship between OTL and students' extrinsic motivation since the p-value is higher than 0.05 ($p > 0.963$), which shows students are motivated in taking online classes, but this is insignificant change in motivation which demonstrate students are more towards demotivation instead motivation. The slope coefficient for OTL was 0.181 so the motivation of students increases insignificantly by 0.181. The R^2 value was .004 so only 0.4% of the variation in OTL predicts the motivation of the students. The scatterplot of standardised predicted values verses standardised residuals, showed that the data met the assumptions of homogeneity of variance and linearity, and the residuals were approximately normally distributed.

Similarly, simple linear regression was carried out to investigate the relationship between OTL in the COVID-19 pandemic milieu and students' intrinsic motivation. The scatterplot showed that there was a weak linear relationship between the two, which was confirmed with a Pearson's correlation coefficient of .045. Simple linear regression showed an insignificant relationship between OTL and students' intrinsic motivation since the p-value is higher than 0.05 ($p > 0.587$). The slope coefficient for OTL was 2.81 so the intrinsic motivation of students increased insignificantly by 2.81. This is insignificant motivational raise. The R^2 value was 0.045 so only 4.5% of the variation in OTL predicts the intrinsic motivation of the students. The scatterplot of standardised predicted values versus standardised residuals showed that the data met the assumptions of homogeneity of variance and linearity, and the residuals were approximately normally distributed. In conclusion, quantitative results demonstrate that students' intrinsic motivation and extrinsic motivation were negatively affected in the days of the pandemic COVID-19, thus, they were demotivated by OTL. Online classes did not affect their learning positively rather they felt demotivated because of multiple negative factors which deviated motivation (intrinsic and extrinsic) into demotivation.

Qualitative results

After all steps of thematic analysis previously mentioned, the themes and subthemes were extracted from the data (Table 1).

Table 1 Factors affecting learners' motivation in online class during COVID-19 milieu

Themes	Sub-themes	Excerpts
Class material	Conventional material – contents tasks	<p>S1: "My teacher uses the material which she was using in our face-to-face classes which has no practicality in the online class."</p> <p>S2: "Our online class needs online type material which should cater for our online class."</p> <p>S3: "The contents which are used in our ESL online class are the same as they were in a face-to-face class, but in the online class, they don't seem useful."</p> <p>S4: "In the face-to-face class were doing different activities related to reading, writing, speaking, and listening skills, in online class we are just silent listeners."</p>
Teachers' methodology	Teachers-centred class	<p>S5: "In face-to-face class get involved in different activities we feel like we are doing something but in online class were given a lecture by our teacher which is a boring way of learning English."</p> <p>S6: "I enjoy hands-on tasks when we do different tasks related to reading writing speaking and listening skills in the class, but in the online class, we don't perform any activity except listening to our teacher online and following PowerPoint presentation by her/him."</p> <p>S2: "Our teachers always taught us face to face in classes now during pandemic this sudden shift made them boring teachers because they do not know how to teach online."</p> <p>S3: "For teaching and learning online one must be trained enough to use the technology and then easily can focus on the teaching and learning, but if teachers are trained, we cannot find learning in that class."</p>

(continued on next page)

Table 1 (continued)

Themes	Sub-themes	Excerpts
Readiness	Unplanned learning objectives	<p>S7: "This surprised shift from face-to-face class to online has spined our head sometimes I feel not to attend the class because I am yet not ready to accept this change."</p> <p>S8: "I don't feel I could complete my learning goals in online classes because these were not planned classes, so they seem incomplete and not useful."</p> <p>S9: "I don't enjoy online classes because they are not up to the mark and they seem to be a waste of my semester time."</p>
Technical problems	Internet and electricity issues – teachers' training	<p>S10: "Country like Pakistan doesn't have full facilities to conduct online classes, as I live in the remote village of Sindh where we have no electricity and no any internet facility, during pandemic I was at home and was unable to attend online classes, which make me so much anxiety and worried I shifted to my friend home in another area to attend classes."</p> <p>S1: "I always find low internet speed which made me more distressful in pandemic days because these online classes made us connected otherwise there was no way to study and complete our semester, due to electricity and internet speed problems this connectivity was also disturbed, and I remained more anxious."</p>
Anxiety and stress	Lockdown and quarantine context	<p>S4: "In Pandemic circumstances of lockdown I have already anxiety and was under stress, and those online classes seem a burden to me because they were not accomplishing the learning targets."</p> <p>S5: "In online classes, there were many problems, like internet speed, electricity problems, sometimes laptop problems, all these problems made me so much under pressure so that I could not achieve my learning targets."</p> <p>S6: "In Pakistan, there was not continuous lockdown sometimes we were called in our universities to attend the class, sometimes it was lockdown such messy situations spread panic and I remained disturbed."</p> <p>S7: "One of a friend got COVID-19 positive and when he was in quarantine, he was attending online classes because our midterms were going on such terrible situations made me sad and I was feeling fear too."</p>

Class material

Following the steps of thematic analysis, data revealed 'class material' used in the online class was a demotivating factor to learn online in ESL class, students did not feel comfortable with the material used in the online class because, it was not up to date due to the sudden shift from face-to-face classes to online so teachers were using the same objectives and same lesson plans which students did not enjoy although, the same contents and material they were using and enjoying in the face-to-face classes in different activities in the online class, they could not be used in the same way thus, such situation decreased students' motivation. Thus, tailor-made tasks and materials were needed to motivate the students towards online learning.

Teachers' methodology

Teacher and teachers' methodology are important factors in the learning process thus, during pandemic teachers' methodology became more important to be up to the learners' and learning's needs. According to the respondents of the study, they became the only listeners who were not doing their class activities which they used to do in the face-to-face classes. The class turned to teachers-centred from student-centred classes, and such circumstances demotivated them to learn online. They were not enjoying the classes and consequently, they were not learning.

Readiness

Readiness is the willingness to accept and willingness to do the targeted work, in online classes during pandemic students were in panic so were the teachers. Almost all the respondents expressed they do not enjoy online classes because they were not expecting such a shift from face-to-face classes to online classes, and because of such unwillingness they were not learning properly. These online classes became a demotivating factor because they were not planned classes and unplanned objectives, tasks, material, methodology made students uninterested to attend the classes.

Technical problems

There were many technical issues encountered by students during online classes, i.e., internet problems, electricity issues, and device issues. Students were attending classes from home due to lockdown in the country, and their residences were in the remote areas of Sindh where they were facing many problems already, along with internet and electricity. All such circumstances demotivated them to learn online.

Anxiety and stress

Students' and teachers' mental health was necessary to be stabilized in such terrifying situations. Students expressed such feelings that they were in depression, fear, stress, and anxiety. They expressed, quarantine and lockdown situations also made them disturbed, and they were under pressure due to such situations that affected their learning and made them demotivated to learn and continue learning.

Discussion

Based on the findings of quantitative data, there was no significant difference in motivation about learning online in COVID-19 milieu. Whereas the qualitative data clearly indicated students were demotivated for learning online in the days of pandemic due to various reasons. The current study revealed that students' extrinsic and intrinsic motivation insignificantly increased which means they were not much satisfied or motivated in online classes in the pandemic COVID-19 milieu. This slight increment in the motivation occurred may be because of teachers meticulously and cautiously wanted to teach students in order to compensate the loss of their education. Since they were inquired about the online classes they agreed and strongly agreed with the statements inquired in the questionnaire, that their motivation (extrinsic and intrinsic) is not much increased due to the depressive situation of COVID-19. Moreover, in Table 1 students' expressions' excerpts are mentioned where they have mentioned many other factors which decreased their motivation (intrinsic and extrinsic) related to the OTL in COVID-19 days.

The findings of the qualitative data have much revealed that students were not much motivated to learn the language in the ESL online classes and their motivation was decreased due to many factors in the days of the pandemic and they become demotivated to take online ESL classes. These findings are in line or same of the findings of their studies. These all studies have also found that OTL has various negative impacts (Akhtarul Islam et al., 2020; Gacs et al., 2020; Mirza et al., 2021; Nasution, 2020; Othman et al., 2019; Thaheem et al., 2021). All these studies were conducted, online in the pandemic COVID-19 milieu, the findings of these studies shown negative impacts of OTL due to various factors along with COVID-19 circumstances on students' learning language in the ESL classes.

The current study found that students were less motivated or demotivated as a result of both external and internal causes, with both being caused by the external demotivating situation of COVID-19 thus they felt under pressure,

anxiety, fear, and depression. In the current study students expressed the quarantine situation and continuous lockdown circumstances affected them psychologically a lot they could not pay attention towards their studies nevertheless, they were under depression. This finding related to intrinsic motivation is in line with the findings of Akhtarul Islam et al. (2020), Mohib Ullah and Fatema (2013), Othman et al. (2019), and Thaheem et al. (2021). All these studies revealed that students were under pressure, anxiety, and depression in the COVID-19 milieu students which affected them, and they were facing psychological challenges thus, they became demotivated to learn online in the ESL classes.

Besides, the current study found students were demotivated due to some external factors, i.e., class material, teachers' methodology, teachers' and students' readiness, technical issues along the COVID-19 milieu decreased their extrinsic motivation. These findings are aligned with the studies of Mirza et al. (2018), Gacs et al. (2020), Mirza et al. (2016), and Wu et al. (2020). They found one of the factors of the demotivation of the students in the ESL class was class material which was not up to the level of the students, it was not properly planned, it was not interesting, or somewhere it was not tailor-made according to the needs of the students. All such factors of teaching material become the reason for students' demotivation. Another factor was the teaching methodology of the teachers which was not appropriate as online classes need proper training and method to conduct the online class, thus teachers were not trained as Mohib Ullah and Fatema (2013) stated in their study inadequate teachers' training and ill-planning of the material become the reason of demotivation. Along with the above-mentioned reasons there was one reason behind students' and teachers' not being ready was the sudden call of online classes due to the COVID-19 pandemic teachers were not ready and students were also unwilling to attend online classes.

Furthermore, technical issues become the reason for demotivation, as online classes need a stable internet connection, continuous electricity supply but the current study revealed students faced unstable internet signals and electricity failure problems which affect their motivation to online learning. These findings are similar to the studies conducted by Aikina and Bolsunovskaya (2020), Kaluge (2020), Nasution (2020), and Thaheem et al. (2021). In these studies, students/teachers faced such technical problems during OTL the English language that negatively affected their motivation. Such findings are revealing that OTL can benefit but it has other aspect also which tells there are multiple challenges which need to overcome in order to get most of the OTL.

Conclusion

The findings of the study suggest that English OTL is increasingly widespread in the COVID-19 milieu, which is the need of the hour also. Nevertheless, students get demotivated due to various reasons, issues, and difficulties in the online programmes, therefore it is imperative to address and fix them contextually to improve the motivation of the students considering the fact that OTL is becoming a mainstream adoption in the realm of language education in the near future. Subsequently, it is suggested that teachers should receive sufficient training to conduct online classes based on the above-mentioned findings of the study. This study can be beneficial to Pakistani students, teachers, language policymakers, and syllabus designers when they design future courses with the integration of technology. By knowing students' contextual needs and learning styles, more effective online course contents could be developed to elicit more attention and effort from students, hence fostering their learning motivation in an ESL context. Lastly, there are some limitations in this study. First, the study focuses on a single engineering university in Pakistan. While the study may yield useful results in similar settings, it is beyond the study to generalise its results to other ESL learners worldwide. We encourage replications of this study with different groups of students across different universities to contribute more insight into the phenomenon under study.

Appendix 1

Questionnaire

The following questions ask about your motivation toward learning the English language online in the COVID-19 situation. Remember there are no right or wrong answers; just answer as accurately as possible. Use the scale below to answer the questions.

1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, 5 = strongly agree

S#	Constructs	Items	1	2	3	4	5
1	Intrinsic motivation	I love learning English online.	1	2	3	4	5
2	1: Self-satisfaction 2: Enjoyment 3: Ease	COVID-19 situation made me anxious and fearful, I cannot focus and learn in the online class.	1	2	3	4	5

COVID-19 and online learning demotivation

S#	Constructs	Items	1	2	3	4	5
3		I have a strong desire to know all skills (reading, writing, listening, and speaking) of English in the online class.	1	2	3	4	5
4		Studying the English language online is enjoyable during the COVID-19 situation.	1	2	3	4	5
5		I feel very much at ease when I attend online English classes.	1	2	3	4	5
6		I think my online English class is boring.	1	2	3	4	5
7		I sometimes daydream about bunking my online English class.	1	2	3	4	5
8		I enjoy the activities of our online English class much more than those of face-to-face classes.	1	2	3	4	5
9		Face-to-face English class is enjoyable.	1	2	3	4	5
10		COVID-19 situation has improved my motivation towards learning online.	1	2	3	4	5
11		I enjoy classes attending online at home.	1	2	3	4	5
12		I want to learn in face-to-face classes at my university.	1	2	3	4	5
13		Online material searching is fun.	1	2	3	4	5
14		I get bored in the online class.	1	2	3	4	5
15		Learning English online is student-centered.	1	2	3	4	5
16	Extrinsic motivation	I like my English teacher's methodology which she uses in the online class.	1	2	3	4	5
17	1: Teacher's methodology 2: Context 3: Material	My English teacher doesn't present materials in an interesting way online.	1	2	3	4	5
18		When I am studying English, I ignore distractions like notifications, viruses, or any internet problems and pay attention to my tasks.	1	2	3	4	5
19		COVID-19 context had affected our learning.	1	2	3	4	5
20		My English teacher always interestingly uses interesting and updated materials online.	1	2	3	4	5
21		I get distracted due to different distractions attending online classes, which I cannot ignore.	1	2	3	4	5
22		My English class is a waste of time because my teacher doesn't know how to conduct an online class.	1	2	3	4	5
23		COVID-19 did not affect our learning either it is online or would have face-to-face.	1	2	3	4	5
24		I could easily complete my activities and tasks in the online ESL class.	1	2	3	4	5

S#	Constructs	Items	1	2	3	4	5
25		My teacher is bringing newness in the online class, it is not the same as it was face to face.	1	2	3	4	5
26		I get quick feedback online it is very good.	1	2	3	4	5
27		I found a more collaborative environment in the online class.	1	2	3	4	5
28		In the lockdown context, I learned more in online classes.	1	2	3	4	5
29		My teacher is authoritative all the time by her/ his lecture method in the online class.	1	2	3	4	5
30		COVID-19 situation has brought newness to our learning.	1	2	3	4	5

Appendix 2

Survey Items

No.	Items	Constructs
1	I can complete the lesson easier in an online mode.	OLSE1
2	Online course materials helped me to understand the content.	LCI1
3	I had numerous interactions with the instructor during the class.	LI1
4	Overall, I had numerous interactions related to the course content with fellow students when I learn online.	LI1
5	I asked the instructor my questions through different electronic means, such as email, discussion board, instant messaging tools, etc.	LI2
6	I did not get lots of feedback from my classmates.	LI2
7	Overall, I feel satisfied with online learning.	SS1
8	I communicated with my classmates about the course content through different electronic means, such as email, discussion boards, instant messaging tools, etc.	LI3
9	I answered questions of my classmates through different electronic means, such as email, discussion board, instant messaging tools, etc.	LI4
10	Online course materials stimulated my interest for this course.	LCI2
11	The instructor regularly posted some questions for students to discuss on the discussion board or forum.	LI3
12	The instructor did not answer my questions in a timely fashion.	LI4
13	I can understand complex concepts more in online learning.	OLSE2
14	Online course materials helped relate my personal experience to new concepts or new knowledge.	LCI3
15	I am willing to face challenges in learning using online platforms.	OLSE3
16	I replied to messages from the instructor.	LI5
17	I can successfully complete all of the required online activities.	OLSE4

No.	Items	Constructs
18	I received enough feedback from my instructor when I needed it.	LI16
19	I am not able to keep up with course schedule.	OLSE5
20	I shared my thoughts or ideas about the lectures and its application with other students during this online class.	LI15
21	I can make a plan to complete the given online assignments.	OLSE6
22	I did not give comment on other students' thoughts and ideas.	LI16
23	I am willing to adapt my learning styles to meet course expectations.	OLSE7
24	It was easy for me to access the online course materials.	LC14
25	Group activities or discussions during online class gave me chances to interact with my classmates.	LI17
26	It was not convenient to access the online course materials.	LC15
27	Class projects led to interactions with my classmates.	LI18
28	I am satisfied that this medium meets my needs in terms of learning.	SS2
29	I would like to continually use online learning in my learning.	SS3
30	This online course met my needs as a learner.	PL

References

- Aikina, T. Y., & Bolsunovskaya, L. M. (2020). Moodle-based learning: Motivating and demotivating factors. *International Journal of Emerging Technologies in Learning*, 15(2), 239–248. <https://doi.org/10.3991/ijet.v15i02.11297>
- Akhtarul Islam, M., Barna, S. D., Raihan, H., Nafiul Alam Khan, M., & Tanvir Hossain, M. (2020). Depression and anxiety among university students during the COVID-19 pandemic in Bangladesh: A web-based cross-sectional survey. *PLoS ONE*, 15(8 August), 1–12. <https://doi.org/10.1371/journal.pone.0238162>
- Akram, M., & Mahmood, A. (2007). The status and teaching of English in Pakistan. *Language in India*, 7(12), 1–7.
- Baralt, M., & Gómez, J. M. (2017). Task-based language teaching online: A guide for teachers. *Language Learning and Technology*, 21(3), 28–43.
- Bignoux, S., & Sund, K. J. (2018). Tutoring executives online: What drives perceived quality? *Behaviour and Information Technology*, 37(7), 703–713. <https://doi.org/10.1080/0144929X.2018.1474254>
- Blake, R. J. (2011). New trends in using technology in the language curriculum. *Annual Review of Applied Linguistics*, 27(March), 76–97. <https://doi.org/10.1017/S0267190508070049>
- Bonk, C. J., & Khoo, E. (2014). *Adding Some TEC-VARIETY: 100+ Activities for Motivating and Retaining Learners Online*. OpenWorldBooks.com and Amazon CreateSpace.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Chen Hsieh, J. S., Wu, W. C. V., & Marek, M. W. (2017). Using the flipped classroom to enhance EFL learning. *Computer Assisted Language Learning*, 30(1–2), 1–21. <https://doi.org/10.1080/09588221.2015.1111910>

- Clarke, V., & Braun, V. (2013). Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The Psychologist*, 26(2), 120–123.
- Creswell, J. W. (2007). Qualitative inquiry and research design: Choosing among five approaches. *Health Promotion Practice*, 16(4). <https://doi.org/10.1177/1524839915580941>
- Csizér, K., & Dörnyei, Z. (2005). Language learners' motivational profiles and their motivated learning behavior. *Language Learning*, 55(4), 613–659. <https://doi.org/10.1111/j.0023-8333.2005.00319.x>
- Deci, E. L., Ryan, R. M., & Koestner, R. (1999). The undermining effect is a reality after all – Extrinsic rewards, task interest, and self-determination: Reply to Eisenberger, Pierce, and Cameron (1999) and Lepper, Henderlong, and Gingras (1999). *Psychological Bulletin*, 125(6), 692–700. <https://doi.org/10.1037/0033-2909.125.6.692>
- Dörnyei, Z., & Ryan, S. (2015). *The Psychology of the Language Learner Revisited*. Routledge.
- Evans, M., & Tragant, E. (2020). Demotivation and dropout in adult EFL learners. *Tesl-Ej*, 23(4), 1–20.
- Falout, J. (2012). Coping with demotivation: EFL learners' remotivation processes. *Tesl-Ej*, 16(3), 1–20.
- Farhat, P. A., & Dzakiria, H. (2017). Pronunciation barriers and computer assisted language learning (CALL): Coping the demands of 21st century in second language learning classroom in Pakistan. *IJREE 2017*, 2(2).
- Gacs, A., Goertler, S., & Spasova, S. (2020). Planned online language education versus crisis-prompted online language teaching: Lessons for the future. *Foreign Language Annals*, 53(2), 380–392. <https://doi.org/10.1111/flan.12460>
- Gardner, R. C. (2005). *Attitude/Motivation Test Battery: International AMTB Research Project*. The University of Western Ontario. <http://publish.uwo.ca/~gardner/docs/englishamtb.pdf>
- Ghafournia, N., & Farhadian, Z. (2018). The relationship among demotivating factors, gender, educational fields, and reading proficiency: A study of Iranian EFL learners. *International Journal of Research in English Education*, 3(4), 36–49.
- Gopalan, V., Bakar, J. A. A., Zulkifli, A. N., Alwi, A., & Mat, R. C. (2017, October). A review of the motivation theories in learning. *AIP Conference Proceedings*, 1891(1), 020043. AIP Publishing LLC. <https://doi.org/10.1063/1.5005376>
- Haider, I. I., Tiwana, F., & Tahir, S. M. (2020). Impact of the COVID-19 pandemic on adult mental health. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4), S90–S94. <https://doi.org/10.12669/pjms.36.COVID19-S4.2756>
- Hartnett, M. (2016). *Motivation in Online Education*. Springer.
- Kaluge, T. A. (2020, December). The University Student Voices on Online Language Classes during Covid-19 Pandemic in Indonesia. *4th International Conference on Language, Literature, Culture, and Education (ICOLLITE 2020)* (pp. 720–726). Atlantis Press. <https://doi.org/10.2991/assehr.k.201215.114>
- King, R. B., Yeung, S. S. S., & Cai, Y. (2019). Personal investment theory: A multi-faceted framework to understand second and foreign language motivation. *System*, 86, 102123. <https://doi.org/10.1016/j.system.2019.102123>
- Khan, I. M. (2009). An analysis of the motivational factors in online learning. Unpublished doctoral dissertation, University of Phoenix.

- Kvashnina, O. S., & Martynko, E. A. (2016). Analyzing the potential of flipped classroom in ESL teaching. *International Journal of Emerging Technologies in Learning*, 11(3), 71–73. <https://doi.org/10.3991/ijet.v11i03.5309>
- Kzltepe, Z. (2008). Motivation and demotivation of university teachers. *Teachers and teaching: Theory and Practice*, 14(5–6), 515–530. <https://doi.org/10.1080/13540600802571361>
- Lau, K. L., & Chan, D. W. (2003). Reading strategy use and motivation among Chinese good and poor readers in Hong Kong. *Journal of Research in Reading*, 26(2), 177–190.
- Leena, A. K. (2020, July). Triggering comprehensible input through multimedia: A support to enhance learning experience in the ESL classroom. *Journal of English Language Teachers' Interaction Forum*, 11, 27.
- Mandigo, J. L., Holt, N., Anderson, A., & Sheppard, J. (2008). Children's motivational experiences following autonomy-supportive games lessons. *European Physical Education Review*, 14(3), 407–425. <https://doi.org/10.1177/1356336X08095673>
- Marinak, B. A., & Gambrell, L. B. (2008). Intrinsic motivation and rewards: What sustains young children's engagement with text? *Literacy Research and Instruction*, 47(1), 9–26. <https://doi.org/10.1080/19388070701749546>
- Mirza, Q., Khatoon, S., & Khaskhely, N. (2018). L2 learners' perceptions on motivation in ESL class: A study of undergraduate students at Mehran University of Engineering & Technology Jamshoro Sindh. *Grassroots* (17260396), 52(2).
- Mirza, Q., Khatoon, S., & Lohar, S. A. (2016). Demotivation in ESL class at university level: A study of Mehran University of Engineering and Technology, Jamshoro. *International Research Journal of Arts and Humanities*, 44(44), 169.
- Mirza, Q., Pathan, H., Khokhar, S., Raheem, M. A., & Mushtaq, F. (2021). English reading habits in online learning among tertiary learners in Pakistan: Evaluating the impact of COVID. *The Asian EFL Journal*, 28(1.1), 47–66. <https://doi.org/10.46883/onc.3502>
- Mohib Ullah, M., & Fatema, S. (2013). Why some students are less motivated in reading classes at tertiary level in Bangladesh. *English Language Teaching*, 6(5), 129–140. <https://doi.org/10.5539/elt.v6n5p129>
- Molavi, A., & Biria, R. (2013). EFL learning among motivated and demotivated Iranian seminary students. *Latin American Journal of Content and Language Integrated Learning*, 6(1), 55–66. <https://doi.org/10.5294/laclil.2013.6.1.4>
- Muthuprasad, T., Aiswarya, S., Aditya, K. S., & Jha, G. K. (2021). Social Sciences & Humanities Open Students' perception and preference for online education in India during COVID-19 pandemic. *Social Sciences & Humanities Open*, 3(1), 100101. <https://doi.org/10.1016/j.ssaho.2020.100101>
- Nasution, S. minda. (2020). Online learning and students' mo A research study on the effect of online learning and students' motivation in IAIN Padangsidimpuan. *Asian Social Science and Humanities Research Journal (ASHREJ)*, 2(2), 09–16. <https://doi.org/10.37698/ashrej.v2i2.31>
- Oreg, S. (2003). Resistance to change: Developing an individual differences measure. *Journal of Applied Psychology*, 88(4), 680–693. <https://doi.org/10.1037/0021-9010.88.4.680>

- Othman, N., Ahmad, F., El Morr, C., & Ritvo, P. (2019). Perceived impact of contextual determinants on depression, anxiety and stress: A survey with university students. *International Journal of Mental Health Systems*, 13(1), 1–9. <https://doi.org/10.1186/s13033-019-0275-x>
- Özdemir, E., & Aydın, S. (2015). The effects of blogging on EFL writing achievement. *Procedia – Social and Behavioral Sciences*, 199, 372–380. <https://doi.org/10.1016/j.sbspro.2015.07.521>
- Pathan, H. (2012). A longitudinal investigation of Pakistani university students' motivation for learning English. Unpublished doctoral dissertation, University of Glasgow.
- Pathan, H. (2021). Impacts of multimedia gloss on Learning Reading Comprehension in ESL context. *İlköğretim Online*, 20(3). <https://doi.org/10.17051/ilkonline.2021.03.22>
- Pawlak, M. (2017). Review of demotivation in second language acquisition: Insights from Japan. *Studies in Second Language Learning and Teaching*, 7(4), 721–725. <https://doi.org/10.14746/ssllt.2017.7.4.9>
- Rafiq, M., Batool, S. H., Ali, A. F., & Ullah, M. (2021). University libraries response to COVID-19 pandemic: A developing country perspective. *The Journal of Academic Librarianship*, 47(1), 102280.
- Rafique, G. M., Mahmood, K., Warraich, N. F., & Rehman, S. U. (2021). Readiness for online learning during COVID-19 pandemic: A survey of Pakistani LIS students. *The Journal of Academic Librarianship*, 47(3), 102346.
- Raza, S., Minai, M. S., Zain, A. Y. M., Tariq, T. A., & Khuwaja, F. M. (2018). Dissection of small businesses in Pakistan: Issues and directions. *International Journal of Entrepreneurship*, 22(4), 1–13.
- Raza, W., Ali, F., Raza, N., Luo, Y., Kim, K. H., Yang, J., ... & Kwon, E. E. (2018). Recent advancements in supercapacitor technology. *Nano Energy*, 52, 441–473.
- Ryan, R. M., & Deci, E. L. (2000a). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68.
- Ryan, R. M., & Deci, E. L. (2000b). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Ryan, R. M., & Deci, E. L. (2020c). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, 101860. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Ryan, R. M., & Deci, E. L. (2017). *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*. Guilford Publications.
- Sansone, C., & Harackiewicz, J. M. (2000). Looking beyond rewards: The problem and promise of intrinsic motivation. *Intrinsic and Extrinsic Motivation* (pp. 1–9). Academic Press.
- Shahbaz, M., Islam, M., & Malik, M. A. (2017). Role of gender differences and parents' education in shaping L2 motivation of Pakistani students. *Journal of Research and Reflections in Education*, 2, 210–223.
- Shahzad, S. K., Hussain, J., Sadaf, N., Sarwat, S., Ghani, U., & Saleem, R. (2020). Impact of virtual teaching on ESL learners' attitudes under COVID-19 circumstances at post graduate level in Pakistan. *English Language Teaching*, 13(9), 1–9.

- So, H. J., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & Education*, 51(1), 318–336. <https://doi.org/10.1016/j.compedu.2007.05.009>
- Song, B. K. (2020). E-portfolio implementation: Examining learners' perception of usefulness, self-directed learning process and value of learning. *Australasian Journal of Educational Technology*, 37(1), 68–81. <https://doi.org/10.14742/ajet.6126>
- Stockwell, G. (2007). Vocabulary on the move: Investigating an intelligent mobile phone-based vocabulary tutor. *Computer Assisted Language Learning*, 20(4), 365–383. <https://doi.org/10.1080/09588220701745817>
- Strayer, J. F. (2012). How learning in an inverted classroom influences cooperation, innovation and task orientation. *Learning Environments Research*, 15(2), 171–193. <https://doi.org/10.1007/s10984-012-9108-4>
- Subaidi, M., & Punan, S. K. (2020). The effectiveness of multimedia learning in enhancing reading comprehension among indigenous pupils. *Arab World English Journal (AWEJ)*, 11(June), 290–302.
- Thaheem, S. K., Zainol Abidin, M. J., Mirza, Q., & Pathan, H. U. (2021). Online teaching benefits and challenges during pandemic COVID-19: A comparative study of Pakistan and Indonesia. *Asian Education and Development Studies*. <https://doi.org/10.1108/AEDS-08-2020-0189>
- Tracy, M., Norris, F. H., & Galea, S. (2011). Differences in the determinants of posttraumatic stress disorder and depression after a mass traumatic event. *Depression and Anxiety*, 28(8), 666–675. <https://doi.org/10.1002/da.20838>
- Traxler, J., & Riordan, B. (2003, August). Evaluating the effectiveness of retention strategies using SMS, WAP and WWW student support. *Proceedings of 4th Annual Conference*. Galway, Ireland: LTSN Centre for Information and Computer Science (pp. 54–55).
- Tsiakyrouti, M. (2018). Exploring the effectiveness of Edmodo on Greek EFL B1 learners' motivation to write. *Research Papers in Language Teaching and Learning*, 9(1), 96–112.
- Usher, A., & Kober, N. (2012). What roles do parent involvement, family background, and culture play in student motivation? *Center on Education Policy*.
- Ushioda, E. (2013). Motivation and ELT: Global Issues and Local Concerns. *International Perspectives on Motivation*, 1–17. https://doi.org/10.1057/9781137000873_1
- Wang, J., An, N., & Wright, C. (2018). Enhancing beginner learners' oral proficiency in a flipped Chinese foreign language classroom. *Computer Assisted Language Learning*, 31(5–6), 490–521. <https://doi.org/10.1080/09588221.2017.1417872>
- Wu, I. C., Tsai, P.-J., Wang, T.-P., & Huang, K. (2011). The effect of aural authentic materials on the motivation of language learners: A Process-Oriented Conceptualization. *The Journal of Human Resource and Adult Learning*, 7(2), 86–95.
- Wu, W. C. V., Yang, J. C., Scott Chen Hsieh, J., & Yamamoto, T. (2020). Free from demotivation in EFL writing: The use of online flipped writing instruction. *Computer Assisted Language Learning*, 33(4), 353–387. <https://doi.org/10.1080/09588221.2019.1567556>
- Yunus, M. M., Yaacob, N., & Suliman, A. (2020). The use of electronic frog VLE in assisting reading comprehension activities. *Universal Journal of Educational Research*, 8(3), 879–887. <https://doi.org/10.13189/ujer.2020.080319>



7

Challenges and Strategies in Teaching and Learning Arabic as a Second Language

Nur Farhana Abdul Aziz, Nooraida Yakob & Nor Asniza Ishak

Introduction

The world is witnessing the presence of the COVID-19 virus which has crippled the progress of many countries. The virus was initially known as coronavirus which was identified in Wuhan, China in December 2019 (Sajed & Amgain, 2020). Malaysia is also not spared the presence of this virus and has threatened the lives and harmony of society. The year 2020 is also history for the country in the face of the COVID-19 situation which has been declared a pandemic by the World Health Organization (WHO). The report updated by the National Crisis Preparedness and Response Center and WHO on 30 December 2020 involved a total of 216 countries including Malaysia which has recorded a total of 880,782 cases as of 15 July 2021 (Ministry of Health Malaysia, 2021).

The COVID-19 pandemic has created the largest disruption in education systems until it has forced countries in all the world to make a sudden transition to online teaching and learning (OTL). The COVID-19 pandemic has affected the closure of the educational institution and teachers are required to teach through online learning platforms. This situation also led to a digital revolution in the higher education system through online lectures, teleconferences, online examination, and interaction in

virtual environments (Strielkowski, 2020). As a result, every country in the world, all the schools, teachers, and especially parents have been extremely unprepared, creating tools on the go (Tuominen & Lasse, 2020). All parties and educational institutions have taken steps by conducting lessons online or known as emergency remote teaching and learning (ERTL). ERTL involves a swift temporal transition from physical or face-to-face instruction to remote or distant instruction due to crisis, without prior equipment and logistics to facilitate the migration (Hodges et al., 2020). According to Hodges et al. (2020), the main goal of ERTL in such a situation is not to recreate the new educational ecosystem, but as a temporary access to educational support. Therefore, teachers can use various methods to ensure the learning continues so that there is no sudden drop out of students.

Online Teaching and Learning

Digital learning uses the internet to access educational materials and interact with content, teachers, and fellow students. It aims to gain knowledge, build something meaningful and have support during the learning process that takes place and can develop their potential as a result of the learning experience. OTL applications are important for activating the way students learn and creating interaction in the classroom. These learning methods have the potential to support and encourage informal discussions, dialogue, collaboration, and the open exchange of knowledge. In addition, OTL is more effective and saves time (Aziah & Taufik, 2016).

Reformation in the education system is necessary in making a positive impact on student achievement and preparing students for the challenges of globalisation in the 21st century. The Malaysian Ministry of Education has implemented various programmes to integrate technology into teaching and learning. The integration of technology into teaching and learning aims to improve student achievement. The Malaysian Ministry of Education strives to ensure full achievement in terms of benefits and potentials in education by using technology as an enabler in teaching and learning. The use of technology as an enabler has completely transformed the teaching and learning process, with teachers acting as facilitators in using technology for students to find and obtain information in addition to promoting a deep understanding of the topic. Mokhtar (2020) said that OTL is important to produce a person with lifelong learning skills. Lifelong learning skills are one of the essential skills in 21st century skills that must be mastered by everyone individual and the use of information technology through online applications is an effective teaching method that must be implemented as it is easy to access and can be used at any time.

The integration of 21st century education into Malaysia's education system has also begun in line with the digital transformation and the Malaysian Education Development Plan 2013–2025 (Ministry of Education Malaysia, 2013). Eleven shifts were introduced, and one of them, the seventh, was to leverage information and communications technology (ICT) by improving the quality of learning in Malaysia and preparing students for the education challenges of the 21st century. The plan hopes to provide a digital experience to students, teachers, and education system administrators. Teaching and learning Arabic is also not exempt from the same implications, in fact it is more challenging when it involves a third language.

Challenges in Online Teaching and Learning: A Case of Arabic

The issue of problems in the teaching of Arabic is not a new thing. In fact, it has often been debated among educators and researchers for a long time. However, this problem scenario is not seen as a negative thing. This scenario is seen as opening space for discussion and the proliferation of ideas in improving the Arabic language teaching system in Malaysia. Language learning has its own uniqueness that distinguishes it from other subjects. Arabic is the language that is unique because each element interdependent each other. For example, the word (noun) involves aspects of gender, change of time, and change of number. The Arabic script has numerous diacritics, including consonant pointing, and *tashkil* (تَشْكِيل, *tashkil*), supplementary diacritics. The latter include the *harakāt* (حَرَكَات) vowel marks like *fathah*, *kasrah* and *dammah*. The verb is associated with 14 pronouns and changes when the noun or pronouns change. Thus, teaching Arabic for non-natives speaker is a challenge throughout this pandemic.

Previous studies in Arabic second language discussed some problems and issues in teaching and learning such as environment, motivation (Abdullah et al., 2015), teaching aids and teachers' ability; pedagogy (Zaini et al., 2019); problems in teaching skills (Mat, 2013), exam and text-book oriented approach and students' proficiency in language aspects are still at an unsatisfactory level, including both the secondary and university level (Baharum & Samah, 2015). Lessons learned from online training programmes in crisis contexts indicate that lecturers must understand and feel comfortable with the technology. Unfortunately, even in the most stable contexts with adequate infrastructure and communication in place, many lecturers lack even basic ICT skills (Thannimalai & Baloh, 2021). In Malaysia, OTL have yet to reach the level of satisfaction for educators and students because there are still many teachers who are lack of skills in the use of information technology that enable

them to deliver teaching materials online effectively (Simin et al., 2016). During the pandemic, the problems multiplied not only from the educators' side but also from the learners' side.

Integrating technology in a subject by the teacher involves numerous factors. Kim et al. (2013) put forward a framework for technology integration that considers contextual factors (school, learning culture, and social values), teachers (efficiency and trust, pedagogical beliefs), resources (time, software, and access to technology), and professional development (training, learning community, and support) as interlocking factors when discussing teachers' decision-making on technology uptake. The availability of technology is an important factor for the success of the idea of e-learning, without it would be just a dream. There are different levels of this challenge; the availability of hardware, the internet, the speed of the internet, and the internet packages, each of which is a challenge or in combination with the others. The student (or even the teacher) may have the device, but he may not have internet service at all, and if it is available, it may be slow, or perhaps with an insufficient package to cover video presentations and large-sized materials.

There is no doubt and no wonder that the crisis facing educational institutions due to the outbreak of COVID-19 has pushed learning through technology and the internet towards the forefront. In the study of Zakaria et al. (2017), teachers are well prepared to use technology in education, but empowerment is required in terms of teachers' knowledge and skills and school infrastructure. In some cases, lecturers who are still not confident in dealing with their students through educational technology because they may fear that the technology will have a negative impact on exam result (Ahmed et al., 2020). Ladyanna (2021) added that the lack of training in educational technology has become one of the challenges in using technology in educational institutions. Other factors that contribute to the factor of teaching using educational technology are the lecturers' attitude towards educational technology, the lecturers' self-efficacy in using computers, teaching experience, access to educational technology, technical support in using educational technology, and support from management (Aditya, 2021).

The emergence of this diverse technology also brings a wave of awareness of 21st century skills that emphasizes four specific characteristics of critical thinking, communication, creativity, and collaboration. This aspect becomes a skill that must be mastered by every teacher and student so that these different techniques can be fully used by all parties. Lecturers can use 'asynchronous' technology applications, meaning learning interactions occur without the

need for teachers and students to be present at the same time. 'Synchronous' technology applications are technology that can be used directly where the teacher and the learner meet simultaneously.

The study by Yusuf and Ahmad (2020) found that there are six major issues in online learning (Figure 1), namely that students lack focus, an unsatisfactory learning platform, and students do not have basic learning tools, such as books (left in school) and laptops. Internet access is limited, and students do not attend online lectures. Students log in but they do other activities throughout the class. In addition, students are not disciplined, teachers have little input, and follow online laboratory activities is difficult. Lecturers are afraid to finish the curriculum, a lack of exposure in organising educational platforms such as Zoom, Google Meet, Edmodo, and a lack of experience in developing e-content. Some lecturers refuse to teach online because teaching via the internet requires a lot of effort in preparing new materials, although they can be used again in future courses (UNESCO, 2020a).

The issue of facilities and the internet is not only related to the rural population, but the 'urban poor' are also affected by the implementation of online learning during this learning period. Sure, the B40 families who live in the home have similar problems. Students with lower levels are affected by problems such as limited internet access and sharing the internet with other family members (Halid, 2021). Psychological abuse and marital problems are also on the rise, and this of course has a negative impact on students who live at home and do not focus on learning. Emotions are a big factor in the teaching and learning process (Pauzi et al., 2020). Among the problems related to teaching and learning on the internet can be summarised in several points, including utilities and internet access issues. For those with equipment, technical problems arise, family background, lecturers' readiness and skills, emotional and stress management, unprepared environment such as busy parents and crowded home conditions, and a knowledge gap for vulnerable students.

The ongoing COVID-19 crisis will continue to be both a challenge and a learning experience for the global education community. In the broader aspects, among the challenges in OTL during the pandemic encountered by countries such as Philippines are socioeconomic and cultural barriers and limited access to technological resources (Baticulon et al., 2021), while in Saudi Arabia, learners were accustomed to the old and conventional learning styles in group classrooms, one to one class context and self-commitment problems. In China, some of the teachers found it is hard to integrate technology in teaching and content representation especially during crisis, but they have

positive attitude towards technology (Li, 2022). Students confronted personal challenges such as economic and psychological stress that decreased their willingness to learn online including technical issues resulting from low bandwidth or weak internet connections (Alkhawaja & Halim, 2019).

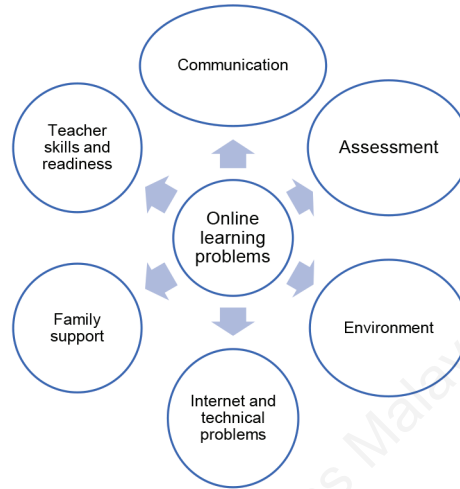


Figure 1 Online learning problems

The Study

Kolej Islam Teknologi Antarabangsa (KITAB) Pulau Pinang is an international Islamic college located in Penang, Malaysia which encompasses various educational institutions and initiatives aimed at promoting Islamic education and values.

There are three main study programmes in KITAB, namely Diploma in Tahfiz Al-Quran, Diploma in Syariah and Diploma in Finance. Arabic is compulsory for all students and comprises of three levels to be specific; Basic Arabic (Al-Lughah Al-Arabiyyah Al-Ittisoliah), Grammar, Syntax & Morphology (An-Nahw & As-Sarf) and Rhetoric subject (Al-Balaghah). The institution under study was also affected by the Movement Control Order (MCO) by the government. There are some students who do not poses the basics of Arabic at SPM level. They are required to attend language enhancement classes as exposure to various aspects such as reading, writing, listening, and speaking skills and grammar aspects. This study attempts to highlight the challenges of OTL experienced by lecturers and students at the institution during the COVID-19 pandemic and the strategies to overcome the problems. This study seeks to answer the following questions:

1. What are the challenges faced by Arabic language lecturers in OTL during the COVID-19 outbreak?
2. What are the challenges faced by students in learning Arabic subjects during the COVID-19 outbreak?
3. What are the strategies used to overcome problems in teaching and learning by lecturers?
4. What are the suggestions from lecturers and students to enhance teaching and learning during MCO?

The method of this study is a qualitative approach, where the researcher conducts semi-structured interviews with the lecturers and students. Qualitative research also requires the researcher to build his own perception to understand and interpret the data provided by respondents or informants for the study, which is an in-depth study of the situation and the individual (Miles & Huberman, 1994). According to Creswell (2009), Gay and Airasian (2009), and Miles and Huberman (1994), interview methods can provide more in-depth data and information that cannot be obtained through questionnaires.

Qualitative research also requires the researcher to understand and interpret the data provided by the respondents or informants of the study. The participants were selected purposively includes four lecturers out of five, all of whom are teaching Arabic, and four students who taking different Arabic subjects during this pandemic. The researcher obtained the consent of the informants and explained to them the details of the study such as the purpose of the study, data collection and analysis. The questions and responses were in Malay then translated to English. All participants were interviewed via Google Meet and the interview session was recorded for future reference. After the data transcription, the researcher provided a copy of the interview data that had been transcribed to the participants to obtain their confirmation of the information, the accuracy of the interview content enhanced the credibility of the subsequent inferences.

It is important to note that the challenges assessed in this study is partly based on Barrot et al.'s (2021) conceptual framework of OTL comprising seven clusters of challenges, namely self-regulation (SRC), technological literacy and competency (TLCC), student isolation (SIC), technological sufficiency (TSC), technological complexity (TCC), learning resource (LRC), and learning environment (LEC) challenges. However, the nature of this study is qualitative exploratory, hence it is our intention to allow for new clusters or themes to emerge from the qualitative data in our research context, not restricted to the seven clusters established.

Results and Discussion

The COVID-19 pandemic has revolutionised the landscape of education worldwide, compelling educators to adapt rapidly to unprecedented challenges. Among those at the forefront of this adaptation are lecturers, who have been tasked with navigating a complex array of obstacles to ensure the continuity and effectiveness of learning. From the sudden shift to remote teaching to the profound impacts on student engagement and mental health, lecturers have faced a myriad of challenges that have reshaped their roles within academia. In this paper, we delve into the multifaceted challenges confronted by lecturers during the COVID-19 era, examining the ways in which they have persevered, innovated, and evolved in response to these extraordinary circumstances. Through a comprehensive exploration of these challenges, we offer insights into strategies for mitigating these obstacles and fostering resilience in the face of adversity.

Challenges faced by lecturers

The challenges faced by the lecturers were consistent with Barrot et al.'s (2021) clusters of challenges. For instance, they all agreed that the internet is the main problem, followed by the problem of technology in the use of computer applications. The problem of lack of access to the internet coverage in the college area and student homes. Some lecturers buy additional internet to ensure the smoothness of the teaching process.

When the Government first announced the MCO starting from 18 March, I feel lost. I really do not know where I should begin. Besides, the students also did not bring home all their books. My laptop was not functioning. I went to the mall; all the laptops and printers were sold out. For the first two week, I did not do anything. (Lecturer 1)

If they come to work, they have to teach in the car outside the college area. In addition, the lecturers face environmental disturbances such as outside car noise, the television that family members watch, and the annoying sound of children is preventing the quality of online education.

Among the challenges that I faced in conducting online learning I take too much time to prepare online materials. And I have to teach new intake student without basic knowledge in Arabic. I cannot measure their level of mastery especially in speaking. So, I started to give more exercise on speaking and pronunciation. (Lecturer 4)

Some of the students are working during this period. Some of them works as Grab Food and Food Panda rider, some are selling phones and gadgets. Because of that, they tend to absent from the class. They will only do the exercise at night around 1–2 a.m. And synchronous class is difficult to held. (Lecturer 2)

Some lecturers prefer traditional method together with online platforms.

I have difficulty using instructional methods that are more attractive. Everything is limited, including quota availability, sometimes bad signals, and students are not ready. Some did not have basic in Arabic, and I need to start from the basic. If in usual class it is ok, but when online, the works is like double. (Lecturer 3)

Although all of us prefer OTL, I still prefer written exercise to my student. They have to write the answer and snap the photo then send back in WhatsApp. For me students need to practice Arabic writing because if not they cannot connect the letters to form a correct word. I also give task to enhance their writing by giving them assignment to compile a diary on their daily routine. (Lecturer 4)

Challenges faced by students

The challenges faced by the students were partly consistent with Barrot et al.'s (2021) clusters of challenges. All participants agreed that internet is the main problem in their area. Most of them live in rural areas like Permatang Buloh, Bukit Mertajam, Tasek Gelugor and Penanti. The internet coverage is a big problem.

Internet quota is like snail, if I have class, I must go out from my house until the petrol station or nearby school or shopping mall for a better internet access. I called TM and Time service provider, but the service is unavailable at my area. So, we have no choice either to use sim card or broadband. (Student 1)

If the lecturer sends me videos or class using Zoom, I can just hear the voice. The video took too long to be downloaded although the duration is short like 5–6 minutes. If I need to upload any video, huh sometimes take one full day. I will ask the lecturer not to give video-based assignment but just voice note is ok. (Student 3)

Two of the participants said they are stressed and cannot focus well on their study due to family and health problems.

I feel so stressed because my father passed away. All my siblings are schooling, and I have to take care of them all. I sell drinking water in front of my house. But thank God the lecturers understand my situation. They accept all my works although it is a bit late. (Student 3)

My family was diagnosed to be positive COVID-19, so I think no need to study anymore, quarantine, swab test, sanitizing all made me in trauma and almost one month I don't enter any class. To catch up Arabic subject is very difficult and for me pass is enough at that time. But I can score on quiz part because using Quizizz and Kahoot! I feel like stress reliever. (Student 1)

The challenges in learning Arabic among students are from various aspects like writing skills, vocabulary, and longer time to understand the topic.

I don't have Arabic background during my SPM, so it is a challenge for me to master this language in just four months. My writing was so bad and many new rules. Luckily the lecturer explained to us and taught us to write from basic like Alif, Ba, and Ta and how to join words and sentences. (Student 2)

I prefer face to face class because I can directly ask ustaz if I don't understand the topic but online the response is a bit late like I said before, internet problem. Sometimes I ask other friend, they also encountered same problem like me. I don't have problem in writing and reading, but in speaking I cannot pronounce well and ustaz always correct me if I am wrong. (Student 2)

My lecturer did not provide any additional notes, she just uses the book and after Google Meet we send the exercises. But I understand, we are in critical situation, we don't have choice, right? The next semester in June, when I learn Grammar subject, I feel better because the lecturer use story method of Nabi Ibrahim and I can remember the chronology and grammar rules. (Student 3)

For me, my problem is to remember the vocab and meaning of the word. Sometimes I confused the meaning of other word like *jamalun* (جَمَلٌ) is camel and *jamilun* (جَمِيلٌ) is beautiful. Another example *rojulun* (رَجُلٌ) is male and *rijlun* (رِجْلٌ) is leg. It is confusing right? And we don't see many Arabic words compared to English. (Student 1)

Strategies used by lecturers

On the other hand, the crisis stimulated innovation within the education sector. Challenges make lecturers more creative in implementing teaching as they experiment with multiple platforms and give diverse assignments to students. There are many teaching strategies used by lecturers during OTL. Among the platforms used are Zoom, Meet, Facebook Live, and WhatsApp. There is also lecturer that combines Webex, Telegram Messenger, and WhatsApp. As for the teaching methods used, such as active learning and two-way learning.

I do not have much problem to teach online. I use the easiest platform of communication that is WhatsApp. I send short videos, notes and audios through it and the student send back all their exercises and answers in the WhatsApp group. I have to print all for documentation for filing purpose. (Lecturer 3)

Some lecturers prefer the asynchronous method where they record the teaching video and give it to students two days before class. In this way, students can watch the video at any time and repeat it according to their wishes, especially for students who live in the countryside and villages. As one of the respondents said:

Throughout the MCO period, the teaching and learning process is done online. I used the WhatsApp method. This means that I sent a video recording of the learning and training. Then the students try to understand from the video and answer the questions. The grades are taken from the exercise. (Lecturer 2)

If the problem is with time, some lecturers change the class to another time, either at night or at the end of the week. As one of them said:

Sometimes it is difficult for everyone to stick from five o'clock to six thirty in the evening. So, I changed the class to Saturday night at eight o'clock at night until all of them are ready to study. (Lecturer 4)

Although all of us prefer OTL, I still prefer written exercise to my student. They have to write the answer and snap the photo then send back in WhatsApp. For me students need to practice Arabic writing because if not they cannot connect the letters to form a correct word. I also give task to enhance their writing by giving them assignment to compile a diary on their daily routine. (Lecturer 4)

Lecturers use apps like Canva to produce graphics and poster ads, and some of them do tests using Kahoot! and Quizizz and find that students love multimedia elements such as music, sound effects, and animation.

For my reading class, I teach Arabic through stories. I start with the story of Prophets Ibrahim then continue with story about Prophets Yusuf. I use "Qasas an-Nabiyyin" by Abul Hasan An-Nadwi. The book is available in pdf format and can be easily shared with student. I upload all stories in YouTube. (Lecturer 1; see Figure 2 for example)

Listening to the stories is not just we can learn Arabic, but I can understand the plot as mentioned in the Quran. I understand the feminine and masculine aspect in the word. (Student 1)

Some lecturers teach Arabic through news so that the students are aware about situations and issues happening around the world.

I teach Arabic vocabularies and reading through daily news on Al Jazeera or Bernama platform. I will record my voice, then students will record their reading too. I will listen and correct their pronunciation if any. I explain to them the word whether it is in singular or plural form, present or past tense, the doer, the root word, and others. (Lecturer 4)

The lecturers learn from their colleagues regarding the technical issues and new applications. Some of them learn through YouTube and online sharing sessions by educators from other institutions.

I learned about conducting OTL through social media like Facebook and Telegram. I see a lot of friend creative in preparing materials and videos. I take initiatives by learning on myself through YouTube. I learn how to use Padlet, Edmodo, Screencast o Matic, Quizizz, and Kahoot!. (Lecturer 3; see Figure 3 for example)

Then, when the new semester starts, and still face-to-face class are not allowed, I feel better with my knowledge regarding the computer. I ask colleagues and practices several times before conducting class with student. But sometimes I forgot to record the session. (Lecturer 2)

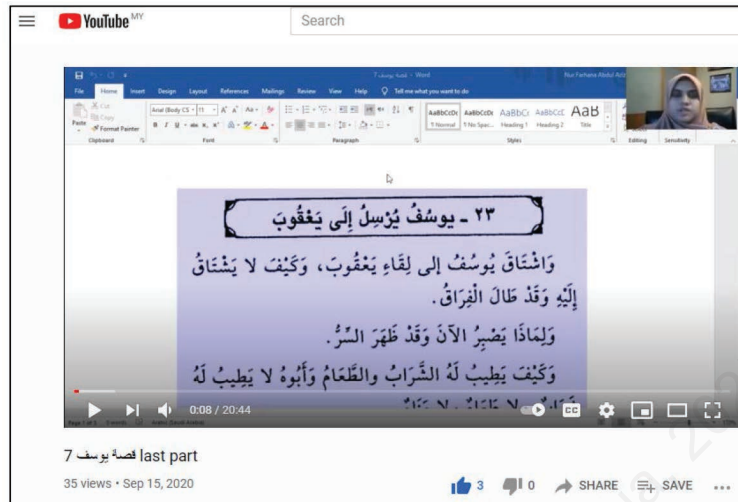


Figure 2 Teaching Arabic through stories



Figure 3 Online quiz using Wordwall application

After I used these platforms several times, other lecturers ask me how to use these online applications. When I started to teach them, I feel more confident. And I do not feel afraid anymore. (Lecturer 4)

I create a one stop centre using Blendspace containing recorded notes, infographics, and assessment. Before I distribute the link to student, I send to other Arabic Lecturers to be peer reviewed and comments. I give 2 weeks for student to study and finished all the exercises in the OSC (One Stop Centre). I distributed a set of quick survey on the effectiveness of the platform and the feedback was positive. (Lecturer 1; see Figure 4 for example).

When the MCO continues semester by semester, the lecturers are capable to make their class more creative and engaging. One of the lecturers using Flipgrid (Figure 5). This recording was done in Arabic language. Students record their opinion through Flipgrid, and all works uploaded to Padlet (Figure 6). All students can see and comment on their friends' work. Some students learn to produce creative infographics using Canva and other application (Figure 7).

I learned to produce posters and info graphics when ustazah asked us to do it using Canva. Later, I can easily design different posters for Student Council programme. (Student 3)

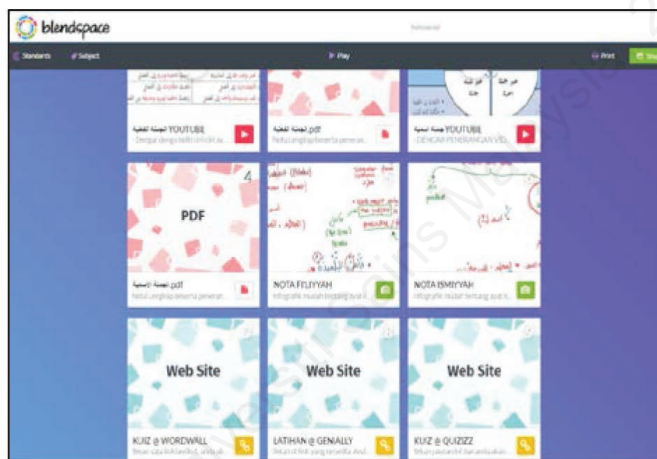


Figure 4 One stop centre for certain grammar topics

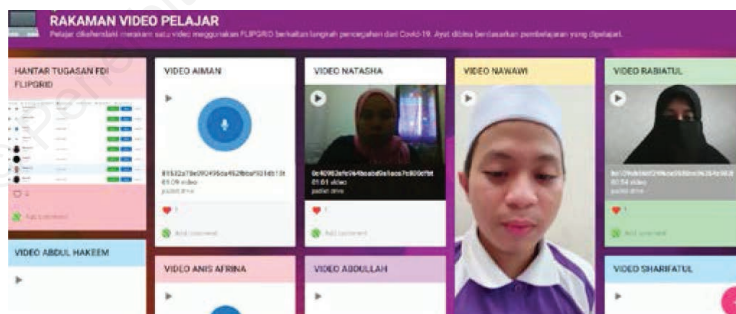


Figure 5 The use of Flipgrid



Figure 6 Grammar notes uploaded to Padlet



Figure 7 Poster designed using Canva

Strategies used by college authority

During the new semester in October, the management distribute free sim card to the student so that they can access the internet and platforms such as Google Meet and Zoom application without problems because most of them tend to have internet problems before.

I feel very happy when I received the sim card. It helps me a lot because online class is really data consuming. Before this, when I joined Zoom, I cannot on video and cannot see the lecturers face. (Student 3; see Figure 8 for example)

Besides that, Mentor-Mentee Programme organised by student development division (Hal Ehwal Pelajar) helps students to share their problems with their mentor. One of the students said:

I feel like I have a supporting family in the mentor mentee program. My mentor always gives us ideas and tips. If we have problems regarding money or family, we can just share in our WhatsApp group, then the lecturer will help us. (Student 4)



Figure 8 SIM card distribution to all students

Suggestions to enhance online teaching and learning

Based on the summary of the results as enumerated in Figure 9, various suggestions were gathered from lecturers and students to enhance OTL.

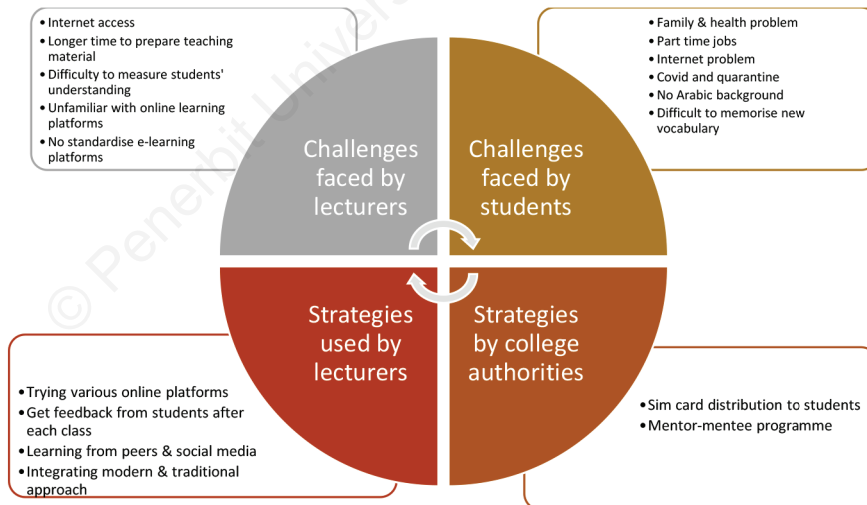


Figure 9 Summary of the results

Suggestions from lecturers

Further suggestions to strengthen and enhance online Arabic learning are:

I suggest the management to have a standardize platform in online learning to ease the communication among all staffs and students. Like now we don't have any platform, each lecturer uses different apps; Google Meet, Zoom, Telegram. If we have e-learn then easy to deposit all notes, test. Sometimes if we upload in WhatsApp, it is difficult to track back all links. (Lecturer 1)

For me individually, I want to attend workshop or short briefing how to use certain apps. Currently I am using only Google Meet and WhatsApp. I need someone to facilitate me to do video recording or teach me how to set questions in Quizizz. I have experience once setting up question in Quizizz, and all students score full mark. After checking, actually I don't limit the answering attempt for each student. (Lecturer 2)

Institutions are also recommended to provide better training for lecturers to hone their teaching skills using the latest educational technology. During the course, lecturers can develop their knowledge of this framework and other technical skills such as video production, screen recording, active learning, and more. Throughout the pandemic, lecturers are involved in teaching and learning at home, but many have not been prepared enough for this. Education authorities need to assist teachers in setting up the facilities required to deliver lessons.

I suggest we can have a weekly or monthly gathering where the lecturers can share new application or new technique especially among the senior lecturers and novice lecturers. Novice lecturers are good in technologies compared to the senior one and we can feel the bonding. If not, I feel I am on my own journey.

The counsellor needs to monitor some students are busy playing games like PUBG and mobile legend to enter their classes based on the timetable. They usually stay up all night and sleep during day time. (Lecturer 3)

It is recommended for lecturers to share their experiences and work with each other. When they share information, resources, ideas, and experiences, learning becomes easier and more effective for students. Collaboration between lecturers increases academic understanding, more creative lesson plans, and reduces isolation (UNESCO, 2020b). Strategies to support collaboration

among teachers are building relationships and a sense of community by communicating about teaching interests, fostering a community of practice, and arranging regular meetings to share experiences.

I think internet is the worst problem. If the internet connection is stable, then other things will be smooth, lecturers' explanation, interaction. When we come to office, we cannot connect to internet at all. Can you imagine? It is frustrating and I feel coming to work for six hours is just wasting of time. I really hope management can provide us better quality. (Lecturer 4)

It is advised for educational institutions to provide faculty with appropriate facilities (UNESCO, 2020b). Some teachers also lack the skills to design, facilitate and monitor distance learning activities. Teachers and other education personnel are on the front lines to ensure continuity of learning (UNESCO, 2020b). Educators may need to adjust their roles to ensure that distance learning solutions are effective.

Suggestions from students

The students had a mixed opinion about online education during the COVID-19 pandemic. The students felt that online education is stressful and affecting their health and social life. Students are suffering from stress and anxiety as addressed in previous researches (Cao et al., 2020; Islam et al., 2020). Nevertheless, the students felt that lecturers have improved their online teaching skills since the beginning of the pandemic.

I hope the library will be opened according to the S.O.P so that I can borrow books especially in Arabic and Sharia. And I can use the computer to write my assignment because I don't have laptop at home. I rely 100% on my phone. Arabic is a challenge for me and I will try harder in improving my language. (Student 1)

I enjoyed learning Arabic through news because it improves my vocabulary a lot. Sometimes, although I learned the news in Arabic, I can apply the information in my English class too. I never heard about Bernama Arabic, BBC Arabic. I prefer if the exam through the Google Form, in objective form.

I don't have any suggestion because I think when our maturity increases then our degree of self-discipline will also increase. (Student 2)

I suggest the lecturers can provide proper notes or handout for the students to assist them in learning. (Student 3)

My suggestion is I want to ask the lecturers organise a join class among different sections like a small seminar so we can hear to different opinions and ideas. For me, from the beginning of my study, all was done online, and I don't have exposure to many things yet. For Arabic language, I enjoy writing daily journal as it improves a lot my vocabulary and my writing become faster. (Student 4)

In sum, Table 1 summarises the suggestions gathered from the lecturers and students to enhance OTL in the college.

Table 1 Suggestions to enhance OTL

Suggestions from lecturers	Suggestions from students
<ul style="list-style-type: none">• Standardise online learning platform.• Organise more workshops.• Monthly gathering with lecturers.• IT team assist lecturers in setting up the facilities required to deliver lessons.• Counsellor needs to monitor students who are active in gaming.• Management set up a proper recording or online teaching studio.	<ul style="list-style-type: none">• Library is opened to students.• Lecturers provide proper notes or handout.• Lecturers organise a join class among different sections.• Exam format in objective structure rather than subjective.

Conclusion

The results showed challenges and strategies in teaching and learning Arabic during the COVID-19 pandemic among lecturers and students from a local institution. They faced a wide range of logistic, technical, financial, and social problems. The lecturers have competencies in implementing technology-based learning and are willing to use educational technology in their teaching practices. However, there is a need to develop competencies in the technology-based learning design process. Technical support such as faster internet access and computer facilities are important for better OTL implementation as it opens a new space for Arabic language educators to be more creative in delivering the intended content. For instance, online assessments such as assignments and tests can be done via varied formats using many current applications such as Kahoot!, Quizizz, Google Forms, and Telegram Messenger. This early preparation is important when OTL becomes the prevailing norm in the near future.

Likewise, students came across a lot of challenges during OTL including money, internet coverage, emotional imbalance, understanding certain topics, and lack of motivation. The students reported that online classes

are more challenging than traditional classroom due to technological constraints, motivational, and psychological aspects. Hence, it is suggested that the lecturers and the management need to put all students' problems and suggestions into consideration while developing more effective and meaningful online courses for future learners. In sum, COVID-19 is clearly a test for higher education institutions around the world in terms of their level of preparedness, flexibility, and ability to adapt in response to future global crises. However, on the bright side, it serves as an effective change agent to promote the rapid adoption of OTL in organisations that reject changes. Seeing the positive transmission of the pandemic, it has sparked the incredible spirit and effort of lecturers in our context to ensure students do not fall behind in education especially in Arabic language area.

The limitations of this study lied in the research setting which was limited to a single local institution. Therefore, generalisation of the results to other settings should be done with utmost thoughtfulness. Further studies are encouraged to replicate the study in other institutions to corroborate the results across different settings. Furthermore, future research could be conducted to compare challenges faced by different groups of lecturers and students across different languages besides Arabic. Moreover, this study applied a qualitative approach via interviews. Hence, it is suggested that future research may employ a quantitative approach as in the study by Barrot et al. (2021) to gain more robust insight into the phenomenon under study.

References

- Abdullah, A. H., Sulaiman, Ab. A., & Abdullah, W. I. W. (2015). Faktor-faktor yang mempengaruhi motivasi terhadap pembelajaran bahasa Arab [Factors influencing motivation towards learning Arabic]. *Jurnal Islam dan Masyarakat Kontemporari*, 10, 104–121. <https://doi.org/10.37231/jimk.2015.10.2.112>
- Aditya, D. S. (2021). Embarking digital learning due to COVID-19: Are teachers ready? *Journal of Technology and Science Education*, 11(1), 104–116. <http://jotse.org/index.php/jotse/article/view/1109/501>
- Ahmed, S. T. S., Qasem, B. T., & Pawar, S. V. (2020). Computer-assisted language instruction in south Yemeni context: A study of teachers' attitudes, ICT uses and challenges. *International Journal of Language Education*, 4(1). <https://ojs.unm.ac.id/ijole/article/view/10106>
- Alkhawaja, M. I., & Halim, M. S. A. (2019). Challenges of e-learning system adoption in Jordan higher education. *International Journal of Academic Research in Business Social Sciences*, 9(9), 487–494. <https://doi.org/10.6007/ijarbss/v9-i9/6317>
- Aziah Aziz, & Taufik Ahmed. (2016). E-pembelajaran dalam pengajaran dan pembelajaran bahasa Melayu di IPG Kampus Ipoh. *Jurnal Penyelidikan Dedikasi*, 11, 116–130.

- Baharum, A. S., & Samah, R. (2015). Persepsi pelajar universiti awam terhadap kesalahan bahasa Arab, faktor penyumbang dan implikasi [Public university students' perceptions towards errors in Arabic language, contributing factors and implications]. *Sains Humanika*, 6(1).
- Barrot, J. S., Llenares, I. I., & Del Rosario, L. S. (2021). Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Education and Information Technologies*, 26(6), 7321–7338.
- Baticulon, R. E., Sy, J. J., Alberto, N. R. I., Baron, M. B. C., Mabulay, R. E. C., Rizada, L. G. T., ... & Reyes, J. C. B. (2021). Barriers to online learning in the time of COVID-19: A national survey of medical students in the Philippines. *Medical Science Educator*, 31(2), 615–626.
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*, 287, 112934. <https://doi.org/10.1016/j.psychres.2020.112934>
- Creswell. J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Method*. Thousand Oaks: SAGE Publications.
- Gay, L. R., & Airasian, P. (2009). *Educational Research: Competencies for Analysis and Applications* (9th ed.). Pearson International Edition.
- Halid, S. (2021, January 24). Tiada capaian internet, gajet seperti belajar di sekolah daif. *Berita Harian Online*. <https://www.bharian.com.my/berita/nasional/2021/01/779410/tiada-capaian-internet-gajet-seperti-belajar-di-sekolah-daif>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review*, 27, 1–16. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Islam, M. A., Barna, S. D., Raihan, H., Khan, M. N. A., & Hossain, M. T. (2020). Depression and anxiety among university students during the Covid-19 pandemic in Bangladesh: A web-based cross-sectional survey. *PLoS one*, 15(8), e0238162. <https://doi.org/10.1371/journal.pone.0238162>
- Kim, C., Kim, M. K., Lee, C., Spector, J. M., & DeMeester, K. (2013). Teacher beliefs and technology integration. *Teaching and Teacher Education*, 29, 76–85. <http://dx.doi.org/10.1016/j.tate.2012.08.005>
- Ladyanna, S. (2021). Problems and challenges of online lectures in Indonesia during the pandemic Covid-19. *The 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020)* (pp. 78–82). Atlantis Press. <https://doi.org/10.2991/assehr.k.210202.016>
- Li, B. (2022). Ready for online? Exploring EFL teachers' ICT acceptance and ICT literacy during COVID-19 in mainland China. *Journal of Educational Computing Research*, 60(1), 196–219. <https://doi.org/10.1177/073563312111028934>
- Mat, A. C. (2013). Sikap pelajar terhadap pembelajaran bahasa Arab di IPTA [Students' attitudes towards learning Arabic in public universities]. *Academia Journal UITM*, 2(2), 61–68.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.). Thousand Oak: SAGE Publications.

- Ministry of Education Malaysia. (2013). Pelan Pembangunan Pendidikan Malaysia 2013–2025 (Pendidikan Prasekolah hingga Lepas Menengah) [Malaysia Education Development Plan 2013–2025 (Pre-School to Post-Secondary Education)]. <https://www.moe.gov.my/menumedia/media-cetak/penerbitan/1813-pppm-2013-2025/file>
- Ministry of Health Malaysia. (2021, July). Situasi terkini COVID-19 di Malaysia [The current situation of COVID-19 in Malaysia]. <https://covid-19.moh.gov.my/terkini/2021/07/situasi-terkini-covid-19-di-malaysia-15072021>
- Mokhtar, N. H. (2020, April 27). Pembelajaran dalam talian untuk pembelajaran sepanjang hayat. *Newshub*. <https://news.utm.my/ms/2020/04/pembelajaran-atas-talian-untuk-pembelajaran-sepanjanghayat/>
- Pauzi, M. F., Juhari, S. N., Amiruddin, S., & Hassan, N. M. (2020). COVID-19: Pengajaran dan pembelajaran sewaktu krisis pandemik. *Jurnal Refleksi Kepemimpinan*, 13. <http://myjms.mohe.gov.my/index.php/jrk/article/view/9892>
- Sajed, A. N., & Amgain, K. (2020). Corona virus disease (covid-19) outbreak and the strategy for prevention. *Europasian Journal of Medical Sciences*, 2(1), 1–3. <https://www.nepjol.info/index.php/ejms/article/view/32764>
- Simin, G., Kunjappan, T., Ramasamy, L., & Anthony, A. (2016). Teaching and learning with ICT tools: Issues and challenges from teachers' perceptions. *Malaysian Journal of Education Technology*, 4(2), 38–54. <https://eric.ed.gov/?id=EJ1096028>
- Strielkowski, W. (2020). Covid-19 pandemic and the digital revolution in academia and higher education. 2020040290. <https://doi.org/10.20944/preprints202004.0290>
- Thannimalai, T., & Baloh, S. (2021). Cabaran PDPR bahasa Tamil di sekolah luar bandar. *Muallim Journal of Social Sciences and Humanities*, 5(2), 183–190. <https://doi.org/10.33306/mjssh/132>
- Tuominen, S., & Lasse, L. (2020). Quality education for all during Covid-19 crisis. <https://learningportal.iiep.unesco.org/en/library/spotlight-qualityeducation-for-allduring-covid-19-crisis>
- UNESCO. (2020a). School closures caused by Coronavirus (Covid-19). <https://en.unesco.org/covid19/educationresponse>
- UNESCO. (2020b). Ensuring effective distance learning during COVID-19 disruption: Guidance for teachers. <https://unesdoc.unesco.org/ark:/48223/pf0000375116>
- Yusuf, B. N., & Ahmad, J. (2020). Are we prepared enough? A case study of challenges in online learning in a private higher learning institution during the Covid-19 outbreaks. *Advances in Social Sciences Research Journal*, 7(5), 205–212.
- Zaini, A. R., Zakaria, N., Hamdan, H., Ghazali, M. R., & Ismail, M. R. (2019). Pengajaran bahasa Arab di Malaysia: Permasalahan dan cabaran [Arabic language teaching in Malaysia: Problems and challenges]. *Jurnal Pengajian Islam*, 12(1), 47–57.
- Zakaria, S. R., Hamzah, M. I., & Razak, K. A. (2017). Penggunaan ICT dalam pengajaran dan pembelajaran pensyarah Pendidikan Islam di politeknik zon selatan. *Tinta Artik. Membina Ummah*, 3(1), 29–41. <http://www.journaltamu.com/wp-content/uploads/2017/07/TAMU-Vol-31-June-2017-3.pdf>

Effects of Online Teaching and Learning in English Language: A Case Study of Adamawa State Tertiary Institutions in Nigeria

Reuben Benson & Muhammad Kamarul Kabilan

Introduction

The sudden pivot from traditional classroom teaching to virtual learning spaces was a compelling transition propelled by the rapid changes in global circumstances (Subekti 2021; Zhang et al., 2022). During this changing time, the question is not whether digital education can meet the standards of traditional pedagogy (Hodges et al., 2020). Rather, it is about how swiftly, and effectively academic institutions can adopt this massive digital shift (Carey, 2020). Resistance to change will not serve the educational systems across the globe. As highlighted by Rapanta (2021), the ability of these institutions to adapt rapidly and maintain educational quality will be under scrutiny, posing a significant challenge to their reputations. Likewise, their responsiveness and their capability to uphold their educational standards in the face of crisis will be a testament to their adaptability.

In responding to the demands brought about by various circumstances, such as the COVID-19 pandemic, the need for a flexible and accessible educational system has become increasingly apparent. As a result, the transition from traditional face-to-face learning to online learning has emerged as a viable solution (Ribeiro, 2020; Singh et al., 2021). Online teaching and learning (OTL), which is defined as the utilisation of internet and other relevant

technologies for the creation of educational materials, instructional delivery, and programme management (Juárez-Díaz & Perales, 2021), has rapidly established itself as the cornerstone of education in the midst of the pandemic. To ensure the effectiveness of online education, it is crucial to comprehend the advantages and limitations of both asynchronous and synchronous online learning approaches (Bailey et al., 2021).

However, it would be unrealistic to expect academic institutions to convert their entire curricula into digital resources overnight. Distance, scalability, and personalisation represent the three biggest hurdles in the realm of OTL. Innovative solutions by institutions are essential in navigating these challenges in the pandemic era (Liguori & Winkler, 2020). Google's suite of products (including Gmail, Google Forms, Calendars, G-Drive, Google Hangouts, Google Jamboard and Drawings, Google Classroom, and third-party solutions like Open Board Software for recording meetings) can provide valuable tools for facilitating this transition (Basilaia et al., 2020). These tools may be useful but without the expertise and competency of teachers in leveraging these tools, the transition to OTL may not yield the desired outcomes. Peimani and Kamalipour (2021) stated that effective OTL requires educators to adapt their instructional methods to the online context, using a combination of synchronous and asynchronous activities that align with the learning objectives and cater to diverse learner needs.

With regards to English language teaching, despite an abundance of research and best practices on computer-assisted language learning (CALL), resources are lacking on how to prepare teachers for online language instruction and the skills necessary in this new teaching environment. Furthermore, traditional pedagogical models primarily relied on students listening to their teachers, working individually or in groups, and reproducing knowledge in assessments, with limited use of information and communication technology (ICT) (Lipowsky, 2015). While the shift to OTL was accelerated by the outbreak of the COVID-19, it occurred against the backdrop of an ongoing ICT transformation in educational systems (Bailey et al., 2021; McFarlane, 2019). The integration of ICT into education has gained significance, highlighting the need to bridge the gap between traditional learning and the experiences and skills needed by students for the modern economy (Kozma, 2011).

Despite these significant shifts, it is crucial to explore and address the current challenges teachers are facing in adopting ICT for OTL. Many teachers feel overwhelmed by the fast-paced progression of technology and lack the necessary skills or confidence to incorporate it effectively into their instruction (Carmignola et al., 2021). The teacher's role in an online setting

is considerably different, often requiring a shift from being the central source of knowledge to more of a facilitator or guide, a change that can be daunting for those more accustomed to traditional pedagogical models. This transition not only requires understanding the technical aspects of the tools but also necessitates a profound pedagogical shift. Ultimately, teachers are crucial mediators in the successful integration of ICT into education, and their concerns, capabilities, and transformations should be at the heart of our discussions on the digitisation of language teaching and learning. Therefore, a critical examination of the challenges the teachers face and the support they need in their changing roles is an indispensable part of the ICT integration process.

Contextualising this discourse within the Nigerian educational landscape brings its unique set of challenges and opportunities. The adoption and implementation of ICT in online language instruction in Nigeria is still in its nascent stages, largely due to systemic and infrastructural issues (Egielewa et al., 2022). For instance, the absence of reliable electricity and internet connectivity in many parts of the country can pose significant barriers to the integration of ICT. Nevertheless, the country's burgeoning youth population represents an untapped reservoir of digital natives who are well-versed in the use of technology, thereby creating a fertile ground for the successful adoption of ICT in education (Olayemi et al., 2021). This promising trend implies investing in teacher training programmes that not only focus on the technicalities of using ICT tools but also emphasise the shift in pedagogical approaches necessary for effective online instruction especially in the context higher education (Eli-Chukwu et al., 2023). Hence, this chapter reports an exploratory study conducted on English language lecturers of tertiary institutions of Adamawa State, Nigeria by focusing on their current adoption of ICT in English language education apart from their perceived level of ICT competency and challenges faced.

Specifically, the study aims to answer the following research questions:

1. What is the importance of ICT in facilitating English language teaching and learning in tertiary institutions in Adamawa State?
2. To what extent are ICT resources available for the facilitation of English language teaching and learning in tertiary institutions in Adamawa State?
3. How competent are English language lecturers in utilising ICT resources for English language teaching and learning in tertiary institutions in Adamawa State?

4. What challenges do lecturers encounter when using ICT for English language teaching and learning in tertiary institutions in Adamawa State?

OTL in Nigerian Higher Education

OTL has gained significant momentum in Nigerian higher education, providing opportunities for increased access and flexibility. According to a study by Shonola et al. (2016), mobile devices have played a crucial role in supporting online learning in Nigerian universities. The study found that students utilise their portable gadgets for various educational purposes, such as exchanging academic files, accessing online resources, and engaging in discussions with classmates. This highlights the potential of OTL to bridge the gap between traditional classroom education and remote learning environments.

The COVID-19 pandemic further accelerated the adoption of OTL in Nigerian higher education. As campuses closed and face-to-face teaching was disrupted, universities quickly transitioned to online platforms to ensure the continuity of education (Eli-Chukwu et al., 2023). Bashir et al. (2021) conducted a study at Aston University, examining the experiences of Bioscience students during the pandemic. The findings revealed that many students reported positive experiences with online assessments and expressed willingness to continue using such formats in the future. This demonstrates the adaptability and effectiveness of OTL in challenging circumstances. Olayemi et al. (2021) conducted a study involving 148 undergraduates to explore students' perception and readiness towards OTL during the pandemic. The findings indicated that the majority of respondents claimed to be familiar with OTL and expressed a high level of readiness. They also reported possessing the necessary ICT skills for OTL.

While OTL offers numerous benefits, it also presents challenges in the Nigerian higher education. One significant challenge is the digital divide and access to technology. Not all students have equal access to devices and reliable internet connectivity. El-Sayad et al. (2021) studied online learning engagement in Egypt, a developing country facing similar challenges as Nigeria. Their research emphasised the importance of addressing issues related to digital infrastructure and ensuring equitable access to technology for all students. Quality assurance is another crucial aspect of OTL in Nigerian higher education. As online programmes continue to expand, it is vital to ensure that they meet the same standards of excellence as traditional face-to-face education (Egielewa et al., 2022). Accreditation and regulatory bodies

play a pivotal role in maintaining quality. Additionally, the integration of interactive and engaging learning strategies is essential to enhance student participation and learning outcomes.

The future of OTL in Nigerian higher education looks promising, with ongoing efforts to address challenges and enhance the OTL experience. One key issue is still related to teachers' or instructors' competency in using relevant tools and pedagogies in ensuring effective teaching and learning experience. Teacher competence encompasses a range of skills and knowledge, including technological proficiency, pedagogical expertise, and the ability to facilitate meaningful online interactions. Effective OTL requires teachers to adapt their instructional strategies (Yusuf et al., 2017).

ICT Competency of Language Educators

ICT competency plays a vital role in the effective integration of technology in language education. Language educators need to possess the necessary skills and knowledge to leverage ICT in their teaching practices. According to Caena and Redecker (2019), ICT competency for educators encompasses various dimensions, including technical skills, pedagogical knowledge, and the ability to integrate digital tools effectively. Teachers with high ICT competency can design engaging activities, utilise multimedia resources, and facilitate online interactions to enhance language learning outcomes.

Research suggests that professional development programs are essential for enhancing the ICT competency of language educators. A study by Hu and McGrath (2011) highlighted the significance of providing systematic training and support to help language teachers develop their ICT skills and pedagogical strategies. Continuous professional development opportunities, such as workshops, courses, and online resources, can contribute to improving educators' ICT competency and their ability to integrate technology effectively into language teaching. Furthermore, the integration of ICT in language education can provide numerous benefits. ICT tools offer opportunities for authentic and meaningful language practice, facilitate individualised learning experiences, and promote learner autonomy (Tondeur et al., 2016; Zwahlen, 2017). Language educators with high ICT competency can leverage digital platforms, online resources, and communication tools to create immersive language learning environments that cater to diverse learner needs.

However, challenges in developing ICT competency among language educators persist. Limited access to technology, lack of time and resources for professional development, and resistance to change are some of the barriers identified by Al Gamdi and Samarji (2016). Addressing these challenges requires institutional support, investment in infrastructure, and a commitment to ongoing training and support for language educators. This situation calls for a study that takes into account the views of instructors or educators in order to gain a deeper understanding of the challenges faced by language educators in developing ICT competency.

Theoretical Foundation

Technological Pedagogical Content Knowledge (TPACK) is a theoretical framework first introduced by Mishra and Koehler (2006), that emphasises the integration of technology, pedagogy, and content knowledge in educational settings. It was later updated with clearer visualisation of the relationship between the dimensions (Mishra, 2019) as shown in Figure 1.

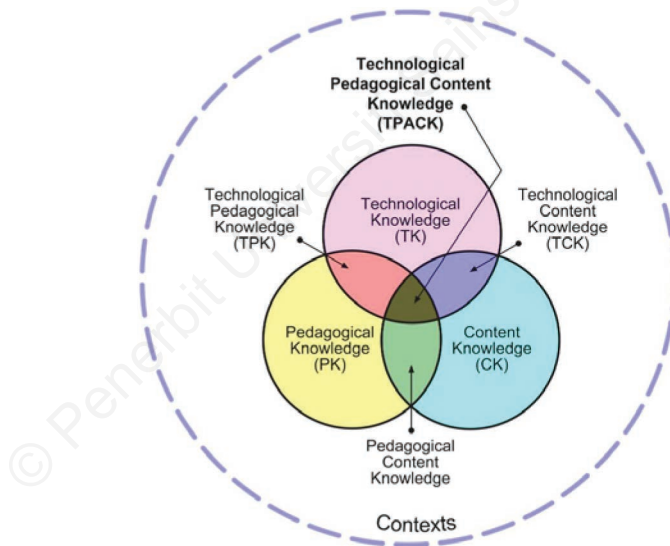


Figure 1 Updated version of TPACK model
Source: Adapted from Mishra (2019)

TPACK recognises that effective teaching and learning require a combination of these three domains and their intersections. Content knowledge refers to the subject matter being taught, pedagogical knowledge involves understanding how to teach and engage students, and technological knowledge pertains to the effective use of technology in instruction (Mishra, 2019). TPACK encourages educators to develop a deep understanding of how these domains interact

and influence each other, leading to more meaningful and impactful learning experiences. In this study, the English language lecturers' technological knowledge and pedagogical knowledge are examined in relation to the use of ICT for OTL.

The Study

The study employed a descriptive survey design to gather data (Saris & Gallhofer, 2014). The sample was selected using stratified and systematic random sampling techniques, with location, age, and gender as the strata. Thirty English language lecturers participated in the study and were provided with a questionnaire as the primary instrument for data collection. As the involvement of the lecturers in this exploratory study was voluntary, the final number of 30 participants was deemed sufficient to gain initial insights for the research questions raised (Kar & Ramalingam, 2013). The questionnaire consisted of 28 self-structured items divided into four sections (A, B, C, and D). Each item required respondents to select a single option, and nominal values were assigned to each possible response. The scoring of items was based on these codes, and all sections followed a five-point scale with 1 being the lowest and 5 being the highest in terms of the level of agreement.

To collect the required data, the researcher administered the survey in person, visiting various educational institutions. Despite the time and expense involved, this approach yielded a high response rate as the surveys were collected immediately upon completion. The advantage of this method was that most respondents were conveniently clustered at their respective workplaces. The data collected from the participants were subsequently analysed using descriptive statistical techniques, such as calculating the mean, to gain insights into the gathered information.

Results

The results from the survey revealed positive views of English language lecturers in Adamawa, Nigeria on the use of ICT for English language teaching and learning, particularly for online environments. Seven items related to the importance of ICT in teaching and learning English language in Adamawa State tertiary institutions showed an average mean score of 3.96, with mean scores ranging from 3.50 to 4.55. This suggests that the lecturers in Adamawa State considered ICT important in English language courses. Another seven items related to the availability of ICT resources for English language teaching and learning in Adamawa State tertiary institutions showed an average mean

score of 2.01, with mean scores ranging from 1.06 to 3.75. This indicates that the lecturers in Adamawa State considered ICT resources for English language courses inadequate.

Regarding the competence levels of the English language lecturers in relation to the use of ICT resources, results showed an average mean score of only 0.97, with mean scores ranging from 0.16 to 2.15. This signifies that the lecturers in Adamawa State considered themselves very much less competent in using most ICT resources in their English language courses. The last seven items on the challenges faced by the English language lecturers of Adamawa State tertiary institutions in using ICT in their courses showed an average mean score of 4.00, with mean scores ranging from 3.45 to 4.25. This suggests that the lecturers in Adamawa State agreed that the application of ICT in their English language courses was relatively challenging.

In sum, the results of the research revealed that concept of technologies is appreciated as acclaimed by the respondents in the study area but most of them are deficient in technologies. Furthermore, among the multitude of ICT-based resources for OTL, only language laboratory is the most common resource in Adamawa state tertiary institutions. Unfortunately, very few skilled language teachers ($M = 2.15$) are competent in the use of language laboratory. The findings of the study also point out that English languages lecturers in the study area are facing many challenges of using technologies for OTL.

Discussion

Research question 1 dealt with the importance of ICT in teaching and learning in English language. The result of the research revealed that technologies play very important roles in teaching and learning in English language concurring with earlier studies in the field (Egielewa et al., 2022; Subekti, 2021). A significant finding from this study was the overwhelming consensus among the lecturers about the importance of ICT in facilitating personalised and authentic language learning experiences. This is consistent with prior research which suggested that technology can provide an environment conducive to tailored, individual learning, enabling students to learn at their own pace, choose their learning paths, and ultimately, experience a sense of ownership of their learning (Olayemi et al., 2021). Authentic language learning experiences have been noted to accelerate language acquisition by promoting meaningful and purposeful communication in the target language.

In addition to facilitating personalised learning, ICT was found to be instrumental in motivating students. According to the lecturers, the use of ICT makes learning more interactive, engaging, and fun, thereby increasing students' motivation to learn. It provides a stimulating, multimedia environment that can be highly appealing and motivational for language learners, which aligns to previous studies such as Sharma and Pooja (2016). The research also highlighted the role of ICT in enabling lecturers to provide instantaneous feedback to their students, a finding which aligns with the assertion made by Rock et al. (2009) that real-time feedback in language learning can significantly enhance student performance and engagement. ICT tools such as digital assessment platforms can facilitate quick and detailed feedback, which helps learners understand their strengths and weaknesses, and implement changes in their learning strategies promptly (Clark & Mayer, 2021).

Research question 2 showed that the availability of adequate supplies of technologies was uneven, while the most basic technology like language laboratory is typically available. Shortages and/or no supplies were found with the other technologies. Availability of ICT instructional facilities to the teachers at tertiary level is not sufficient for meeting the demands of students, but there is a need of required training facilities for proper utilisation of these teaching aids in classrooms. Oyaid (2009) and Sipilä (2011) supported that frequency and level of teachers' utilisation of computer technology in classroom is still at the early stages and demands further training to overcome the difficulties faced to teachers in classrooms. Potter and Rockinson-Szapkiw (2012) also indicate that educational objectives of teaching and learning cannot be achieved successfully until teachers were trained to have updated knowledge of ICT instructional aides to be properly used in classrooms.

Question 3 focused on the competency levels of the participants. The study revealed that, the lecturers in the study area are only slightly competent in the use of language laboratory while they are not competent in the other technologies. It shows that, if there must be an effective teaching-learning activity, utilisation of instructional technologies will be necessary. Ema and Ajayi (2004) assert that educational technologies only bring about changes and advancements when the teachers know how to use them, for instance, their professionalism and general knowledge as well as their creativity in choosing, creating, and utilising the educational materials efficiently determine the outcome of the instruction. Instructional technologies are made up of objects such as printed, audio, visual that aid in the successful delivery of lesson. Chapelle and Hegelheimer (2013, p. 300) stressed the need to clarify the key competences of language teachers in the 21st century to "effectively

and critically engage in technology-related teaching issues within a world that is decisively supported and interconnected by technology". Clarification of key competences is crucial for online language teacher training since teaching language online requires skills that differ from traditional language teaching as well as teaching other subjects online. In this section, this literature review will look at the type of skills for online language teaching. In the first part, Hampel and Stickler's (2005) paper as introduced earlier provides a framework to discuss the types of skills needed for online language teaching.

Research question 4 focused on the challenges English language lecturers facing in teaching and learning using ICT. There are number of technologies available for online education but sometimes they create a lot of difficulties. These difficulties and problems associated with modern technology range from downloading errors, issues with installation, login problems, problems with audio and video, and so on. Sometimes students find OTL to be boring and unengaging. OTL has so much of time and flexibility that students never find time to do it. Personal attention is also a huge issue in OTL. Students desire two-way interactions which sometimes it gets difficult to implement. The learning process cannot reach its full potential until students practice what they learn. Some of the major challenges are unavailability of ICT resources, limited skills on use of some ICT resources and difficulty for lecturers to move from offline mode to online mode of teaching (changing teaching methodologies), and managing time. In this regard, Potter and Rockinson-Szapkiw (2012) supported that educational objectives of teaching and learning cannot be achieved successfully until teachers were trained to have updated knowledge of ICT instructional aides to be properly used in classrooms.

In sum, the study concurs with Brazendale et al. (2017) in that due to the pandemic crisis there has been a huge, disruptive shift from existing educational system to online education system. An online course requires detailed lesson plans to design good study materials. Certain challenges of online education include lack of OTL skills in educators, online preparation of lesson plans as it is very time-consuming, lack of appropriate support from the technical teams, and traffic overload in online educational platforms. Not only the Nigerian teachers but the students are also facing challenges due to their deficiency of proper learning attitude, lack of suitable materials for learning and involvement in OTL, incapability of self-discipline, and the inadequate learning environment at some of their homes during self-isolation.

Implications of the study

Firstly, the availability of ICT resources and lecturers' skills in utilising them are crucial for effective teaching. If resources are accessible and lecturers are proficient in using ICT, it implies that teaching can be more effective. This, in turn, has the potential to lead to effective OTL of the English language. Adequate ICT resources and the necessary skills among lecturers are considered to potentially contribute to more engaging and interactive OTL environments in the research context.

Secondly, if there is a lack of ICT resources or inadequate network coverage, it implies that teaching may not be as effective. Insufficient resources and network coverage can hinder the smooth implementation of the English Language OTL. This can lead to limitations in accessing digital materials, communication challenges, and overall poor learning experiences for the Nigerian students.

Lastly, if lecturers lack the necessary skills to effectively utilise ICT resources, it suggests that the OTL processes may not be as effective. Proficiency in using ICT tools and technologies is essential for creating engaging instructional materials, facilitating interactive discussions, and providing timely feedback to students. Insufficient ICT skills among Nigerian lecturers can hinder the potential of OTL for the English language courses.

Conclusion

The COVID-19 pandemic lockdown has underscored the importance of ICT in education, revealing both its potential benefits and inherent challenges. This study found that while the concept of technology is generally well-received in Adamawa state tertiary institutions, there is a significant deficiency in technological resources. The most used ICT resource for OTL is the language laboratory, with other technologies either being obsolete or inadequate. The transition from offline to online teaching poses a significant challenge for language teachers, compounded by network issues caused by insurgent activities. These technical difficulties, coupled with a lack of awareness and proficiency in handling technologies among language teachers, hinder the attainment of effective OTL in the region.

Given these findings, several recommendations are provided. First, regular training for lecturers through seminars, conferences, workshops, and both short and long-term training programmes is crucial. This will equip them with the necessary skills to utilise new information technologies and meet the

evolving demands of learning materials. Second, teachers should be motivated and encouraged to fully commit to the effective use of ICT tools in their instructional delivery, fostering a culture of digital literacy and technological competence. Lastly, institutions should actively seek support from non-governmental organisations, private sectors, individuals, and industries to supplement and replace obsolete educational media and software packages. This collaborative approach will ensure a more robust and sustainable integration of ICT in language education, ultimately enhancing the quality of OTL. Given the imminent future where OTL is expected to establish itself as the dominant norm, this becomes a matter of great importance in Adamawa State tertiary institutions.

Looking ahead, the future direction for OTL implementation in Adamawa State tertiary institutions, and indeed globally, should focus on creating an inclusive, accessible, and flexible digital learning environment. This involves not only the continuous upgrading and diversification of technological tools but also the development of innovative pedagogical strategies that leverage these tools to enhance learning outcomes. Emphasis should be placed on creating interactive and engaging online content, promoting active learning, and fostering a sense of community among online learners.

References

- Al Gamdi, M. A., & Samarji, A. (2016). Perceived barriers towards e-Learning by faculty members at a recently established university in Saudi Arabia. *International Journal of Information and Education Technology*, 6(1), 23. <https://doi.org/10.7763/IJiet.2016.V6.652>
- Bailey, D., Almusharraf, N., & Hatcher, R. (2021). Finding satisfaction: Intrinsic motivation for synchronous and asynchronous communication in the online language learning context. *Education and Information Technologies*, 26, 2563–2583. <https://doi.org/10.1007/s10639-020-10369-z>
- Bashir, A., Bashir, S., Rana, K., Lambert, P., & Vernallis, A. (2021). Post-COVID-19 adaptations; the shifts towards online learning, hybrid course delivery and the implications for biosciences courses in the higher education setting. *Frontiers in Education*, 6. <https://doi.org/10.3389/educ.2021.711619>
- Basilaia, G., Dgebuadze, M., Kantaria, M., & Chokhonelidze, G. (2020). Replacing the classic learning form at universities as an immediate response to the COVID-19 virus infection in Georgia. *International Journal for Research in Applied Science & Engineering Technology*, 8(III).
- Brazendale, K., Beets, M. W., Weaver, R. G., Pate, R. R., Turner-McGrievy, G. M., Kaczynski, A. T., Chandler, J. L., Amy Bohnert, A., & von Hippel, P. T. (2017). Understanding differences between summer vs. school obesogenic behaviors of children: The structured days hypothesis. *International Journal of Behavioral Nutrition and Physical Activity*, 14(1), 1–14.

- Caena, F., & Redecker, C. (2019). Aligning teacher competence frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (Digcompedu). *European Journal of Education*, 54(3), 356–369.
- Carey, K. (2020). Is everybody ready for the big migration to online college? Actually, no. *The New York Times*. <https://www.nytimes.com>
- Carmignola, M., Martinek, D., & Hagenauer, G. (2021). ‘At first I was overwhelmed, but then—I have to say—I did almost enjoy it’. Psychological needs satisfaction and vitality of student teachers during the first Covid-19 lockdown. *Social Psychology of Education*, 24(6), 1607–1641.
- Chapelle, C. A., & Hegelheimer, V. (2013). The language teacher in the 21st century. *New Perspectives on CALL for Second Language Classrooms* (pp. 311–328). Routledge.
- Clark, R. C., & Mayer, R. E. (2021). *E-learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning*. John Wiley & Sons.
- Egielewa, P., Idogho, P. O., Iyalomhe, F. O., & Cirella, G. T. (2022). COVID-19 and digitized education: Analysis of online learning in Nigerian higher education. *E-learning and Digital Media*, 19(1), 19–35.
- El-Sayad, G., Md Saad, N. H., & Thurasamy, R. (2021). How higher education students in Egypt perceived online learning engagement and satisfaction during the COVID-19 pandemic. *Journal of Computers in Education*, 8(4), 527–550. <https://doi.org/10.1007/s40692-021-00191-y>
- Eli-Chukwu, N. C., Igbokwe, I. C., Ifebude, B., Nmadu, D., Iguodala, W., Uma, U., ... & Akudo, F. U. (2023). Challenges confronting e-learning in higher education institutions in Nigeria amid Covid-19. *Journal of Applied Research in Higher Education*, 15(1), 238–253.
- Ema, E., & Ajayi, D. T. (2004). *Educational Technology: Methods, Materials, Machines*. Jos: Jos University Press Ltd.
- Hampel, R., & Stickler, U. (2005). New skills for new classrooms: Training tutors to teach languages online. *Computer Assisted Language Learning*, 18(4), 311–326.
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Hu, Z., & McGrath, I. (2011). Innovation in higher education in China: Are teachers ready to integrate ICT in English language teaching? *Technology, Pedagogy and Education*, 20(1), 41–59.
- Juárez-Díaz, C., & Perales, M. (2021). Language teachers’ emergency remote teaching experiences during the COVID-19 confinement. *Profile Issues in Teachers Professional Development*, 23(2), 121–135.
- Kar, S. S., & Ramalingam, A. (2013). Is 30 the magic number? Issues in sample size estimation. *National Journal of Community Medicine*, 4(01), 175–179.
- Kozma, R. B. (2011). ICT, Education Transformation, and Economic Development: An Analysis of the US National Educational Technology Plan. *E-Learning and Digital Media*, 8(2), 106–120. <https://doi.org/10.2304/elea.2011.8.2.106>
- Liguori, E. W., & Winkler, C. (2020). From offline to online: Challenges and opportunities for entrepreneurship education following the COVID-19 pandemic. *Entrepreneurship Education and Pedagogy*, 3(4), 346–351. <https://doi.org/10.1177/2515127420916738>

- Lipowsky, F. (2015). Unterricht. [Teaching]. In E. Wild, & J. Möller (Eds.), *Pädagogische Psychologie [Educational Psychology]* (pp. 69–105). Berlin, Heidelberg: Springer.
- McFarlane, A. E. (2019). Devices and desires: Competing visions of a good education in the digital age. *British Journal of Educational Technology*, 50(3), 1125–1136. <https://doi.org/10.1111/bjet.12764>
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A new framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Mishra, P. (2019). Considering contextual knowledge: The TPACK diagram gets an upgrade. *Journal of Digital Learning in Teacher Education*, 35(2), 76–78.
- Olayemi, O. M., Adamu, H., & Olayemi, K. J. (2021). Perception and readiness of students' towards online learning in Nigeria during Covid-19 pandemic. *Perception*, 3(1), 4–21.
- Oyaid, A. A. (2009). Education policy in Saudi Arabia and its relation to secondary school teachers' ICT use, perceptions, and views of the future of ICT in education. Unpublished doctoral dissertation, University of Exeter. <https://ore.exeter.ac.uk/repository/handle/10036/69537?show=full>
- Peimani, N., & Kamalipour, H. (2021). Online education and the COVID-19 outbreak: A case study of online teaching during lockdown. *Education Sciences*, 11(2), 72.
- Ribeiro, R. (2020, April 14). How university faculty embraced the remote learning shift. *EdTech Magazine*. <https://edtechmagazine.com/higher/article/2020/04/how-university-faculty-embraced-remote-learning-shift>
- Rock, M. L., Gregg, M., Thead, B. K., Acker, S. E., Gable, R. A., & Zigmond, N. P. (2009). Can you hear me now? Evaluation of an online wireless technology to provide real-time feedback to special education teachers-in-training. *Teacher Education and Special Education*, 32(1), 64–82.
- Potter, S. L., & Rockinson-Szapkiw, A. J. (2012). Technology integration for instructional improvement: The impact of professional development. *Performance Improvement*, 51(2), 22–27.
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2021). Balancing technology, pedagogy and the new normal: Post-pandemic challenges for higher education. *Postdigital Science and Education*, 3(3), 715–742.
- Saris, W. E., & Gallhofer, I. N. (2014). *Design, Evaluation, and Analysis of Questionnaires for Survey Research*. John Wiley & Sons.
- Sharma, H. L., & Pooja, L. (2016). Enhancing students' interest in English language via multimedia presentation. *International Journal of Applied Research*, 2(1), 275–281.
- Shonola, S. A., Joy, M., Oyelere, S. S., & Suhonen, J. (2016). The impact of mobile devices for learning in higher education institutions: Nigerian universities case study. *International Journal of Modern Education and Computer Science (IJMECS)*, 8(8), 43–50.
- Singh, J., Steele, K., & Singh, L. (2021). Combining the best of online and face-to-face learning: Hybrid and blended learning approach for COVID-19, post vaccine, & post-pandemic world. *Journal of Educational Technology Systems*, 50(2), 140–171.
- Sipilä, K. (2011). No pain, no gain? Teachers implementing ICT in instruction. *Interactive Technology and Smart Education*, 8(1), 39–51.

- Subekti, A. S. (2021). Covid-19-triggered online learning implementation: Pre-service English teachers' beliefs. *Metathesis: Journal of English Language, Literature, and Teaching*, 4(3), 232–248.
- Tondeur, J., Forkosh-Baruch, A., Prestridge, S., Albion, P., & Edirisinghe, S. (2016). Responding to challenges in teacher professional development for ICT integration in education. *Journal of Educational Technology & Society*, 19(3), 110–120.
- Yusuf, M. O., Balogun, S. K., & Dauda, M. (2017). Teacher competencies required for Effective online instruction in Nigerian Higher Education. *Turkish Online Journal of Distance Education*, 18(1), 69–85.
- Zhang, L., Carter Jr, R. A., Qian, X., Yang, S., Rujimora, J., & Wen, S. (2022). Academia's responses to crisis: A bibliometric analysis of literature on online learning in higher education during COVID-19. *British Journal of Educational Technology*, 53(3), 620–646.
- Zwahlen, C. P. (2017). Authentic learning: Boosting ELL language and academic proficiency development. *The International Schools Journal*, 36(2), 37.

Shifting Higher Education to E-education: A Study on the Sudden Intrusion of E-learning in the Ecology of Language in the Context of EFL/ESL in Private Universities in Bangladesh

Sayeedur Rahman, Touhida Easmin & Paren Chandra Barman

Introduction

Bangladesh, like many developing nations, has been seriously affected by the COVID-19 pandemic. The one area, possibly next to the health sector, that has been hit really hard in the pandemic is the education sector. Because of the pandemic and the sporadic lockdown across the country, the education system had to be switched overnight from physical classrooms to online classrooms within a very short space of time, regardless of the unavailability of the required infrastructure to run the online education system. Bangladesh, which is often considered as the new face of emergent economy in South Asia, has been badly affected by the pandemic because of its unpreparedness to handle the crisis, exacerbated by still unsettled economic conditions.

As part of achieving the Sustainable Development Goals (SDGs), Bangladesh has been working on achieving high-quality and sustainable quality education since 2015 (UNDP, 2021). Being a developing country, quality and inclusive education have been the topmost priority for the present government, as education is a prerequisite for the successful transformation of the country to a developing one. The government has always been aware of the importance of the

educational sectors for its development; hence they prioritised the inclusion of information and communication technology (ICT) in different levels of the education sector in Bangladesh.

'Digital Bangladesh-Vision 2021', adopted in 2010, was one of the major initiatives taken by the current government of Bangladesh to ensure good governance by employing ICT as a pro-poor tool in different sectors of the government. One part of the overarching vision was to guarantee social equity through quality education. In the proposal for the 'Digital Bangladesh-Vision 2021', ICT has been identified as the key enabler to address the quality of education by creating an e-learning environment in the classroom (Karim, 2010). Since then, numerous initiatives were adopted by both the public and private sectors to ensure the use of ICT in educational institutions on different levels ranging from primary to tertiary education. However, despite all the initiatives taken by the government and different private sectors, the practice of using ICT in the classroom as e-content (audio-visuals, distance learning through TV, mobile phones, internet, etc.) could not progress in Bangladesh because of issues like lack of infrastructure, teachers' training, knowledge on maintenance of technological devices, motivation of both the teachers and others, as observed by Rahman (2020).

Added to all these challenges, COVID-19 has presented an unprecedented situation as the whole scenario underwent a paradigm shift at the advent of the pandemic in 2020. The first case was detected in Bangladesh on 08 March 2021 (IEDCR, 2020). The situation was worsening as the country did not have the arrangement to create a shield against the spread of the virus because of its inability to handle a disaster like a virulent pandemic. The whole country went under a general lockdown from 17 March 2020 necessitating the closure of all the academic institutions along with other offices, markets, and public spaces (*Dhaka Tribune*, 2020). Bangladesh faced the closure of the educational institutions of all levels for more than one year which is the highest among the South Asian countries (*The Daily Star*, 2021).

Bangladesh was forced to shift the education system online completely after the hit of the pandemic around the first week of April 2020. Students who were already alarmed by the potential disaster posed by the pandemic now had to cope with new challenges presented by the online class which was completely new and for which they had no preparation or training. As a result, their anxiety increased to the highest level. During the pandemic, according to Islam et al. (2020), 82.4% of university students suffered from

mild to severe depression while 87.7% suffered from anxiety symptoms. The poor network connectivity, frequent power outages, problems with devices, or lack of necessary devices in some cases, added to their suffering.

Not only the students, but teachers also had to go through almost the same situation as many of them lacked the much-needed training to properly use ICT in the classroom. Using multimedia in a physical classroom was entirely different from completely shifting the whole classroom online. Many faculty members experienced psychological pressure for not being able to meet the expectation of the institutional authority. Aperribai et al. (2020) found many of the teachers to become traumatised while trying to maintain the work-family-social life balance and hence suffered from depression due to the increased workload created by the arrival of the pandemic.

In the previously mentioned scenario, the traditional teaching-learning environment, where the traditional face-to-face classroom was the centre of learning and teacher-student and peer interaction played the central role in terms of ensuring learning, was suddenly upended. As there was no unified guideline from the government or the University Grants Commission (UGC), different private universities in Bangladesh continued their online educational activities in their way, leaving the quality of education in doubt.

Rightly, therefore, the current paper aimed to investigate the range of impacts faced by the sudden intrusion of online education or e-learning in the existing scenario of the language classroom in the tertiary level of Bangladesh. Using the ecological lens, the current study attempted to find out how far the western concept of online education fits within the ecosystem of a Bangladeshi language classroom. The study further focuses on the extent of assimilation which could be attained after conducting online classes for more than a year in the country. This chapter, therefore, addresses the following research questions from an ecological perspective:

RQ 1: How far is the sudden shifting to online classes ensuring effective learning in the private universities of Bangladesh?

RQ 2: How is the online education system impacting the existing ecology of tertiary-level education in Bangladesh?

ICT, Education, and the COVID-19 Pandemic

The online education system is a brilliant contribution of the 21st century. Comparatively a new idea in academia, the scope, and future of online education have grabbed the attention of many researchers and academicians. The exclusive use of ICT in the education arena has created a scope for attaining the fourth SDG i.e., quality education. In the proceedings of the ministerial forum of Global Dialogue on ICT and Education Innovation – Towards Sustainable Development Goal for Education (SDG 4), Jiang et al. (2019) has mentioned that a category 2 institute of UNESCO was formed in the 38th general conference of UNESCO on 13 November 2015 to ensure the use of ICT in higher education. Since its conception, International Centre for Higher Education Innovation (ICHEI) has been working for facilitating the developing countries, like Bangladesh, with ICT support by providing different devices in the classroom along with the training for teachers who are the main resource to implement the use of ICT in higher education (UNESCO-ICHEI, 2021). As Bangladesh was only getting prepared to accommodate the ICT support in the classroom, the COVID-19 hit in 2020.

The COVID-19 pandemic has, like its impact on other sectors, impended the education sector in general. A study conducted by Jamiai (2021) showed the perception of the students regarding e-education in the context of Morocco during COVID-19. The study collected the data from students of graduate-level and tried to find out their degree of satisfaction with the online classroom. Based on the collected data, Jamiai (2021) showed the possibility of blended learning in the future while accepting the fact that the satisfaction level on the part of the students varies depending on various factors, especially on the availability of prepared and well-planned pedagogy and others. However, the scenario in Bangladesh is quite different as the country has a different socio-economic condition and is yet not prepared to handle hazards successfully due to its poor infrastructure. In such a country where a significant gap had been addressed regarding the use of ICT in the classroom in the pre-COVID-19 era, as perceived by Rahman (2020) in his study, complete shifting to online education has appeared as a huge challenge for the education sector of Bangladesh.

One of the major challenges of this overnight shift is the lack of training and motivation of the teachers to conduct classes online. Though the motivation of teachers in the classroom has been identified by McKenney et al. (2015), as a crucial concern for the effectiveness of using ICT in the language classroom, different studies conducted on the education in Bangladesh during the COVID-19 show challenges were not addressed before shifting education

towards online. For example, Ferdous and Shifat (2020) has addressed the problem and argued that online teaching resulted in innumerable inconveniences and developed mental depression and stress among the English language teaching (ELT) teachers and English as foreign language (EFL) learners.

In the same context, Islam et al. (2020) has attempted to focus on the struggle faced by the students. He has shown how Bangladeshi university students are suffering from a serious level of stress and depression, especially those who have faced different levels of financial disadvantages because of the pandemic. In addition to this, students are also facing unusual expenditures due to online classes. They are struggling with problems like the unavailability of essential electronic devices, the high cost of the internet, etc. Dutta and Smita (2020) also reconfirmed that the pandemic has hampered the tertiary level of education in Bangladesh on a large scale especially because of its unpreparedness and low resource to implement online classes. Apart from the financial reasons, there are other alarming reasons as well which have triggered mental anxiety among the teachers and students. Socio-demographic backgrounds have played an important role in this. Al Mamun et al. (2021) have found a lack of concentration in study, agitation, lack of social life, degradation in the academic field to contribute significantly to the increase of the mental pressure of the students. In addition to all these issues, the fear of getting infected with COVID-19 has always remained a serious concern by all.

Classroom as Ecosystem

In their article, Zhao and Frank (2003) conceptualised the classroom as a metaphor for the ecosystem where the teacher is the keystone species and the technology and new invention plays the role of an invader, an alien species that becomes responsible for a momentary imbalance in that system. By adopting the example of the Zebra mussel, they formulate their theoretical framework that the introduction of technology within the classroom may affect the regular ecological balance of the school environment if technology is seen as an advent species. Finally, they argue that the inclusion of technology in the learning system will not work effectively until the existing ecosystem of the institution is studied and understood properly.

In the context of Bangladesh, the traditional teacher-centred classroom is the only model of classroom system. The tradition goes back to even the Mahabharata era (ancient India) where students used to live in the teacher's house and learned by watching their mentors. The Asian education system, therefore, has always focused on teachers as the mentor whom students watch

and follow. A chalk-and-duster concept has always been followed. Students were meant to be close to the teachers. This continued to the English language classroom of contemporary Bangladesh where teachers are the only idol to follow to acquire the language.

However, this long-tested traditional way of teaching underwent significant changes after the hit of the pandemic. Since there has been an overnight decision to shift the higher education to online, the universities could not get time to prepare their teachers or students for this sudden shift. There were no unified guidelines, no policy to follow. Different universities adopted different policies which seemed most suitable to them considering the available facilities that they had at that time. As shown in Figure 1, the teacher, students, and the conventional teaching practices interact with each other and create an ecology of the conventional Bangladeshi classroom. After the COVID-19 pandemic, there was a sudden intrusion of online classes and modern apps, and technology.

In this chapter, the intrusion of online education along with the introduction of modern apps like Zoom, Google Meet, and Google Classroom has been considered as invading species. This invasion has impacted the balance and cohabitation of the existing species, i.e., teachers, students, and their common teaching-learning practices. Rahman (2020) has pointed out that as no ecological unit can sustain without the resource (sun), the classroom ecosystem also cannot sustain without fund and support. In the current context, the resource of the tertiary online classroom is the existing infrastructure of the country as well as the economic condition of both teachers and students, network connectivity, and other relevant support.

Though the intrusion of new technology in education was inevitable in the context of the COVID-19 pandemic, it needed to go through a process of adaptation. Vesisenaho and Dillon (2013) have emphasised the need for contextualisation of new technology by adopting the contextualize, apply, transfer, import (CATI) framework. As shown in Figure 2, every educational institution has an ecology and teaching approach of its own which is somewhat dependent on the local belief and practices. They also have argued that there should be a mutual adaptation happening in the ecological balance system. Rahman (2020) has also accepted the argument to discuss the importance of contextualisation in the scenario of Bangladeshi teaching-learning practices.

Since the first declaration of adopting online classes in Bangladesh, more than a year has passed. It sets a conducive background to reflect on whether the newly adopted system has been embedded within the existing education system or not. Existing research work shows that there are arguments on the use of technology to enhance the effectiveness of learning in a traditional classroom, there are, though, limited works on shifting education of tertiary level to online in a crisis, its acceptance, and effectiveness in the context of a developing country like Bangladesh with limited resource.

Inadequate attention, however, has been provided on how the intrusion of online education has been received by the teachers and students as a whole. No systematic study shows how far the transformation was successfully blended in the existing ecology of Bangladeshi ELT and EFL classrooms. The ecological perspective is particularly relevant to study because of the unique context of Bangladesh with its already devastating condition with a history of corruption, political unrest, and incapacity of handling natural calamities.

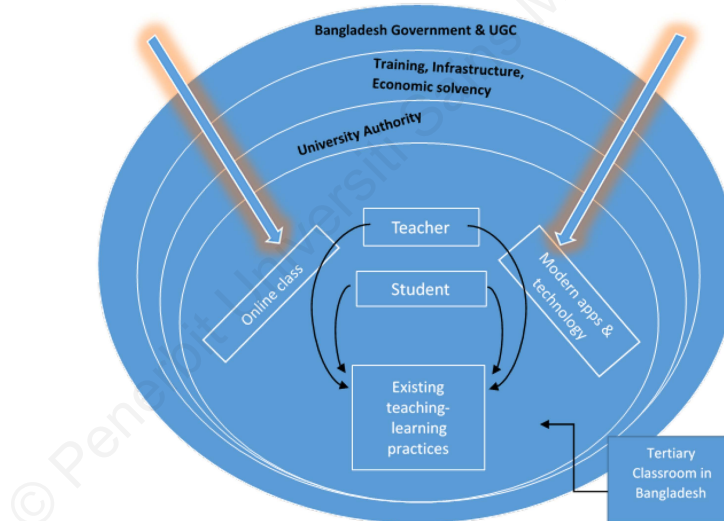


Figure 1 The classroom ecosystem
Source: Adapted from Rahman (2020)

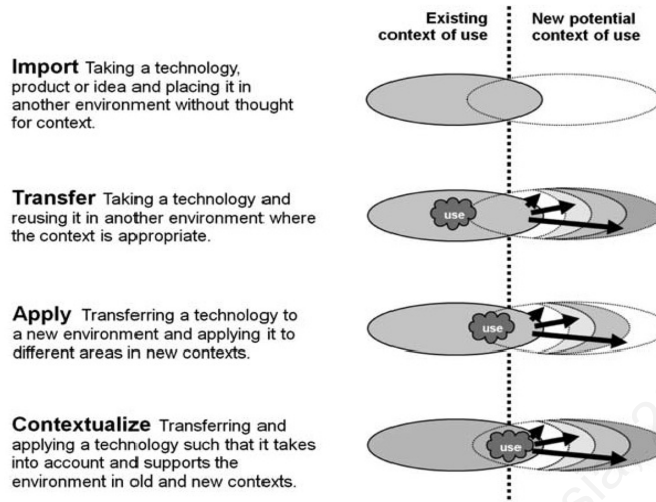


Figure 2 CATI framework
 Source: Adapted from Vesisenaho and Dillon (2013)

The Study

The focus of this study was to find out the impact of shifting higher education from conventional to online platforms overnight on the teaching-learning ecology of the private universities in Bangladesh via semi-structured interview. The researchers selected five private universities in Dhaka, Bangladesh as the area of study because the private universities are the only ones that started classes online in March 2020, right after the hit of the pandemic. On the other hand, the government universities did not start online classes at the beginning of the pandemic. However, the public universities started online classes quite late compared to the private universities, but in a limited scale.

Data was collected from English departments of different private universities of different categories and ranks to ensure its validity. One was a high-ranked university both at home and abroad which is also well-known for its high tuition fee structure around the country. Three other universities were of mid-category having a mid-range fee structure. The fifth is the one with a low ranking and a comparatively low tuition fee structure. On selecting the interviewees, the gender balance was carefully maintained. For teachers, different ranks, and age groups with different levels of working experience were selected. In the case of selecting student interviewees, their level of study, area of residence (remote, rural, semi-rural, and urban area), and socio-economic background of their parents were kept into consideration.

The interview data were collected from both the teachers and the students with ten English teachers and five Focus Group Discussions (FGDs) with the students. On the one hand, the researchers interviewed five female and five male teachers from five different private universities with diverse educational and demographic backgrounds (Figure 3). The interviews were conducted online using the Bangla language and later translated into English. Before conducting interviews, participants were briefed about the study and their consents were sought. On the other hand, there were five to seven students in each session in the FGDs. A total of 25 students were interviewed where 40% of them were male and 60% were female. Students from both graduate and undergraduate levels participated in the FGDs. During the discussions, the students were asked questions about their demographic background and their experiences with online education. All interviewees were assured of the confidentiality and anonymity of their identity so they could speak their minds (Figure 4).

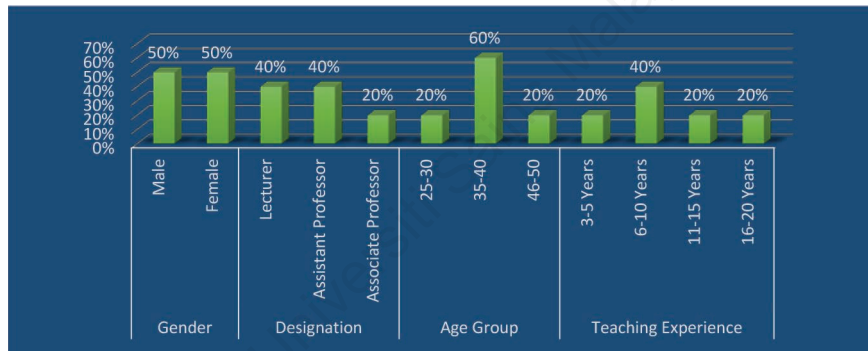


Figure 3 Profile of interview participants (teachers)

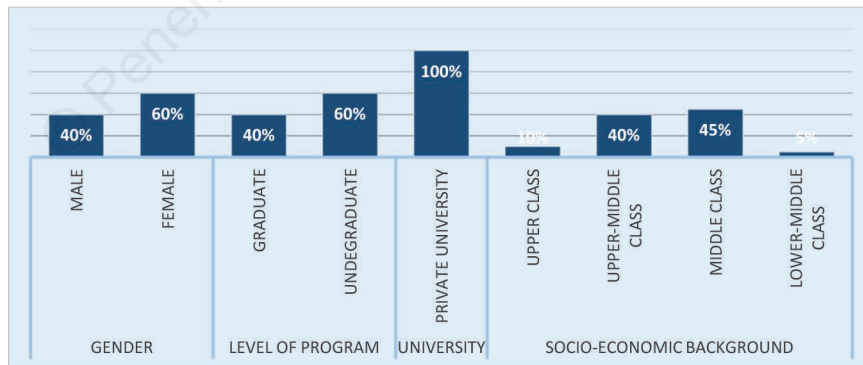


Figure 4 Profile of FGD participants (students)

Results and Discussion

A qualitative approach to data analysis propagated by Creswell (2003) was applied to interpret all data thematically. The study attempted to find out the impact of the sudden intrusion of online education in the existing education system of Bangladesh which previously executed the most conventional way of teaching, i.e., the teacher-centred classroom. To understand the current scenario after COVID-19, questions were asked to both teachers and students about their overall view toward online teaching and learning and how far could they cope with the new normal situation. They talked about different challenges of online classes that they faced during the sudden shift of classes from physical teaching to virtual ones. Based on the findings, it can be analysed that the students and the teachers suffered from different issues caused by the advent of COVID-19. This resulted in an unstable and chaotic classroom environment which violated the existing ecology of the classroom.

Lack of digital literacy

In reference to RQ1, the participants' previous knowledge regarding online education and digital literacy was enquired. All of them mentioned clearly that they had no clue and required psychological preparation for shifting towards online classes. In this regard, almost 90% of the participants informed that they lacked any sort of training in online education. "We didn't even know that something like this was about to happen. How could we think of any training?" one participant expressed (Participant 10). They never heard of any digital platform for online classes like Zoom and others, let alone the knowledge of using it. As high as 80% of them were used to using smartphones and the internet for accessing different social media during leisure but never thought to use those for pedagogical purposes. However, some students from one of the leading and high-ranked private universities in Dhaka said they got a little orientation training from their university, but it was not sufficient. Almost all the participants faced issues at the beginning of online classes as they could not adapt themselves to the new technological features and different options in Zoom, Google Meet, Microsoft Teams, and other related apps.

Unavailability of essential devices with connectivity and accessibility

To address the RQ1, participants were asked about the use of digital devices and their connectivity which are essential for the smooth functioning of effective online classes. Participants mentioned that internet connectivity was

a great challenge for the students who reside outside Dhaka, the capital of Bangladesh, in different rural areas. Because of the poor internet connectivity, students could not hear the teacher properly which hampered their overall participation in the class. One of the participants expressed the kind of mental pressure they have been undergoing:

Currently, I am living in the remotest area of Bangladesh where low speed in internet connection and electrical power cut off is a common phenomenon. Sometimes the load shedding continues for the whole day, two days or even more than that. I cannot charge my technological devices at that time and hence cannot join my online classes. I always remain anxious about those unintentional interruptions. Even after taking every preparation for my class or exam, I get tensed thinking if I will be able to join my classes or sit for an exam or not. (Participant 6)

Teachers also raised the same concern that poor connectivity often disrupted online sessions. Apart from that, 87% of the participants admitted to using smartphones for joining online classes that place certain limitations on sharing, presenting, and participating in online assessments. Students who do not have a laptop need to participate in online assessments/examinations using smartphones which are not convenient for study purposes. Hence, some participants are being left out or left behind as they do not have a laptop of their own. Some participants have to compromise on their grades while others need to borrow a laptop especially when they have an examination to sit for. One of the participants shared their despair saying, "I did not have to buy a new device for continuing my online classes, but when I need to use a laptop or computer, I have to go to my sister's house to use them. Sometimes I feel embarrassed as I am dependent on others for devices" (Participant 3).

Apart from the internet connectivity problem, load shedding is the most common phenomenon that the participants faced. Sometimes the load shedding continues for the entire day, two days, or even more than that depending on the weather and remoteness of the area. Participants living outside Dhaka face difficulty in charging their electronic devices at that time and hence cannot join online classes. They shared their anxiety about those unintentional interruptions: "Even after taking every preparation for my class or exam, I become anxious thinking whether I will be able to join my classes or sit for an exam or not" said a participant who lives in one of the remotest areas of Bangladesh (Participant 6).

Financial concerns

One of the issues that concern RQ1 is the financial challenges that the participants faced during online education. Participants who live in Dhaka, mostly use broadband as they are cost-effective. The participants living outside Dhaka are mostly dependent on mobile data packages at reasonable rates. However, to ensure the round-the-clock availability of the internet, almost all of them need to keep both options open for which they have to pay an extra amount of money as an internet bill. “My expense on the internet has increased significantly after starting classes online. Previously, I used to spend Tk150–200 on average per month, which has risen to Tk600–700 now” (almost three times), one participant stated (Participant 14). The maximum number of students informed that they spend an amount of Tk300–1000 per month (Figure 5). Though the amount is not very significant for upper-middle-income or upper-income families, this extra amount becomes burdensome to some of the students from middle-income and lower-middle-income families. This is an addition to the other financial difficulties that many families in Bangladesh are going through because of the pandemic.

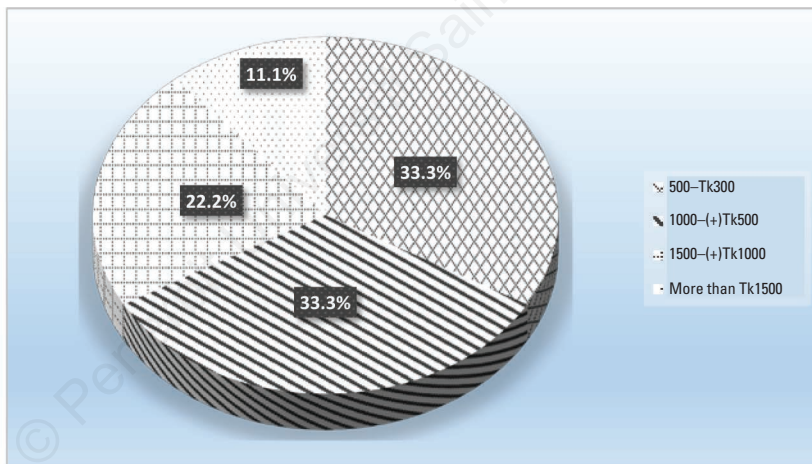


Figure 5 Average monthly expenditure on the internet

Impact on the physical and mental health of students

Online classes have had a serious impact on both the physical and mental health of the participants. To discuss the physical impact of online classes, the participants complained about having problems with eyesight, headache, back pain, insomnia, and others. Participant 12 complained, “before COVID-19, I would never talk to people over the phone for a long time. After shifting online, it was a great challenge for me to be on my phone for long

periods, I suffered from severe headache". These physical conditions become worse with the addition of other mental health issues like trauma, frustration, dejection, and inability to concentrate, among others.

Some of the participants mentioned that they are becoming less social, emotionally vulnerable, and indifferent day by day. As they do not need to go outside, talk to friends or teachers, they do not have to give presentations physically, they are lacking in their social skills which are resulting in a lack of confidence in themselves. Overall, they are living in a digital space where their presence is invisible as they prefer to keep their videos off during a class. As a result, if they need to appear somewhere physically or talk to some unknown people, they feel shy than usual. One participant explained, "even at the beginning of this FGD, I was feeling very shy. I was feeling like I am talking to someone (other than my family) after ages" (Participant 14).

As Islam et al. (2020) has mentioned, some of the participants lost their part-time jobs, like private tuition and others due to pandemics. Though they are not suffering greatly due to this, as they have a financially solvent family to support them, yet they feel depressed sometimes that they do not have any income of their own which they probably could spend independently.

Apart from the financial disadvantages, both the teachers and students claimed that they are suffering from peer pressure regarding the efficient use of technology in this online system. Especially, the senior faculty members, who are efficient teachers but have limited interaction with modern technology, do not know how to use different apps or their various functionalities. This results in a barrier between technologically sound and technologically challenged teachers. Though some of the teachers have immense subject knowledge and expertise, their lack of digital proficiency results in failure to perform well in a digital classroom as they could have done in a conventional classroom. Sometimes, teachers also face humiliation from governing body of the university. Students also feel that the technologically advanced ones are getting a higher grade. They find this to be discriminating as some particular types of technological drawbacks are also largely contingent on the economic and demographic background of the student. This again resonates with the findings of Dutta and Smita (2020) that some students face network connectivity problems and issues like load shedding because of the lack of adequate infrastructural support in the whole country.

Lack of personal and social skills

Another impact of online education was the lack of personal and social skills of the participants. After the lockdown was announced as a step to prevent the spreading of COVID-19, the students and the teachers lost all connection to the outer physical world. They got confined within the four walls of their houses and no on-site social interaction could be possible. Almost 75% of the participants argued that they are lacking social skills. Some of the participants mentioned that they are becoming less social, emotionally vulnerable, and indifferent day by day. As they do not need to go outside, talk to friends or teachers, or give presentations physically, they are lacking in their social and personal skills which are resulting in a lack of confidence in themselves. Overall, they are living in a digital space where their presence is invisible as they prefer to keep their videos off during class. As a result, if they need to appear somewhere physically or talk to some unknown people, they feel embarrassed to do so. One participant explained, "even at the beginning of this FGD, I was feeling very shy. I was feeling like I am talking to someone (other than my family) after ages" (Participant 14).

Intrusion in the classroom environment

The presence of a positive and effective classroom environment is another important phenomenon for teaching-learning to be successful. Hannah (2013) found this to be as essential as the curriculum itself and mentioned that the absence of it may be similarly disadvantageous as well. Unfortunately, however, the virtual environment in an online classroom appears to be a complete disaster as there is no real or unified classroom there. What most of the participants claimed is that they miss the face-to-face classroom environment in the online setup, the teacher-student bond that has been described as, "that human touch" which Participant 12 claimed to "mostly miss in my online class. Sometimes when I keep my video off, I do not even feel like that I am in a class".

The concept of learn-from-home has violated the existing classroom ecology by blurring the demarcation between the classroom and the home environment. The students have to attend classes where his/her other family members are possibly having lunch or having a conversation or simply gossiping with one another. As a result, the efficacy of learning becomes hampered. Students cannot concentrate properly in the class. Most of the teacher participants also expressed their frustration saying that students are not concentrating in the online classes. The teachers cannot implement the plan or design they make for the particular classes due to a lack of participation from the students' end.

Students, on the other hand, said, since they join classes from their home, intentionally or unintentionally, they have to get involved with different familial activities. Most of the students accepted that they need to do household activities or talk to other family members when they do online classes. Participant 7 expressed his disappointment stating “I cannot concentrate properly in an online class because of the distractions from my house” while Participant 9 found it difficult to make the family understand the importance of online classes, “my family doesn’t want to believe that I am doing my classes. They assume that I am pretending to be in my class. I face an embarrassing situation”.

Not only do the students get involved with household activities during class, but they also get distracted by other different notifications from Messenger, Facebook, YouTube, SMS, etc. on their phones. In the conventional classroom where the students were not allowed to use their smartphones, their complete concentration was on the class. However, the scenario of an online classroom is quite different. The smartphones that the students use to attend classes have become a reason for distraction. As a result, online education loses its effectiveness, and both the teachers and students fail to adopt the online education system successfully.

Figure 6 shows the overall level of acceptance of online classes is low. Most of the students prefer face-to-face classes because they can instantly communicate with their teachers when necessary. They think that they can concentrate more in a physical classroom because there is only one focus there which is greatly absent in an online classroom. Additionally, the students shared frustration regarding the online assessment. They raised the question of the reliability of the assessment they are taking. On top of that, they claimed that they did not get timely and sufficient feedback from their teachers which they felt to be a very important impediment to identifying their errors. Teachers also confirmed that due to the huge workload, they could not provide elaborate feedback to the students in time. Almost half of the student participants said that they face difficulty in reading e-materials like e-books, PDF, etc. as they have the habit of reading hard copy materials (Figure 6). A total of 40% of the participants are trying to adapt themselves to the e-materials. A little number of students, though, said they prefer e-material which shows that the students are getting adapted day by day.

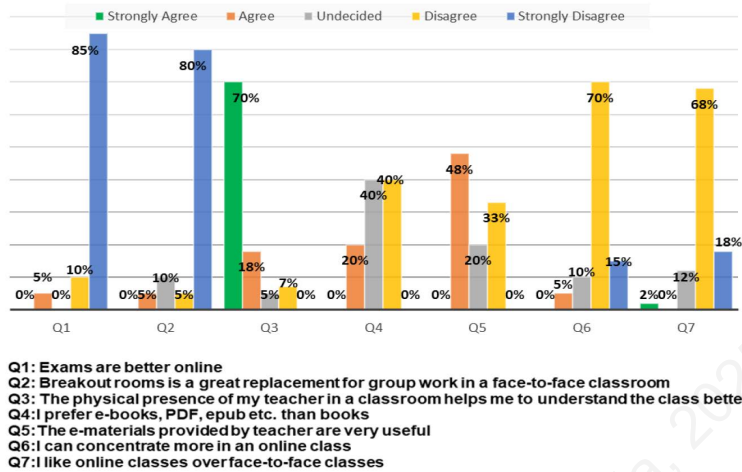


Figure 6 Students' perspective on online education

Conclusion

The findings show that the shifting of education to an online platform in the context of Bangladesh is analogous to the intrusion of a foreign species into the ecosystem of the language classroom. The study shows that because of the lack of preparation, e.g., proper training, poor network connectivity, lack of infrastructural development, etc., the effectiveness of online education in Bangladesh is still debatable. The imposition of a new kind of technique in the learning system has impacted the existing ecosystem of the language learning classroom. Neither the students nor the teachers are well adapted to the online education system. They are continuing the online classes, but they still miss the physical classroom. They also strongly agree (about 90%) that the online classroom can never be a substitute for the conventional classroom. Both the teachers and students are eagerly waiting for the lockdown to be over so that they can go back to the physical classroom and be around their mentors and peers.

One of the major reasons behind this lack of efficacy of online education is that it came as an intrusion into the tertiary level of education in Bangladesh. Both the teachers and students went through uncertainties and difficulties not only because of the severity of the COVID-19 pandemic but also because of the struggle they faced to adapt themselves to this soon new-normal situation. Since the shifting happened overnight, no attempt at contextualisation or localisation of the new online classes was made, as almost all of the participants affirmed while answering the questions referred to in RQ1. This

study, thus, revalidates the importance of the CATI framework in the context of shifting online education during the pandemic in Bangladesh (Vesisenaho & Dillon, 2013; Rahman, 2020).

As the research was conducted among the teacher and students at private universities in Bangladesh, it did not display the picture of the government-funded universities. Future studies can be conducted focusing on the scenario of the government-funded, otherwise known as public universities in Bangladesh. Public universities have students from more diverse socioeconomic backgrounds. Most of them live in the most remote areas of Bangladesh and are too cash-strapped to even afford smartphones or data packages to join the online classes. The challenges of public universities can be investigated by future studies.

There are several research implications of this study. It is expected that there will be various audiences for this study from several stakeholders, like the UGC, Bangladesh Ministry of Education, Directorate of Secondary and Higher Education, Higher Education Institutes, and various donor agencies who work in this area. The findings of this study hold great potential for making an indelible contribution to critical perspectives of using digital technology to transform higher education during the post-COVID-19 era or future emergencies, specifically in Bangladesh or similar sociocultural contexts.

This research is particularly important in the context of a developing country like Bangladesh, known to be vulnerable to frequent natural disasters that seriously disrupt education. The researchers looked into the use of technology through ecological lenses so that the digital divide and other relevant issues that need to be addressed can get proper attention if the country wants to implement technology-mediated learning successfully. Finally, this will help other researchers, and policymakers, to reimagine technological interventions in developing contexts and will provide useful insight for the planning of sustainable intervention strategies for transforming education in similar crises.

References

- Al Mamun, F., Hosen, I., Misti, J. M., Kaggwa, M. M., & Mamun, M. A. (2021). Mental disorders of Bangladeshi students during the COVID-19 pandemic: A systematic review. *Psychology Research and Behavior Management*, 14, 645–654. <https://doi.org/10.2147/PRBM.S315961>
- Aperribai, L., Cortabarría, L., Aguirre, T., Verche, E., & Borges, Á. (2020). Teacher's physical activity and mental health during lockdown due to the COVID-2019 pandemic. *Front. Psychol.*, 11, 577886. <https://doi.org/10.3389/fpsyg.2020.577886>

- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. SAGE.
- Dhaka Tribune. (2020, March 23). Coronavirus: Bangladesh declares public holiday from March 26 to April 4. *Dhaka Tribune*. <https://archive.dhakatribune.com/bangladesh/2020/03/23/govt-offices-to-remain-closed-till-april-4>
- Dutta, S., & Smita, M. K. (2020). The impact of COVID-19 pandemic on tertiary education in Bangladesh: Students' perspectives. *Open Journal of Social Sciences*, 8, 53–68.
- Ferdous, A. U., & Shifat, N. F. (2020). Dealing with mental health in online learning: A retrospect on ELT teachers and EFL learners during COVID-19 pandemic. *REiLA: Journal of Research and Innovation in Language*, 2(3), 101–107. <https://doi.org/10.31849/reila.v2i3.5217>
- Hannah, R. (2013). The effect of classroom environment on student learning. *Honors Theses*, 2375. https://scholarworks.wmich.edu/honors_theses/2375
- Institute of Epidemiology, Disease Control and Research (IEDCR). (2020). Covid-19 vital statistics. IEDCR. <https://iedcr.gov.bd>
- Islam M. A., Barna S. D., Raihan H., Khan, M. N. A., & Hossain M. T. (2020). Depression and anxiety among university students during the COVID-19 pandemic in Bangladesh: A web-based cross-sectional survey. *PLoS ONE*, 15(8), e0238162. <https://doi.org/10.1371/journal.pone.0238162>
- Jamiai, A. (2021). Measuring Master students' online learning perceptions and satisfaction during Covid-19 crisis in Morocco. *International Journal of Language and Literary Studies*, 3(1), 1–11. <https://doi.org/10.36892/ijlls.v3i1.488>
- Jiang, Q., Li, M., Han, W., & Yang, C. (2019). ICT promoting the improvement of education quality: Experience and practice. *Ministerial Forum* (pp. 158–166). UNESCO.
- Karim, M. A. (2010). Digital Bangladesh for good governance. *Proceedings of Bangladesh Development Forum*, 15–16.
- McKenney, S., Kali, Y., Markauskaite, L., & Voogt, J. (2015). Teacher design knowledge for technology enhanced learning: An ecological framework for investigating assets and needs. *Instructional Science*, 43(2), 181–202. <https://doi.org/10.1007/s11251-014-9337-2>
- Rahman, S. (2020). Implementation of the technology enhanced interactive multimedia digital content in learning English in the Government Primary Schools (GPS): An Ecological perspective. *On Language in Leapyear* (pp. 143–158). Institute of Modern Languages, University of Dhaka.
- The Daily Star*. (2021, April 3). Education crisis in South Asia: Covid to cause \$1 trillion losses. <https://www.thedailystar.net/frontpage/news/education-crisis-south-asia-covid-cause-1-trillion-losses-2071097>
- UNDP in Bangladesh. (2021). Sustainable Development Goals. <https://www.bd.undp.org/content/bangladesh/en/home/sustainable-development-goals.html>
- UNESCO-ICHEI. (2021). International Centre for Higher Education Innovation under the auspices of UNESCO. Mission and functions. <https://en.ichei.org/dist/index.html#/OurSite?nid=2>

- Vesisenaho, M., & Dillon, P. (2013). Localising and contextualising information and communication technology in education: A cultural ecological framework. *Pedagogy, Culture & Society*, 21(2), 239–259. <http://doi.org/10.1080/14681366.2012.759130>
- Zhao, Y., & Frank, K. A. (2003). Factors affecting technology uses in schools: An ecological perspective. *American Educational Research Journal*, 40(4), 807–840. <https://doi.org/10.3102/00028312040004807>

© Penerbit Universiti Sains Malaysia, 2025

A Framework for the Co-Design of an Integrated Mobile-Assisted Learning Environment for ESL Learners

Chuah Kee Man & Muhammad Kamarul Kabilan

Introduction

For more than a decade after the smartphone revolution achieved its global prominence, the use of mobile applications in language learning has almost become second nature to educators and learners. From e-dictionary to social network inspired language learning applications, it is safe to assume that mobile technology is impacting the way traditional language teaching is conducted in classrooms. Studies have reported various advantages of using mobile applications to support language teaching and learning, particularly in the context of English as a second or foreign language (ESL/EFL). These advantages can be grouped broadly into three scopes, that is, increasing authentic language learning opportunities (Chaya & Inpin, 2020; Godwin-Jones, 2011; Petersen & Markiewicz, 2008; Shadiev et al., 2020), supporting task-based language learning activities (Kukulska-Hulme & Viberg, 2018; Ma, 2017; Sweeney & Moore, 2012; Xue, 2020), and monitoring progress through formative assessments (Cabrera-Solano et al., 2020; Hwang & Chang, 2011).

During the Movement Control Order or more commonly known as the lockdown due to the COVID-19 pandemic, the closure of learning institutions has resulted in an unprecedented use of online and mobile solutions to

mitigate its impact (Yates et al., 2021). Saikat et al. (2021) performed a review of studies on mobile assisted learning during the pandemic period (from 2020 until the first quarter of 2021) and discovered that many educators and learners were relying on mobile applications and devices for remote teaching and learning. They indicated that most studies have reported the wide-ranging benefits of mobile learning particularly in terms of instant availability of resources, reduced cost, and increased communication. Despite these advantages, they also highlighted the challenges faced by educators who were not proficient in information and communications technology in planning and implementing mobile learning, especially in terms of deciding the most suitable online pedagogy. In EFL contexts, Guo et al. (2020) reported that rural school students in China held positive attitudes towards mobile-assisted English learning during the COVID-19 quarantine period. The results from their study showed that EFL learners from middle schools continue to learn English at home using various mobile applications suggested by their teachers. This trend signals a strong acceptance of mobile learning among the learners and teachers as means to 'compensate' the disruptions to usual in-person classes.

However, a thorough review of these studies shows that there is a high reliance on mobile applications which are not designed with relevant pedagogical considerations or lack of integrated features for language learning. Though teachers could develop their own learning pathways and tasks around the selected applications, it is often a process that consumes time and resources. As Başaran and Haruna (2017) highlighted in their study, teachers have to manually test each application to ensure its relevance and practicality before it can be integrated into their teaching. Such a tiring selection process often results in teachers abandoning the thought of using mobile applications and revert to the usual way of teaching. In addition, most mobile applications meant for English language teaching are geared towards foreign contexts, which may not be suitable for ESL learners (Chen, 2016; Elaish et al., 2019). Moreover, the applications are often developed using generic mobile application development frameworks (Agulló & Vallejo, 2015; Sambasivan et al., 2011) without considering the voices of ESL learners and teachers, particularly with regards to English language teaching (ELT) pedagogy (Klimova, 2018).

Hence, there is an apparent need to bridge the gap between mobile application development and the actual pedagogical needs of ESL teaching and learning. Realising such need, the authors aim to formulate a framework that can guide the process of co-designing an integrated mobile-assisted learning environment by involving learners, teachers, and designers in the design

loop. The formulation process is done through a review of literature as well as the adoption of contemporary theory in the design and development of learning applications.

Technology in ESL Teaching and Learning

The field of computer-assisted language learning can be traced as far back as the late 1950s where computer-aided instructions were programmed to perform drills and practice for the learning of vocabulary or common expressions (Levy, 1997). The advancement has then shifted to a more general term of technology-enhanced language learning due to the advancement in technological use for learning purposes without being restricted to only computers (Rüschhoff & Ritter, 2001). Yang and Chen (2007) explained how multimedia and internet technology are widely adopted in ESL/EFL classrooms, and they have contributed towards increased motivation and performance among the learners. The focus of technological tools in ESL contexts is regularly centred on the creation of authentic contexts for learners to use the target language. Since ESL learners may not have significant exposure to the use of English in their daily activities, technology is used to bridge this gap.

Previous studies on technological integration in ESL classrooms during the late 1990s and early 2000s are mainly on discussion threads and communication platforms (Bikowski & Kessler, 2002; Warschauer, 1995) as the web-based tools during the period were largely text-based. As the internet becomes more ubiquitous and its speed becomes faster, online chats though still dominated by textual interactions turned out to be an instant hit in ESL learning environments. It provides real-time use of the language with anyone in the world (Blake, 2009; Gonzalez, 2003). Dekhinet (2008) stipulated how online chats can also function as a faster means to provide corrective feedback for ESL learners as they were able to use the language and obtain an instant reply. If there are errors in their usage, corrections can be given as well. This development in technology-enhanced language learning have indicated the specific attention given to the use of technology in increasing opportunities for ESL learners to practise the English language as frequently as possible. Eventually, this goal is extended to mobile learning as smartphones prove to be a more feasible choice than bulky computers.

Mobile Learning During COVID-19 Pandemic

The potentials of mobile learning become even more apparent during the COVID-19 pandemic. Many countries that introduced emergency remote

teaching or online learning during the period of school closure had to resort to providing access to mobile devices to students as many families do not have computers or laptops at home (Sitar-Tăut, 2021). The need to be connected in order to access learning materials or participate in online classes was also intensified through the expansion of mobile connectivity as a more cost-effective measure. In addition, Alhumaid et al. (2021) evaluated factors that influenced the mobile learning usage during COVID-19 pandemic and noted classmates' and teachers' accessibility and support can encourage greater acceptance of mobile learning. Students were noted to be affected by their classmates' responses, presence, and actions as a result of mobile learning. This finding points to the need for a proper design of mobile learning experience by considering peer support and social interaction rather than mainly on learning content coverage and delivery.

On the other hand, Yuan et al. (2021) re-examined the impact of COVID-19 pandemic on learners' experience response in mobile learning. Their study on 627 university students in China revealed that mobile learning provided a more positive user experience in terms of achieving better learning outcomes and convenience. They found that learning content quality affects learners' perception on mobile usefulness and mobile ease of use. Even during the challenging time when lessons could not be carried out normally, with quality learning content, learners still regarded the mobile learning experience as contributing to their learning performance. Apart from that, Yuan et al. (2021) reiterated the importance of a well-structured and clear interface in allowing students to search, find and digest the knowledge much easier. This suggestion points to the fact that the linkage between pedagogy and technological development is pivotal in unpacking the true potentials of mobile learning in different domains including language learning.

Mobile-Assisted Language Learning

One of the earliest projects to investigate the potential use of mobile phones in language learning was reported by Stanford Learning Lab in the year 2000 (Chinnery, 2006), although before that, studies related to mobile devices were on personal digital assistants (PDAs). However, PDAs were confined to primarily those in the business world, and not many people could afford them. It was not until the rise of smartphones such as iPhone and Android-powered phones that mobile learning turns into a buzzword for ubiquitous learning (Cope & Kalantzis, 2009; Lin & Lin, 2019), a concept that holds true to the tagline of 'learning anytime, anywhere'. As smartphones and tablets become even more affordable, mobile-assisted language learning (MALL) attracted ESL teachers and learners as they now have thousands of applications to choose

from. The paradox of such abundance is that teachers and learners would be overwhelmed and are unsure which application works and which one does not. This situation reiterates the constant call for technology integration to be driven by pedagogy instead of the tools (Chinnery, 2006; Suarez et al., 2018). As summarised by Chinnery (2006, p. 9), “the effective use of any tool in language learning requires the thoughtful application of second language pedagogy”. Therefore, any excitement in promoting mobile applications for second language learning in terms of its affordances or advantages should be viewed from the pedagogical viewpoint.

Affordances of Mobile Technology for ESL Teaching and Learning

Norman (1988, p. 9) defined affordance as “the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used”. It generally means the potential of anything under a specific circumstance. Previous studies reporting affordances of mobile technology for ESL teaching and learning can be categorised into three scopes: increasing authentic language learning opportunities, supporting task-based language learning activities, and monitoring progress through formative assessments.

Increasing authentic language learning opportunities

Chaya and Inpin (2020) conducted a mixed methods study to investigate the effects of mobile learning instruction in enhancing EFL university students’ communicative competence. The aim is to provide opportunities for the ELF learners to access necessary video content via mobile and practise speaking skills. Their experimental findings showed increased test scores among the EFL group of learners who were receiving mobile learning instructions. The interviews also gathered positive feedback from the learners as they explained that they were able to learn correct pronunciations on the go while listening to the authentic use of English. Shadiev et al. (2020), in their review of previous studies on MALL, indicated that the emphasis on authentic environments in providing opportunities for language learning is more apparent than for other factors such as motivation or engagement. In fact, more than 80% of the reviewed papers aim to increase language learning opportunities for ESL learners.

The increased popularity of social network applications for language learning has also provided ESL learners the opportunities to interact among peers and other native speakers without geographical constraints. Kabilan et al. (2010)

shared the potential of Facebook as an authentic environment for meaningful English language learning from the students' perspective. Their study on 300 undergraduate students indicates a majority of the students believe Facebook is indeed useful. With more features introduced a decade later, Facebook is still being used for language learning. Samani and Noordin (2020), for example, investigated the use of Facebook Messenger for meaningful online interactions among ESL students. The students were generally satisfied with the learning experience though they believed that the instructor's role in triggering more responses is important.

In addition, mobile applications such as HiNative and TripLingo capitalise on engagement with native speakers as a way to attract ESL learners to learn the language. The chances provided to ask questions and interact with native speakers of English essentially mean they would be able to listen to improve their communicative competency but also cultural knowledge. They are exposed to different accents of English and able to note the difference in pronunciation. Such an opportunity would not be feasible in conventional ESL classrooms.

Supporting task-based language learning activities

Another commonly reported affordance of MALL is that it supports task-based language learning activities. Kukulska-Hulme and Viberg (2018) in their review of 33 related studies, showed that collaborative task-based language learning activities dominated MALL research. The key reason for this prominence is the shift towards social constructivism in learning. Their results found that affordances such as flexible use, continuity of use, timely feedback and personalisation were emphasised. As learners are able to communicate with each other easier using mobile applications, it makes it more convenient for teachers to provide tasks through the applications than giving the usual paper-and-pen tasks. For instance, learners can be asked to complete an essay collaboratively online, which can still be done even after class. Moreover, if written on paper, teachers would not be able to track who is contributing to the essay easily as compared to the online log available within the application. Essentially, language learning tasks can be designed and given pre-class, during class, and post-class via mobile applications.

Xue (2020) in proposing the conceptual model for integrating affordances of mobile technologies in task-based language teaching, demonstrated how it would be possible to design tasks by capitalising on the mobile tools or applications. With multimedia-based application readily available, teachers can create tasks which simulate real-world scenarios and allow collaboration

to be done without being restricted to classroom settings. Xue's model takes into account the educational affordances of mobile technologies as summarised by Churchill (2017). The affordances are shown in Table 1.

Table 1 Educational affordances of mobile technology

Affordances	Descriptions
Resources	Digital resources such as e-books, articles, audio, videos which can be accessed anytime, anywhere.
Connectivity	Synchronous or asynchronous connection between students, facilitators, and experts in the field.
Collaborative	Enable students to collaboratively build understanding, construct knowledge, manage activities, and negotiate roles during their learning.
Capture	Equipped with the capabilities of capturing, storing and processing multiple forms of data and media formats.
Analytical	Can be used as an analytical tool to aid students' learning activities, including standard, scientific, and graphic calculators or specially designed analytical tools.
Representational	Can create representations that demonstrate their thinking and knowledge, such as digital mind maps or infographics.

Source: Churchill (2017)

The affordances listed by Churchill (2017) corresponds to the categories reported by Sweeny and Moore (2012). They used three essential questions as their guide in categorising applications commonly used in MALL:

1. How does the resource reflect best practice in materials design, learning, and teaching? (pedagogy)
2. Are the learning contexts and outcomes clear? (pedagogy)
3. Is there a good match between pedagogy and technology? (technology)

Through these questions, they discovered that most mobile applications for language learning have features that support a range of connected functionalities such as viewing and creating content, working collaboratively as well as guided practice. However, they are lacking in terms of pedagogical consideration of how certain tasks or learning pathways are designed. Hence, there is a need to address this issue in the development of mobile applications for language learning.

Monitoring progress through formative assessments

Formative assessments in language learning play a crucial role in providing feedback to learners. Teachers, on the other hand, can use formative assessment to monitor their learners' progress as well as diagnosing their problems. In the case of MALL, several studies have reported its affordance in progressively tracking learner's performance in language learning. Based on the situated learning principles, Hwang and Chang (2011) tested a formative assessment-based mobile learning application on their students. As the students explore their surroundings using the application, they were prompted with questions. Any failed attempt in getting the answers was supplemented by materials to guide them. They were able to move around and find their answers without having to be static within the classroom. It indirectly increases students' engagement and interest in learning. Hwang and Chang (2011) also reported an increase in the students' performance in the tasks given as well. The application comes with a logging tool for teachers to analyse errors made by the students. This analytical tool is useful and highlights the potential of mobile applications to assess learners.

More recently, Cabrera-Solano et al. (2020) showcased the use of formative application among their EFL students through action research. They observed the students when they were completing the given tasks and then instructed them to complete a perception questionnaire. Their findings show that the 82 students were more motivated to complete the assessment given with lower anxiety. The students also reported how the use of applications encourages them to learn without the fear of making mistakes. On the other hand, Cabrera-Solano et al. (2020) were able to gather the necessary input on their students' weaknesses. They also acknowledged that the study was limited to their students, and they could be biased in reporting their perceived usefulness of the mobile learning application. Nevertheless, the empirical input from this study further proves that mobile applications could be useful in monitoring learners' progress.

Connected Learning Model

The affordances described in the earlier section could not be optimised without examining suitable theories that could guide the process of developing a MALL application. Brown (2000, p. 165) highlighted the fact that "a language is a part of a culture, and a culture is a part of language. The two are intricately interwoven so that one cannot separate the two without losing the significance

of either language or culture". It ultimately means that any attempt to create a language learning environment or application should not ignore the socio-cultural aspects of the people involved in it, i.e., the learners and the teacher.

The connected learning model was derived from the socio-cultural standpoint with a linkage to social constructivism (Kumpulainen & Sefton-Green, 2014). Learners engage in various social practices mediated by different artifacts or tools. It takes advantage of the information age by utilising technology and new media for teaching and learning purposes. Ito et al. (2013) mentioned that connected learning represents a model for understanding and supporting learning as well as "a theory of intervention that grows out of the analysis of today's changing social, economic, technological and cultural context" (p. 7). The model is not restricted to a specific age group or context. At the core, the connected learning model emphasises six principles as shown in Table 2.

Table 2 The connected learning model

Principles	Descriptions
Peer-supported	In their everyday exchanges with peers and friends, young people are contributing, sharing and giving feedback in inclusive social experiences that are fluid and highly engaging.
Interest-powered	When a subject is personally interesting and relevant, learners achieve much higher-order learning outcomes.
Academically oriented	Learners flourish and realise their potential when they can connect their interests and social engagement to academic studies, civic engagement, and career opportunity.
Production-centred	Digital tools provide opportunities for producing and creating a wide variety of media, knowledge, and cultural content in experimental and active ways.
Shared purpose	Social media and web-based communities provide unprecedented opportunities for cross-generational and cross-cultural learning and connection to unfold and thrive around common goals and interests.
Openly networked	Online platforms and digital tools can make learning resources abundant, accessible, and visible across all learner settings.

Source: Ito et al. (2013)

The model also includes three design principles in integrating the model into learning environments. The first design principle is everyone can participate, in which individuals or groups can contribute to the co-designing process. The second design principle is that 'challenge is constant'. In this sense, the design process is seen as a challenge to cultivate interest to foster both the need to know and the need to share. The

third design principle is all elements are interconnected in which relationships between various aspects in the design process should be visible in order to create a meaningful learning experience.

The study done by Davis and Fullerton (2016) demonstrated the positive outcome of adopting the connected learning model in the design of a technology-mediated learning programme. Their analysis revealed that students enjoyed more opportunities to experience connected learning after school, which highlights the potential use of mobile applications to allow more interest-powered activities to be done outside of the school. As reiterated by Wortman and Ito (2019, p. 9), the use of “new media has the potential to expand the level of engagement, accessibility, social support, and diversity of connected learning experiences”. All in all, the connected learning model is regarded as appropriate to be adopted in developing technological tools for learning purposes.

However, the principles of connected learning are not outlined in the form of adoptable procedures or sequenced guidelines. The principles are more descriptive rather than perspective. It would be difficult for instructional designers and educators to decide when and how to adopt those principles systematically. Drawing on essential elements of common instructional design theories and models such as the ADDIE and ASSURE model (Reigeluth & Carr-Chellman, 2009) as well as the more contemporary innovation approaches like design thinking (Brown, 2008), it would be more feasible for the connected learning principles to be presented in a procedural-based framework. In this regard, the six core principles are aligned to phases that highlight what should be done or what should be focused in order for each connected learning principle to be addressed. This attempt in transforming the principles into a process-driven framework is unique and has not been done in previous studies. As mentioned by Reigeluth and Carr-Chellman (2009), in guiding designers and educators, it is always more beneficial for the models to be systematically outlined so as to ensure each step could be understood and taken accurately.

The Proposed Framework

Based on the principles of connected learning and the aforementioned limitations, the authors have formulated a framework that could guide the process of developing an integrated mobile-assisted learning environment with additional emphasis on pedagogy and the iterative process. The overall six-phase process is shown in Figure 1.

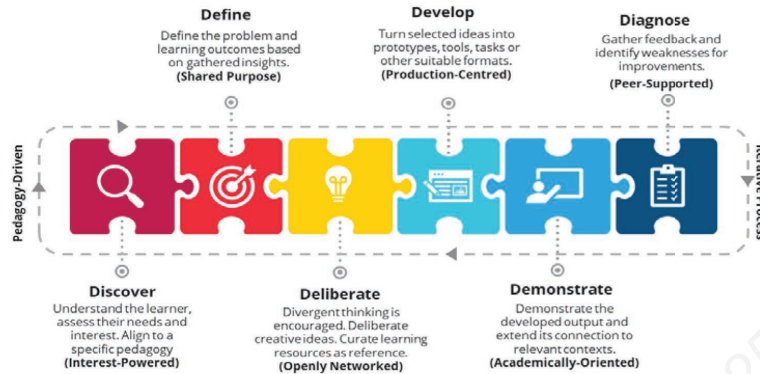


Figure 1 The proposed framework with six phases

In the context of second language learning, this proposed framework contains several important tenets apart from the six phases. The first tenet is the process has to involve relevant stakeholders in the co-design process. Teachers, students, and designers, for example, should be included from the start of the process to ensure the applications or tasks to be developed are the outcomes of a shared deliberation and active collaboration. The second tenet is that the development process is an iterative loop with the goal of creating a robust and meaningful output to facilitate language learning.

Discover

In the 'discover' phase, the aim is to understand the target learners by assessing their needs and interest. It is learner-centred and has to be done based on a chosen pedagogy related to the scope of learning. For instance, if task-based language teaching is selected, then learners' needs, and interests can be identified to fit the focus of tasks or features to be designed. Understanding the learners' background and the problem they face is also important at this stage. Focus-group interviews, surveys or observations can be done to discover more about the target learners. This phase corresponds to the interest-powered principle of the connected learning model.

Define

In the 'define' phase, insights from the learners' needs and interests are examined in order to define the intended learning outcomes or identify the learning problem to be prioritised. The aim of this stage is to formulate learning outcomes that are mutually understood and agreeable in ensuring meaningful learning experience can happen. To facilitate this process, learning outcomes are written and presented in full and all team members give their

views on their relevance and feasibility. The team should also consider the affordances and constraints of any technological features that they would like to include. This phase corresponds to the shared purpose principle of the connected learning model.

Deliberate

In the 'deliberate' phase, divergent thinking is promoted through brainstorming sessions. Creative ideas are generated by exploring many possible solutions in a free-flowing manner. Curation of learning resources as a reference also takes place in this stage, whereby ideas are not confined to what was shared by team members. It leverages the abundance of resources readily available in various online platforms to generate ideas. In the case of MALL, various features of mobile applications (for example, video chat, file sharing, and collaborative knowledge construction) can also be brainstormed in this stage. This phase corresponds to the openly networked principle of the connected learning model.

Develop

In the 'develop' phase, the deliberated ideas earlier are mapped and narrowed down to the most feasible solution. The selected idea or solution is then turned into prototypes, tools, tasks or any suitable format that would be able to clearly represent the idea. In developing the prototype, collaboration with experts from different fields is encouraged. For instance, if the team decides to create a mobile application prototype, they can work with those from a programming or interface design background. However, it has to be made clear that during this stage, a full-fledged output is not necessary as the aim is to turn ideas into visible output for learners to try. This phase corresponds to the production-centred principle of the connected learning model.

Demonstrate

The outcome from the previous phase is demonstrated or implemented to the target learners. In this 'demonstrate' phase, the connection to relevant contexts such as academic studies, civic engagement, or career opportunities is also shared and highlighted. The connection allows learners to widen their perspective beyond the prototype or tasks shown to them. This phase corresponds to the academically oriented principle of the connected learning model.

Diagnose

In the 'diagnose' phase, feedback from the target learners or their own peers is obtained either through assessments or informal evaluation. The aim of this stage is to identify weaknesses of the developed tasks, tools, activities, or applications for improvement in the next iteration. This phase corresponds to the peer-supported principle of the connected learning model.

The six phases in the proposed framework are aligned to the connected learning model, driven by a suitable pedagogy throughout the process. Although the phases are arranged in a linear format, they are essentially not always sequential and are iterative in nature. For instance, during the deliberate phase, there could be new insights that reveal more about the learners, and the team can reverse to the define phase in order to reformulate the learning outcomes. Similarly, feedback from the diagnose phase could inform changes to be done in the development of the prototype and improve it further.

In developing MALL for ESL learners, for example, the discover and define phases are crucial as they set the foundation for the type of applications to be developed in accordance with the ELT pedagogies. As ESL learners tend to be more diverse in their background, it is advisable to conduct the discovery phase more thoroughly so that their views are sufficiently gathered to guide the following phases.

Application of the Framework: An Example

To illustrate how the framework can be adopted in the process of developing a mobile-assisted learning environment for ESL learners, Table 3 provides phase-by-phase steps that can be taken. In this example, the focus is on the teaching of writing using task-based language teaching approach. The example given in Table 3 is geared toward mobile application development. It should be made clear that the framework can also be used to guide the design of other tasks that would be carried out via mobile devices.

Table 3 An example of the application of the framework

Phases	Practical Steps
Discover	<ul style="list-style-type: none">• Students are first told to complete a short survey concerning their problems in writing.• They are then required to produce an essay based on a given topic for the teachers to evaluate and identify the problems.• The outcomes from the survey and the marked essays from teachers are then compiled.• A focus-group interview is conducted between selected students, teachers, and the instructional designer. The aim is to consolidate the link between what the students indicated, and the problems noted by the teachers.• The students' interests concerning writing are also mapped out in order to identify what would make the writing process more interesting.
Define	<ul style="list-style-type: none">• Based on the input from the discover phase, the learning outcomes are formulated and defined. In this case, the focus could be on learning the skills of elaborating a main idea, and how to support each main idea.• The finalised outcomes should be agreed by team members so that the shared purpose is clear.
Deliberate	<ul style="list-style-type: none">• In this case, all possible ideas to address the learning outcomes would be generated through brainstorming sessions.• Resources related to the skills of elaborating and supporting main ideas are curated as part of the discussion.• The mobile elements that could support the solutions are also discussed. For example, the use of real-time note taking mobile application or bite-sized videos explaining the process of elaborating main ideas.• The application also contains tasks that guide learners to practice the writing skills mentioned.
Develop	<ul style="list-style-type: none">• The deliberated idea is transformed into prototype by using storyboarding tool such as Proto.io. In this example, a mobile application is to be developed.• Each function of the application is illustrated in a proper flow using Proto.io. The interface is also outlined.
Demonstrate	<ul style="list-style-type: none">• The completed prototype is presented to the target learners. The features in the writing skills application are demonstrated and learners are told to relate to other real-world contexts (e.g., writing in the workplace).• Students are told to provide comments on whether the proposed prototype would help them in improving the skills of elaborating and supporting the main idea in writing.
Diagnose	<ul style="list-style-type: none">• An evaluation survey is carried out on the learners to obtain their feedback on the application.• Discussions among peers on the usefulness of the application are conducted to gather richer qualitative data for improvement.• The report from the diagnose stage is then used for the final development of the application.

Conclusion

The studies reviewed for the purpose of formulating the framework have highlighted a pertinent issue on the implementation of MALL for ESL learners. With the increased usage of mobile applications and devices as witnessed during the COVID-19 pandemic, it highlights the potentials of MALL even further. However, the dependency on existing applications which may not be contextualised for ESL settings or designed in accordance with pedagogical principles of second language acquisition remains as an unresolved problem (Xue, 2020). Effective integration of MALL tasks should, therefore, value the synergistic roles between teacher and students as this could provide opportunities to create activities or tasks that would promote language learning (Lai & Li, 2011). The co-design concept in the development process could contribute towards a more pedagogically sound application for MALL especially in the post COVID-19 era when remote teaching and learning becomes a normality.

The formulated framework as presented in this chapter serves as a guide for developers, instructional designers and even teachers who would like to design and develop integrated mobile learning environments for ESL teaching and learning. Though it is still at its infancy, the process of formulating it has gone through a vigorous process, which involves a review of previous studies and is grounded in theoretical underpinnings of connected learning so as to ensure essential elements are included in the process. Future research can adopt this framework in design-based research and researchers can report their empirical outcomes for evaluation or validation purposes.

References

- Alhumaid, K., Habes, M., & Salloum, S. A. (2021). Examining the factors influencing the mobile learning usage during COVID-19 pandemic: An integrated SEM-ANN method. *IEEE Access*, 9, 102567–102578.
- Agulló, G. L., & Vallejo, N. M. (2015). Mobile learning in the foreign language classroom. *Huarte de San Juan.Filología y Didáctica de la Lengua*, 15, 79–103.
- Başaran, S., & Haruna, Y. (2017). Integrating FAHP and TOPSIS to evaluate mobile learning applications for mathematics. *Procedia Computer Science*, 120, 91–98.
- Bikowski, D., & Kessler, G. (2002). Making the most of discussion boards in the ESL classroom. *TESOL Journal*, 11(3), 27–30.
- Blake, C. (2009). Potential of text-based internet chats for improving oral fluency in a second language. *The Modern Language Journal*, 93(2), 227–240. <https://doi.org/10.1111/j.1540-4781.2009.00858>
- Brown, H. D. (2000). *Principles of Language Learning and Teaching*. Longman.
- Brown, T. (2008). Design thinking. *Harvard Business Review*, 86(6), 1–10.

- Cabrera-Solano, P., Quinonez-Beltran, A., Gonzalez-Torres, P., Ochoa-Cueva, C., & Castillo-Cuesta, L. (2020). Enhancing EFL students' active learning by using 'Formative' on mobile devices. *International Journal of Emerging Technologies in Learning (ijET)*, 15(13), 252–263.
- Chaya, P., & Inpin, B. (2020). Effects of integrating movie-based mobile learning instruction for enhancing Thai university students' speaking skills and intercultural communicative competence. *English Language Teaching*, 13(7), 27–45.
- Chen, X. (2016). Evaluating language-learning mobile apps for second-language learners. *Journal of Educational Technology Development and Exchange*, 9(2), 39–51.
- Chinnery, G. M. (2006). Going to the MALL: Mobile assisted language learning. *Language Learning & Technology*, 10(1), 9–16.
- Churchill, D. (2017). *Mobile Technologies and Digital Resources for Learning*. Springer.
- Cope, B., & Kalantzis, M. (Eds.). (2009). *Ubiquitous Learning*. Urbana: University of Illinois Press.
- Davis, K., & Fullerton, S. (2016). Connected learning in and after school: Exploring technology's role in the learning experiences of diverse high school students. *The Information Society*, 32(2), 98–116.
- Dekhin, R. (2008). Online enhanced corrective feedback for ESL learners in higher education. *Computer Assisted Language Learning*, 21(5), 409–425. <https://doi.org/10.1080/09588220802447669>
- Elaish, M. M., Shuib, L., Ghani, N. A., & Yadegaridehkordi, E. (2019). Mobile English language learning (MELL): A literature review. *Educational Review*, 71(2), 257–276.
- Godwin-Jones, R. (2011). Mobile apps for language learning. *Language Learning & Technology*, 15(2), 2–11.
- Gonzalez, D. (2003). Teaching and learning through chat: A taxonomy of educational chat for EFL/ESL. *Teaching English with Technology*, 3(4), 57–69.
- Guo, J., Huang, F., Lou, Y., & Chen, S. (2020). Students' perceptions of using mobile technologies in informal English learning during the COVID-19 epidemic: A study in Chinese Rural Secondary Schools. *Journal of Pedagogical Research*, 4(4), 475–483.
- Hwang, G. J., & Chang, H. F. (2011). A formative assessment-based mobile learning approach to improving the learning attitudes and achievements of students. *Computers & Education*, 56(4), 1023–1031.
- Ito, M., Gutiérrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., Schor, J., Sefton-Green, J., & Watkins, S. C. (2013). *Connected Learning: An Agenda for Research and Design*. Digital Media and Learning Research Hub.
- Kabilan, M. K., Ahmad, N., & Abidin, M. J. Z. (2010). Facebook: An online environment for learning of English in institutions of higher education? *The Internet and Higher Education*, 13(4), 179–187.
- Klimova, B. (2018). Mobile phones and/or smartphones and their apps for teaching English as a foreign language. *Education and Information Technologies*, 23(3), 1091–1099. <https://doi.org/10.1007/s10639-017-9655-5>
- Kukulka-Hulme, A., & Viberg, O. (2018). Mobile collaborative language learning: State of the art. *British Journal of Educational Technology*, 49(2), 207–218. <https://doi.org/10.1111/bjet.1258>

- Kumpulainen, K., & Sefton-Green, J. (2014). What is connected learning and how to research it? *International Journal of Learning and Media*, 4(2), 7–18.
- Lai, C., & Li, G. (2011). Technology and task-based language teaching: A critical review. *CALICO Journal*, 28(2), 498–521.
- Levy, M. (1997). *Computer-Assisted Language Learning: Context and Conceptualization*. Oxford University Press.
- Lin, J. J., & Lin, H. (2019). Mobile-assisted ESL/EFL vocabulary learning: A systematic review and meta-analysis. *Computer Assisted Language Learning*, 32(8), 878–919.
- Ma, Q. (2017). A multi-case study of university students' language-learning experience mediated by mobile technologies: A socio-cultural perspective. *Computer Assisted Language Learning*, 30(3), 183–203.
- Norman, D. A. (1988). *The Psychology of Everyday Things*. Basic books.
- Petersen, S. A., & Markiewicz, J. K. (2008). PALLAS: Personalised language learning on mobile devices. *Fifth IEEE International Conference on Wireless, Mobile, and Ubiquitous Technology in Education (wmut 2008)* (pp. 52–59). IEEE.
- Reigeluth, C. M., & Carr-Chellman, A. A. (Eds.). (2009). *Instructional-Design Theories and Models: Building a Common Knowledge Base* (vol. 3). Routledge.
- Rüschhoff, B., & Ritter, M. (2001). Technology-enhanced language learning: Construction of knowledge and template-based learning in the foreign language classroom. *Computer Assisted Language Learning*, 14(3–4), 219–232.
- Samani, E., & Noordin, N. (2020). Getting connected with Facebook messenger: Exploring meaningful interactions through online chats in the ESL context. *Journal of Modern Research in English Language Studies*, 7(3), 23–44.
- Sambasivan, D., John, N., Udayakumar, S., & Gupta, R. (2011, November). Generic framework for mobile application development. *2011 Second Asian Himalayas International Conference on Internet (AH-ICI)* (pp. 1–5). IEEE.
- Shadiev, R., Liu, T., & Hwang, W. Y. (2020). Review of research on mobile-assisted language learning in familiar, authentic environments. *British Journal of Educational Technology*, 51(3), 709–720. <https://doi.org/10.1111/bjet.12839>
- Suarez, A., Specht, M., Prinsen, F., Kalz, M., & Ternier, S. (2018). A review of the types of mobile activities in mobile inquiry-based learning. *Computers & Education*, 118, 38–55. <https://doi.org/10.1016/j.compedu.2017.11.004>
- Sweeney, P., & Moore, C. (2012). Mobile apps for learning vocabulary: Categories, evaluation and design criteria for teachers and developers. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, 2(4), 1–16.
- Saikat, S., Dhillon, J. S., Wan Ahmad, W. F., & Jamaluddin, R. (2021). A systematic review of the benefits and challenges of mobile learning during the COVID-19 pandemic. *Education Sciences*, 11(9), 459.
- Sitar-Tăut, D. A. (2021). Mobile learning acceptance in social distancing during the COVID-19 outbreak: The mediation effect of hedonic motivation. *Human Behavior and Emerging Technologies*, 3(3), 366–378. <https://doi.org/10.1002/hbe2.261>
- Warschauer, M. (1995). Comparing face-to-face and electronic discussion in the second language classroom. *CALICO Journal*, 7–26.
- Wortman, A., & Ito, M. (2019). Connected learning. *The International Encyclopedia of Media Literacy*, 1–18. <https://doi.org/9781118978238/10.1002.ieml0037>

- Xue, S. (2020). A conceptual model for integrating affordances of mobile technologies into task-based language teaching. *Interactive Learning Environments*, 1–14.
- Yang, S. C., & Chen, Y. J. (2007). Technology-enhanced language learning: A case study. *Computers in Human Behavior*, 23(1), 860–879.
- Yates, A., Starkey, L., Egerton, B., & Flueggen, F. (2021). High school students' experience of online learning during Covid-19: The influence of technology and pedagogy. *Technology, Pedagogy and Education*, 30(1), 59–73. <https://doi.org/10.1080/1475939X.2020.1854337>
- Yuan, Y. P., Tan, G. W. H., Ooi, K. B., & Lim, W. L. (2021). Can COVID-19 pandemic influence experience response in mobile learning? *Telematics and Informatics*, 64, 1–14. <https://doi.org/10.1016/j.tele.2021.101676>

© Penerbit Universiti Sains Malaysia, 2025

MOOCs for Second and Foreign Language Learners: Unpacking Critical Success Factors from the Pedagogical Perspective

Chuah Kee Man, Xijing Wang & Muhammad Kamarul Kabilan

Introduction

The rise of massive open online courses (MOOCs) in the last decade has indeed offered a renewed interest in distance education. The flexibility of MOOC delivery has opened up opportunities for learners to learn any subject without being restricted to geographical or economic factors (Pappano, 2012; Baggaley, 2013). As compared to the traditional implementation of distance education, MOOCs capitalise on the advancement of internet and web technologies by creating a learning environment that is more user-friendly and offers greater access to global communication. Learners from various countries are able to enrol in the same course offered through a specific platform and engage in a learning experience that mimics a global classroom (Ruipérez-Valiente et al., 2020; Yeager et al., 2013). Moreover, the sudden closure of campuses due to the COVID-19 pandemic has provided a renewed drive for MOOCs to serve as a lifeline for learners around the world. As emphasised by Reyes-Lillo and Hernandez-Garrido (2020), the pandemic has necessitated universities to continue their education via the online mode and MOOCs serve as a viable alternative due to their existing features that are meant for self-directed learning with minimal instructors' intervention. Closer to home, Safri et al. (2020) also highlighted the mitigation

role of MOOC during COVID-19 pandemic by offering flexibility to learners in higher education such as in the context of Malaysia where MOOC development and implementation have started since 2013.

Despite its highly publicised benefits, research on MOOC development and implementation has highlighted pertinent issues of high dropout rate (Goopio & Cheung, 2020), low engagement among culturally and linguistically diverse learners (Launois et al., 2019; Liyanagunawardena et al., 2015), and the risk of being a place to merely publish poorly produced video content (Guo et al., 2014). All these issues, however, are pointing towards the pedagogical aspect of how a MOOC is delivered more than how it is set out to be designed. With its prevalent use during the pandemic as an alternative mode to the in-person teaching, there is a greater need to investigate how MOOCs can be effectively designed and implemented. Yu (2021) stated that due to the uncertainties surrounding the delivery of lessons caused by the campus closure, there could be changes in the way learners perceive MOOCs and factors to promote learner retention should be further investigated.

In the context of second or foreign language learning, MOOCs are ideally regarded as an oasis for language learners to communicate with a worldwide audience and practise the use of the target language. This situation could be applied to various types of MOOC content and not necessarily only for language learning. As MOOCs are predominantly offered in English as a result of their global appeal, they allow second and foreign language learners to use the target language as well. Nevertheless, such benefit can only be experienced by the learners if spaces for engagement is provided, and instructors are aware of the right pedagogy to encourage participation. Bali (2014), in his pedagogical review of MOOCs, showed that they were designed by focusing on the video content which are presented to the learners. The corresponding activities, assessments or tasks were mostly given automated feedback or superficially monitored by teaching assistants or tutors. Ross et al. (2014) reiterated the need for connectivist MOOCs by giving greater attention to teacher's roles in MOOCs, which is often missing since teachers are replaced with "videos and automated replies" (Taib et al., 2017, p. 839). This apparent lack of teaching presence has to be addressed if MOOCs are to be effectively used especially during crisis whereby the intervention from the instructors is limited. All in all, previous studies have indicated the need to further explore pedagogical factors that contribute to a successful MOOC.

Thus, this chapter aims to distinguish critical success factors of MOOC implementation, specifically from the pedagogical viewpoint and its related factors. A comparison was made between MOOCs in Malaysia and China

by involving inputs from both students and instructors. The main reason for this comparison is that both countries implemented university MOOCs through a consolidated national effort by the relevant ministries (Ministry of Higher Education in Malaysia and Ministry of Education in China) in which specific policies for development and quality control are made available. Also, MOOCs offered by institutions of higher learning in both countries are mainly published in state-endorsed platforms such as OpenLearning in Malaysia (Albelbisi & Yusop, 2020) and XuetangX in China (Song et al., 2020). Hence, it would be useful to examine whether the same factors are recurring in both settings so as to provide a macro view of the scope being studied.

In addition, as there is a lack of comparative studies on MOOC, this chapter shares the output from a study that has its novelty in terms of evaluating critical success factors of MOOCs from two settings and not solely confined to a small sample within Malaysia. Furthermore, the outcome from this study could provide necessary insights to the MOOC development team and instructors on key factors that should be given emphasis and ultimately improve the quality of MOOCs being produced.

The development of MOOCs over the years have attracted researchers to focus on motivation and learners' engagement (de Barba et al., 2016; Deng et al., 2020; Ding & Shen, 2019) in relation to the MOOC content, particularly on videos and discussion threads (Bonafini et al., 2017; Hew, 2014). Research that emphasises on pedagogy and teachers' roles seems to be more prevalent in recent years. The following section reviews several key studies relevant to MOOCs in the context of second and foreign language learners and brings forward issues addressed in those studies. Pedagogical elements in MOOC delivery are also included in this review.

MOOCs in the Context of Second and Foreign Language Learners

MOOCs for various subjects and fields are generally offered in English due to its appeal as the primary language of the global community. For second and foreign language learners, MOOCs are known to provide authentic opportunities for English language learning regardless of the domain. The heightened use of MOOCs during the pandemic has also prompted researchers to re-evaluate its impact on learners and learning experience. Xie et al. (2020) studied the impact of MOOC design during the pandemic by including more than 20 courses across China with a total enrolment of more than 58,000 students. They highlighted that a higher level of satisfaction among the learners was recorded for MOOCs that promoted good interactions

between learners and instructors, used a large scale of curriculum community and provided effective support systems. They also indicated how the pre-pandemic nationwide implementation of MOOCs had buffered the negative impacts of campus closures.

MOOCs for subjects related to second or foreign language learning have had a slow growth due to the general acceptance norm that a language is more effectively learned face-to-face with a trained language instructor. As mentioned by Martín-Monje and Bárcena (2014), the number of MOOCs specifically for second or foreign language learning was initially less than 30 in top MOOC providers (for instance, Coursera, EdX, and Udemy). However, the number has increased as the demand for the learning language for specific purposes, such as English for Workplace, Japanese for Travel, and Mandarin for Business World, begin to rise (Sallam et al., 2020). In the studies reviewed by Sallam et al. (2020), there is a clear indicator that MOOCs for language learning purposes require special attention in terms of their instructional design (or pedagogical consideration), as learning a language is often accepted as different from learning content-based courses. The teaching of language skills would not be as straightforward as converting the content online.

A recent study by Yaşar and Polat (2021) investigated the perception of 27 pre-service English language teaching (ELT) teachers in Turkey on a MOOC designed based on the flipped classroom approach. The teachers were required to register for a four-week course developed by Cambridge Assessment English via the FutureLearn MOOC platform. As they were participating in the MOOC, they had to reflect on their role as an ELT teacher and the aspect of how MOOCs can be used in their teaching. The end-of-course open-response survey shows the teachers were somewhat divided in their opinion about MOOC for second language learning although there were slightly more teachers who indicated positive feedback. One key concern derived from their study is the teacher's view about language teaching that is more effective to be done using conventional face-to-face teaching. Some of them believed that for novice language learners, the absence of a teacher (being there physically) could pose a problem in learning as the learners may not get instant feedback from the teachers. Viewing videos alone, as they mentioned, is not effective for second language learning.

Li (2017), in her quasi-experiment on two undergraduate-level English as a foreign language class in China found that learners appreciate the opportunity to learn the language via MOOCs. The group without MOOC exposure was not able to learn English in a more authentic environment as the assigned MOOC was taken from Coursera where learners come from different countries. The

students in the MOOC-guided class reported positive responses on how they can benefit from the experience of learning the language via MOOC activities and content. They also highlighted the interaction with other speakers within the MOOC assisted them in the learning process. Ding and Shen (2019) also investigated Chinese learners of English as a foreign language (EFL) in an English language MOOC and found that they were adopting a variety of motivation control strategies in fostering their autonomy in learning. All in all, previous studies on MOOCs for second language learning have indicated a pivotal gap in linking MOOC development with appropriate pedagogical strategies to ensure it is in coherence with the goals of language learning.

Key Issues in MOOC Delivery

One of the main issues raised in previous studies on MOOC delivery is learner retention. Reports on MOOC's high dropout rate and low completion rate were widely published, with Alraimi et al. (2015) summarise that in general, less than 10% of MOOC participants complete a course. Hone and El Said (2016), in their study on MOOC retention involving 379 undergraduate students at two higher education institutions in Egypt, found more than a third of the students completed the assigned MOOCs. Their analysis of open text comments given by the students also revealed that the content played a role in gaining their interest in learning what was covered in the course. They also highlighted the role of human interaction, especially from the instructor, in affecting their willingness to continue or complete the MOOC. Low interaction and insufficient feedback were among the main reasons cited by the learners. Interestingly, there was also a repeated input on the instructor's lack of efforts in motivating the learners as well as engage them in discussions. The one-way delivery model is, thus, deemed ineffective.

Stone (2021) in reviewing MOOCs in Australia also raised the concern of learner-instructor interaction in the delivery of MOOC especially during the COVID-19 pandemic. As there were no in-person classes being conducted, learners craved for more real-time interactions and the sense of community. Stone (2021, p. 173) described this as "wanting to be known and valued for who they are". The flexibility of MOOCs, however, seems to compensate this problem through the proper design of self-paced learning contents and formative assessments, which may include self-tests and peer-graded assignments. While flexibility is useful, learners should be prepared on how to deal with academic expectations as well as being accountable to their own learning (Stone, 2021).

On the contrary, Reparaz et al. (2020), in their survey on 582 MOOC learners in a university in Spain discovered that instructor's support is not the main contributing factor for MOOC completion or retention. Using the Self-Regulated Learning Behaviours in MOOCs Questionnaire (Littlejohn et al., 2016) as their research instrument, they noted that students who completed the MOOC have higher level of self-regulated learning in terms of forethought, performance, and self-reflection. Their study seems to point to the fact that learners are more interested in completing a MOOC goal setting, interest enhancement and self-effectiveness are present. This finding echoed what was found by Zalli et al. (2019) in Malaysia, in which self-regulated learning dimensions have a close linkage with students' satisfaction with the MOOC. However, both studies acknowledge the role of interactions with other students during the MOOC as one of the key factors that would influence the students to stay interested in the course. In fact, in the interest enhancement construct, the engagement with other peers and the instructor is perhaps playing a moderating effect on whether they are willing to proceed further in the course or not. Hence, it would be beneficial to examine other factors that improve learners' engagement beyond the eclipsed view on MOOC content design and intrinsic constructs such as self-regulated learning.

Several studies have shed light on the types of MOOC content delivered to learners as their relationship with learning engagement (Bonafini et al., 2017; Guo et al., 2014; Peng & Xu, 2020; Sunar et al., 2016). Sunar et al. (2016) studied 9855 enrolled learners in an eight-week MOOC and noted that the dropout rate decreases as learners engage in repeated and frequent social interaction via discussion threads or forums. MOOCs rely on discussion forums as a medium for learners to interact with each other and the instructions. Due to the asynchronous nature of the course, the lack of efforts in sustaining discussion would often result in lower engagement among the learners. For example, if a learner's posting is not entertained or replied to within a period of time, the likelihood of completing the MOOC would be lower as they tend to perceive active interactions as a criterion for a good MOOC. Peng and Xu (2020) also found the same pattern among MOOC completers in one of China's largest online learning communities, MOOC College of Guokr Web. They discovered that MOOC completers were more willing to share their viewpoints while non-completers often chose to reply to existing comments or posting. Another typical content for MOOC is the learning video. Guo et al. (2014), through their extensive analysis of 6.9 million video watching sessions in four MOOCs identified tutorial-style videos are regarded as more interactive than the traditional lecture-style videos, which still dominate most MOOCs. Therefore,

it is worth noting that the success of a MOOC, particularly for the purpose of language learning, depends mainly on the careful consideration of the adopted pedagogy when designing the MOOC content.

Pedagogical Elements in MOOCs

Identifying pedagogical elements in the design and development of MOOCs is not an easy feat due to the diversity in terms of how MOOC is perceived to be effective. Bayne and Ross (2015) highlight three key aspects of MOOC that should be given emphasis as summarised in Table 1.

The three foci mentioned by Bayne and Ross (2015) is even more relevant to MOOCs for second language learning as the diversity of learners could pose a challenge in devising a pedagogical guideline for MOOC content development and delivery. In addition, the analysis done by Hew (2014), which included reflection data from 965 participants of three top rated MOOCs, showed five features that could promote MOOC retention. He listed them as problem-centric learning, instructor accessibility and passion, active learning, peer interaction and using helpful course resources. In a closer scrutiny, Hew's suggestions match what Bayne and Ross (2015) have highlighted and this study aims to use their recommendations as a basis to further investigate the factors that improve retention of learners in MOOCs for second language learning.

In terms of instrument for evaluating pedagogical dimensions, Swan et al. (2014) has developed a checklist called Assessing MOOC Pedagogy (AMP) in guiding MOOC developers and instructors. There are ten dimensions in AMP based on a pedagogical assessment tool for computer-based instruction proposed by Reeves (1996).

1. Epistemology – Does the course have an objectivist or constructivist philosophy?
2. Role of teacher – Does the course focuses more on the teacher role or the student role?
3. The focus of activities – Does the course conduct a convergent type of activities or divergent?
4. Structure – Is the course well structured?
5. Approach to content – Does the content presented in a concrete approach or abstract approach?
6. Feedback – Is the feedback given frequent and constructive?

7. Cooperative learning – Does the course encourage learning in teams?
8. Accommodation of individual differences – Does the course meet all learning types of students?
9. Activities or assessments – Does the course use artificial or authentic examples?
10. User role – Is the user encouraged to take a generative role (developing the course)?

Quintana and Tan (2019) used the AMP as their main tool in characterising MOOC pedagogies and found it to be useful in accentuating the design of MOOC content and activities at the micro level while addressing the philosophical underpinnings of the design at the macro level. The tool can also be helpful in evaluating existing MOOCs and score them according to the dimensions. Taib et al. (2017) adopted the AMP list in evaluating four MOOCs in Malaysia. Their study identified that the MOOC instructors were able to distinguish the strengths and weaknesses of their MOOC delivery. All four MOOCs were highly rated by the learners in terms of authentic activities and assessment, constructive feedback and foster cooperative learning. However, it was revealed that instructors could have used other strategies in teaching, such as inquiry-based learning that could also enhance learners' cognitive engagement.

Table 1 Three key aspects on approaching the question of MOOC pedagogy

Key aspects	Descriptions
MOOC pedagogy differs based on intentions	Broad-based categorisation of MOOC pedagogy is no longer representative. It should take account of an analysis of MOOC pedagogy at a micro level of individual course design.
MOOC pedagogy is not embedded in MOOC platforms	Multiple social and material influences converge when MOOC pedagogy is enacted. Greater attention should be given to acknowledging these influences such as teacher preferences and belief, disciplinary influences, learner expectation and engagement and other contextual factors.
'The teacher' or teaching presence persists in the MOOC	The place and visibility of the teacher remain of central importance in MOOC. MOOC teaching is high visibility, high risk and dependent on significant intellectual, emotional and time commitment from academics. Automated process or community-based social learning may not be sufficient.

Source: Swan et al. (2014)

The review of studies pertaining to the pedagogical evaluation of MOOCs has provided valuable insights on the possible contributing factors of a successful MOOC implementation. Nonetheless, this study noted a gap in uncovering the pedagogical factors that would contribute to successful implementation or

delivery of MOOCs. As mentioned by Safri et al. (2020), studies that focused on the instructional aspect of MOOC are still very limited and need to be given more attention. It is, therefore, the aim of this study to adopt a more open approach in gathering as much information as possible from the MOOC learners and instructors as to how they perceive a successful MOOC based on their experience in learning via MOOCs.

Theoretical Foundation

To guide this study, the Community of Inquiry (CoI) framework, first introduced by Garrison et al. (2010) was used as the theoretical basis for this study. It offers a comprehensive lens through which can examine the online learning environment of MOOCs and uncover critical success factors for second and foreign language learners. This framework is based on the interplay of three fundamental elements: social presence, cognitive presence, and teaching presence.

Social presence

In the context of MOOCs for second and foreign language learners, social presence plays a pivotal role. It refers to the degree to which learners feel socially and emotionally connected with other participants in the course (Garrison et al., 2010). This sense of connection is critical in language learning as it directly influences the willingness of learners to communicate, share ideas, take risks in using the target language, and thus contribute to a collaborative learning community. Assessing the social presence in MOOCs can be facilitated through analysing the level and quality of interaction in discussion forums, peer feedback, and collaborative activities.

Cognitive presence

Cognitive presence in the CoI framework refers to the extent to which learners can construct and confirm meaning through sustained reflection and discourse (Garrison et al., 2010). In the context of MOOCs for language learning, it involves learners' engagement with the course content and tasks, their ability to reflect on their learning, and their application of new language knowledge and skills in meaningful communication. To evaluate cognitive presence, one can look at the nature and complexity of tasks and assignments, the learners' discourse in the course community, and the progression of their language proficiency throughout the course.

Teaching presence

Teaching presence, the third element of the CoI framework, involves the design, facilitation, and direction of cognitive and social processes to support learners in achieving their learning outcomes (Garrison et al., 2010). In language MOOCs, teaching presence is key in creating a structured, supportive, and engaging learning environment. It involves not only the initial course design and organisation but also the instructor's ongoing guidance, feedback, and intervention to facilitate learning. Assessing teaching presence in MOOCs may involve examining the clarity of learning objectives and instructions, the appropriateness and variety of learning materials and activities, the effectiveness of assessment methods, and the quality and timeliness of instructor feedback.

By focusing on social, cognitive, and teaching presences, it allows the authors to explore how MOOCs can be designed and facilitated to maximise learner engagement, interaction, and achievement, ultimately enhancing the effectiveness of online language learning.

The Study

To address the aim of the study, a comparative survey between two MOOCs (one in Malaysia and another one in China) was done. Both MOOCs have a high completion rate of more than 90% with good ratings given to on the overall learning experience (4.5 out of 5.0). This section explains the steps taken in gathering and analysing the data.

Malaysia MOOC: English in the media

This English in the Media (EiM) course is one of the earliest MOOCs produced under the Malaysia MOOC platform (Chuah et al., 2019). The course explores various texts taken from media materials and sources such as newspapers, online news, magazines, and advertisements. This course looks at the language forms and structures of these texts and also the different writing styles. In addition, this course raises awareness of cultural and current issues pertaining to social concerns as a whole that may be embedded in the context. This is to assist students in understanding various writing styles that will facilitate them in building their language knowledge and skills in English. The MOOC runs for 14 weeks in every cycle and has about 1,000 learners in each iteration. Figure 1 shows how the MOOC looks like on the platform.

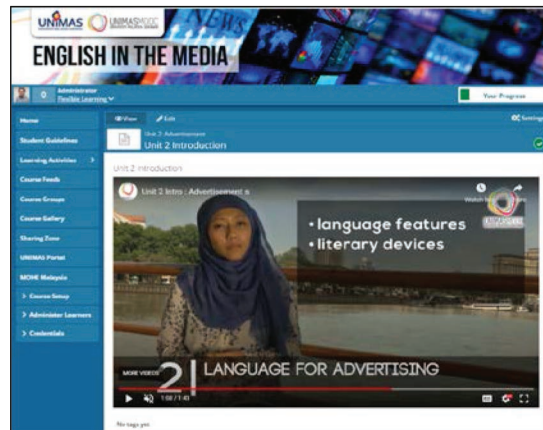


Figure 1 The English in the Media MOOC

China MOOC: Translating China

The Translating China (TC) course aims to promote intercultural exchanges between students in China and the rest of the world through specifically designed contents about Chinese-English translation and cultural sharing. The course is conducted in English and learners are exposed to the common cultural practices and belief in China while indirectly learn the English language as well as the Chinese language. By using micro-translation techniques, learners are able to learn the content systematically. Figure 2 shows a screenshot of the MOOC.

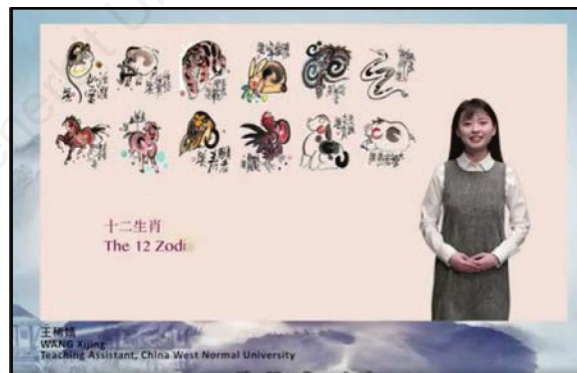


Figure 2 The TC MOOC

This study included a total of 10,736 students and nineteen instructors from the two selected MOOCs. For the EiM MOOC, the students were from first and second years of undergraduate study. They were English as a second or foreign language (ESL/EFL) users with different levels of proficiency ranging from basic to highly competent users. They also come from different backgrounds in terms of ethnicity and socio-economic background. As for the instructors, they have more than five years of teaching experience with expertise in ELT.

As for the TC MOOC, a majority of the learners are from China EFL community with about 40% foreign students from other countries. The composition is more globalised as compared to the Malaysia MOOC and the diversity is in terms of nationality, ethnicity, and demographic factors. In comparison, the TC MOOC is more diverse but the distribution of users according to proficiency level is similar to those of EiM. The instructors are also experienced in the subject matter with more than five years of teaching experience in translation and cultural studies.

This study adopted a qualitative approach in gathering and analysing the data. By the end of the courses, students and instructors were required to provide feedback through open-ended responses describing their overall experience in the MOOCs, which was carried out through an online survey. They were told to reflect on what they had gone through and highlight the main factors that they think are good or bad as well as suggestions for improvement.

To ensure their privacy and security of their personal data, participants were given a consent form, which was vetted by the ethics committee of both universities. They were told to read the form carefully and provide their consent by digitally signing the form. They were also briefed about the purpose of the study and all names will be removed and only their feedback would be used for further analysis.

The gathered data were then compiled and analysed using textual analysis software in order to highlight the keywords mentioned by the learners and instructors. Thematic analysis (Clarke & Braun, 2013) was done by first gathering the most frequently appeared keywords and they were then grouped into categories. The dimensions by Swan et al. (2014) and suggested features by Hew (2014), as explained in the previous section, were used as a guide in the grouping process. However, the authors did not confine to the listed dimensions so as to allow greater flexibility in identifying other possible factors.

Results and Discussion

The thematic analysis of the responses highlighted five key success factors of a MOOC meant for second language learning as illustrated in Figure 3. These factors were the most frequently mentioned by the participants of the two MOOCs selected in this study. The researchers filter the textual output carefully and thematically grouped them through multiple readings and coding. The factors match the considerations provided by Swan et al. (2014) and Peng and Xu (2020) except for the cognition element, which is largely missing in previous studies. The following section explain each factor with excerpt of response from participants.

Pedagogy

Pedagogy refers to the approaches used by the instructors in designing and delivering the learning content. In this case, it refers to pedagogies that are relevant to second or foreign language learning. The teacher's role in ensuring the right approach is used is important in engaging the learners and ensuring meaningful learning can take place effectively. Two central themes that emerged from this factor are student-centred pedagogy and innovative approach. The participants agreed that MOOC content should be student-centric and not based on the conventional lecture-style. The activities should also be innovative as it can increase engagement such as through the use of gamification approach to monitor progress. This finding echoes the recommendation by Sallam et al. (2020), in which MOOC should be designed in accordance with a pedagogy that suits the learners. Also, as mentioned by Taib et al. (2017), MOOCs should be more student-centred and consider creative approaches in engaging the learners without being too focused on delivering content such as videos and documents. Interestingly, in this study, the learners were interested with the video content provided though Mubarak et al. (2021) stated that many MOOC learners tend to leave videos without watching them. This could be due to the pandemic situation in which the learners have to rely on those videos to get enough input for self-study. Also, the quality of videos could have contributed to the positive feedback from the learners as they stated how the authenticity of the videos made them interested. The responses which are relevant to pedagogy are shown in Table 2.

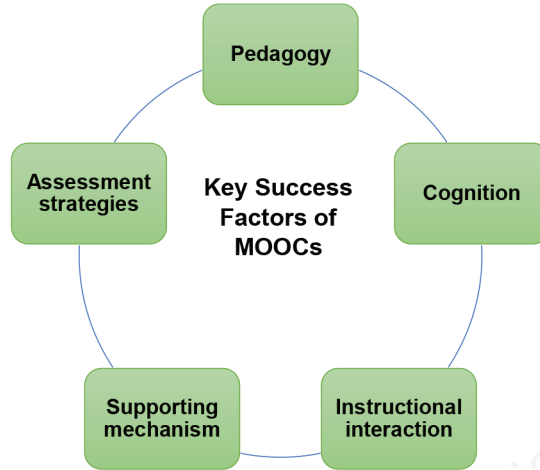


Figure 3 Five key success factors gathered from thematic analysis

Table 2 Responses related to pedagogy

Pedagogy	Responses from participants
Student-centred	<p>As a lecturer, I normally use <u>student-centred approach</u> in language learning like communicative approach with suitable design of content. (EiM)</p> <p>I like when the lecturer uses interesting teaching technique <u>that fits my interest</u>. (EiM)</p> <p>Our MOOC was designed and developed collectively, and we strongly emphasised on <u>approaches that are appropriate to the students</u>. (TC)</p> <p>The course fully <u>satisfies my requirements</u>. (TC)</p> <p>Lecturers teach with proper <u>explanation that I understand</u>. (EiM)</p>
Innovative approach	<p>The <u>gamification element</u> is very helpful in motivating me to progress in the MOOC. (EiM)</p> <p>The videos are <u>not the typical lecture-style</u>. (EiM)</p> <p>Compared with traditional teaching methods, <u>the course is more novel and interesting</u>. (TC)</p> <p>This is a very useful course. We can apply the <u>real-life theme</u> of each unit to our daily life. (TC)</p>
Content-based	<p>The <u>content in this MOOC is more than what I expected</u> from the usual course textbook <u>especially the videos, very engaging</u>. (EiM)</p> <p>Complex translation techniques are delivered through <u>authentic cultural materials</u> for the students. (TC)</p> <p>Compared with the translation course we learned before, this course introduces translation skills based on traditional Chinese culture. <u>The course content is from a different perspective</u>. (TC)</p>

Cognition

Cognition in MOOC design and delivery deals with the level of attention by the lecturer or MOOC developer on the content and tasks that focus on higher-order thinking, reflective approach, and cognitive engagement. This aspect is noted to be absent in previous studies on MOOCs as Hew (2014) pointed out MOOC contents which are problem-centric tend to trigger the learners to think and indirectly increase MOOC retention. Nevertheless, the instructors in this study did mention it is not easy to implement this although they believe it is necessary. Also, the learners' willingness to learn on their own may also play a role in promoting greater cognitive engagement (Zalli et al., 2019). The responses which are relevant to cognition are shown in Table 3.

Table 3 Responses related to cognition

Cognition	Responses from participants
Higher-order thinking or critical thinking	<p>I think it's good if students are told to <u>think critically</u> while viewing our MOOC videos, not just blindly watch. <u>But it needs more effort to plan.</u> (EiM)</p> <p>Some parts of the activities really need us to <u>think how language is used in actual situation</u> like project management. (EiM)</p> <p>One thing that we can improve is <u>to let students be more creative and critical in explaining certain cultural concepts.</u> I mean it would be good for us to know their actual perception of the Chinese culture. (TC)</p>
Reflective approach	<p>I have designed tasks that students will have to do more reflection. (EiM)</p> <p>At first, I thought this course was boring, but the <u>reflection activity based on the videos</u> are good. (EiM)</p> <p>Each unit assignment needs to be evaluated through three steps: <u>self-assessment, peer review, and teacher review. Students can reflect on and rethink their own work</u> in the first two steps. (TC)</p>
Cognitive engagement	<p>I completed the tasks because <u>I can relate to it to my situation</u> when writing articles. (EiM)</p> <p>The videos and activities are high quality and allow <u>me to be engaged throughout the course.</u> It makes me look forward to the content in each unit. (TC)</p>

Assessment strategies

One of the defining factors of a successful MOOC is pertaining to assessment. The role of assessment is not merely as a performance benchmark alone but also to monitor learners' progress in learning. In the context of second language learning, for example, progressive feedback is needed to ensure learners are able to obtain necessary guidance for improvement. Li (2017)

emphasised on this aspect as novice learners rely on formative assessments to self-monitor their progress in the MOOC. A MOOC that is designed without assessments or with poorly constructed assessments tend to make the learners quit earlier than expected. The responses which are relevant to assessment strategies are shown in Table 4.

Table 4 Responses related to assessment strategies

Assessment strategies	Responses from participants
Formative-based	<p>The <u>assessments for the course are done weekly</u> to check on students' progress. (EiM)</p> <p>The <u>weekly tasks and quizzes are useful</u> actually though I was a bit anxious of it at first. (EiM)</p> <p>I wish there were <u>more questions for the quizzes</u> so that it helps me to remember more of the course content. (EiM)</p> <p>The <u>course's final score is composed of four parts: course participation, unit homework, unit test, and final exam.</u> (TC)</p>
Timely feedback on tasks	<p><u>Feedback should be fast</u>, not delayed for a few days. (EiM)</p> <p>The lecturer <u>responded to my questions quite fast</u>, so I can work on the tasks with more confidence. (EiM)</p> <p>I don't like when feedback is slow but for this course I am <u>happy that my lecturer replied to my postings almost instantly.</u> (EiM)</p> <p>Besides the MOOC platform, we can still communicate with lecturers <u>in other ways.</u> If we ask questions, we can get timely feedback. (TC)</p> <p>Four teaching assistants in our team <u>answer students' questions all day.</u> (TC)</p>
Validity and reliability	<p>For me as a lecturer, <u>the assessments we give on MOOC should be valid and reliable</u> as well. This would give a better impression of the quality of the MOOC and learners would complete them. (EiM)</p> <p>We strictly follow <u>the "College English Curriculum Standards" and the teaching objectives</u> of this course to assign homework. (TC)</p>

Supporting mechanism

Supporting mechanism refers to the ways support is given to the learners especially when they are facing problems or difficulties in learning the subject matter. This finding is similar to what was found by Reparaz et al. (2020) in which MOOC completers highlight the role of instructors' support in motivating them to complete the MOOC that they signed up for. Though support can be given through videos, it is often the extra efforts given by the instructors that create a more encouraging learning environment within the MOOC as the learners feel their presence has significant value. The responses which are relevant to the supporting mechanism are shown in Table 5.

Table 5 Responses related to supporting mechanism

Supporting mechanism	Responses from participants
Extra materials to assist learners	<p>I <u>provide extra notes</u> for students who might not be able to fully understand the content delivered in the videos. (EiM)</p> <p>The lecturer is kind enough to <u>give links to related materials</u> for our tasks. (EiM)</p> <p>Each unit contains background information, micro-lectures, open-ended discussion, unit homework, unit test, <u>and extension reading materials</u>. (TC)</p> <p><u>Rich supporting resources</u> expand my horizons. (TC)</p>
Scaffolding or guidance	<p>When I have a problem, I asked the lecturer directly through the Telegram group he created, and <u>he guided me</u> in completing the tasks. (EiM)</p> <p>I remember I didn't understand the task given, I asked for help. The <u>instructor replied with good examples for me to understand what is needed</u>. Really love this effort. (TC)</p> <p>After <u>reading the background information</u>, we have a clearer understanding of each unit. (TC)</p>

Instructional interaction

Instructional interaction refers to the interaction either initiated by instructors or peers when they are communicating in the MOOCs. The interaction is mainly geared towards instructional purposes that guide learners in understanding learning content, completing tasks as well as seeking further help. As stated by Hone and El Said (2016), the frequency of interaction is perceived as a measurement of how active a MOOC is. A MOOC where threaded discussions or comments were left unattended to will make the learners feel like they are learning in silo. The interaction can come from peers as well, especially when one is helping another learner. The quality of interaction also matters in the sense single word replies such as 'yes', 'no', 'ok', 'agree', may not be that meaningful. In addition, as highlighted by Kasch et al. (2021), peer interactions are also an important factor to greater learning engagement and retention. Thus, MOOC learning experience with minimal and low-quality interaction will lead to lower MOOC retention. The responses which are relevant to instructional interaction are shown in Table 6.

Table 6 Responses related to instructional interaction

Instructional interaction	Responses from participants
Frequency of interaction	<p>I think learners like it more when we <u>interact with them as frequently as possible</u>. Since MOOC is taught through the videos, they value the interactions in the forum more. (EiM)</p> <p>I don't like talking but in MOOC, I <u>can post in forum to interact more</u>. I mean I post more here than in talking in normal class. (EiM)</p> <p>Students <u>communicate with lecturers in various ways</u>. Besides the forums on the MOOC platform, the course creates an online group chat and official account. Students can ask questions anytime. (TC)</p> <p><u>Teachers gather the most asked questions and weekly update the official account</u>. (TC)</p>
Quality of interaction	<p>If you examine each discussion thread, <u>you can see how all instructors try their best to explain</u>. This actually makes the students active too. (EiM)</p> <p>I prefer if there <u>are more interactions that make us learn better</u>. Not just talking about something outside the course too much. (EiM)</p> <p><u>We can refer to other learners' answers</u> through the peer-reviewing process and rethink our works. It is also a process of self-observation and self-evaluation that can improve our learning. (TC)</p>
Peer-to-peer interactions	<p>As we know, if most of us are interacting, we <u>can learn from each other more</u>. If not, it will be like learning alone. (EiM)</p> <p><u>Peer review will affect the final score</u>. Students who do not participate in the peer-reviewing process will be given only 60% of their scores, and only the students who have completed peer review will be given the full mark. (TC)</p>

Conclusion

Although the present study is limited to two MOOCs and confined to qualitative analysis of open responses from learners and instructors, it has managed to unpack the critical success factors of MOOCs even during the time of pandemic when in-person classes were not possible. The MOOC instructors in this study are noted to be aware of the importance of pedagogical needs when designing MOOC content and activities. Such awareness has contributed to a higher MOOC retention among the learners. The learners of the two MOOCs have also reported positive feedback and meaningful learning experience with very minimal problems. As mentioned by Yu (2021), it is pivotal to acknowledge that the design of MOOC is not only about content delivery but more of creating a learning experience that members of the MOOC community would be able to interact and learn from each other. However, insights from the instructors revealed that the issue of burnout could happen as they would need time to monitor a large number of students from time to time. An equal distribution of workload among the instructors

is necessary so that they could provide optimum guidance to the learners. There is a misconception that MOOC can run on its own as all contents have been uploaded and structured in progression (Sciarrone & Temperini, 2021). In reality, a successful MOOC requires more intervention by the instructors as they are the main agents of pushing learners towards course completion and learning attainment (Bayne & Ross, 2015; Deng et al., 2020; Hew, 2014).

The findings from this study can be beneficial to the MOOC developers and instructors in identifying the key areas that should be focused on when developing a MOOC. The administrators would also be able to evaluate the suitability of MOOCs to replace in-person teaching during a crisis like the COVID-19 pandemic. The learners' feedback from both Malaysia and China have shown a positive acceptance of MOOCs though there are still problems that should be rectified. As such, the outcome of this study would inform the relevant ministries on measure that can be taken to address those problems. The measures could include more training to instructors as well as hiring suitable teaching assistants to assist in the MOOC monitoring process.

Nonetheless, this study has its limitation in terms of MOOC and sample selection, which may not be generalised to other settings. The study is also confined to the use of qualitative method by including only open-ended responses. Therefore, future research can examine the critical factors through a quantitative measure by correlating them with other variables such as level of proficiency or demographic factors. It would be interesting to know if how different sets of learners perceive a MOOC and factors that make it successful. This additional input would assist MOOC developers and instructors to identify necessary elements that should be included in a MOOC. All in all, transitioning into this 'new norm' of education necessitates continual refinement and adaptation of online learning tools, strategies, and policies. Ensuring a successful and inclusive digital learning environment for all remains a key objective for any future implementation of open and distance learning.

References

- Albelbisi, N. A., & Yusop, F. D. (2020). Systematic review of a nationwide MOOC initiative in Malaysian higher education system. *Electronic Journal of e-Learning*, 18(4), 287–298.
- Alraimi, K. M., Zo, H., & Ciganek, A. P. (2015). Understanding the MOOCs continuance: The role of openness and reputation. *Computers & Education*, 80, 28–38.
- Baggaley, J. (2013). MOOC rampant. *Distance Education*, 34(3), 368–378. <https://doi.org/10.1080/01587919.2013.835768>

- Bayne, S., & Ross, J. (2015). MOOC pedagogy. In P. Kim (Ed.), *Massive Open Online Courses: The MOOC Revolution* (pp. 23–45). Taylor & Francis.
- Bali, M. (2014). MOOC pedagogy: Gleaning good practice from existing MOOCs. *Journal of Online Learning and Teaching*, 10(1), 44.
- Bonafini, F., Chae, C., Park, E., & Jablokow, K. (2017). How much does student engagement with videos and forums in a MOOC affect their achievement? *Online Learning Journal*, 21(4).
- Chuah, K. M., Abdullah, J., Hossain, E. D., Ang, T. C., & Senin, N. (2019). The Malaysia MOOC initiative: The Universiti Malaysia Sarawak experience. *The Impact of MOOCs on Online Education in Malaysia and Beyond* (pp. 135–144). Routledge.
- Clarke, V., & Braun, V. (2013). Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The Psychologist*, 26(2).
- de Barba, P. G., Kennedy, G. E., & Ainley, M. D. (2016). The role of students' motivation and participation in predicting performance in a MOOC. *Journal of Computer Assisted Learning*, 32(3), 218–231.
- Deng, R., Benckendorff, P., & Gannaway, D. (2020). Linking learner factors, teaching context, and engagement patterns with MOOC learning outcomes. *Journal of Computer Assisted Learning*, 36(5), 688–708.
- Ding, Y., & Shen, H. (2019). Delving into learner autonomy in an EFL MOOC in China: A case study. *Computer Assisted Language Learning*, 1–23.
- Garrison, D. R., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. *The Internet and Higher Education*, 13(1–2), 5–9.
- Goopio, J., & Cheung, C. (2020). The MOOC dropout phenomenon and retention strategies. *Journal of Teaching in Travel & Tourism*, 1–21.
- Guo, P. J., Kim, J., & Rubin, R. (2014, March). How video production affects student engagement: An empirical study of MOOC videos. *Proceedings of the First ACM Conference on Learning@ Scale Conference* (pp. 41–50).
- Hew, K. F. (2014). Promoting engagement in online courses: What strategies can we learn from three highly rated MOOCs. *British Journal of Educational Technology*, 47(2), 320–341. <https://doi.org/10.1111/bjet.12235>
- Hone, K. S., & El Said, G. R. (2016). Exploring the factors affecting MOOC retention: A survey study. *Computers & Education*, 98, 157–168. <https://doi.org/10.1016/j.compedu.2016.03.016>
- Kasch, J., van Rosmalen, P., Löhr, A., Klemke, R., Antonaci, A., & Kalz, M. (2021). Students' perceptions of the peer-feedback experience in MOOCs. *Distance Education*, 42(1), 145–163.
- Launois, P., Allotey, P., Reidpath, D., Maher, D., Certain, E., & Ross, B. (2019). Lessons learnt from a professional development MOOC: Engaging culturally and linguistically diverse learners from low-and middle-income countries. *European Journal of Open, Distance and E-learning*, 22(2).
- Li, R. (2017). The preliminary exploration of the application of MOOC in college oral English teaching. *8th International Conference on Information Technology in Medicine and Education (ITME)* (pp. 813–816). IEEE.
- Littlejohn, A., Hood, N., Milligan, C., & Mustain, P. (2016). Learning in MOOCs: Motivations and self-regulated learning in MOOCs. *The Internet and Higher Education*, 29, 40–48.

- Liyanagunawardena, T. R., Lundqvist, K. Ø., & Williams, S. A. (2015). Who are with us: MOOC learners on a FutureLearn course. *British Journal of Educational Technology*, 46(3), 557–569. <https://doi.org/10.1111/bjet.12261>
- Martín-Monje, E., & Bárcena, E. (2014). *Language MOOCs: Providing Learning, Transcending Boundaries*. De Gruyter Open Ltd.
- Mubarak, A. A., Cao, H., Zhang, W., & Zhang, W. (2021). Visual analytics of video-clickstream data and prediction of learners' performance using deep learning models in MOOCs' courses. *Computer Applications in Engineering Education*, 29(4), 710–732.
- Pappano, L. (2012, November 2). The year of the MOOC. *The New York Times*, 2(12).
- Peng, X., & Xu, Q. (2020). Investigating learners' behaviors and discourse content in MOOC course reviews. *Computers & Education*, 143, 1–14. <https://doi.org/10.1016/j.compedu.2019.103673>
- Quintana, R. M., & Tan, Y. (2019). Characterizing MOOC pedagogies: Exploring tools and methods for learning designers and researchers. *Online Learning*, 23(4), 62–84. <https://doi.org/10.24059/olj.v23i4.2084>
- Reeves, T. (1996). Evaluating what really matters in computer-based education. In M. Wild, & D. Kirkpatrick (Eds.), *Computer Education: New Perspectives* (pp. 219–246). Mathematics, Science and Technology Education Centre, Edith Cowan University.
- Reparaz, C., Aznárez-Sanado, M., & Mendoza, G. (2020). Self-regulation of learning and MOOC retention. *Computers in Human Behavior*, 111, 1–13. <https://doi.org/10.1016/j.chb.2020.106423>
- Reyes-Lillo, D., & Hernandez-Garrido, C. (2020). Creating a MOOC to develop information skills during the coronavirus pandemic. *Education for Information*, 36(3), 339–343.
- Ross, J., Sinclair, C., Knox, J., Bayne, S., & Macleod, H. (2014). Teacher experiences and academic identity: The missing components of MOOC pedagogy. *MERLOT Journal of Online Learning and Teaching*, 10(1), 57–69.
- Ruipérez-Valiente, J. A., Halawa, S., Slama, R., & Reich, J. (2020). Using multi-platform learning analytics to compare regional and global MOOC learning in the Arab world. *Computers & Education*, 146, 1–14. <https://doi.org/10.1016/j.compedu.2019.103776>
- Safri, S. N. W., Mohi, Z., & Hanafiah, M. H. (2020). Massive Open Online Course (MOOC): Our saviour during COVID-19 pandemic? *Journal of Tourism, Hospitality and Culinary Arts*, 12(3), 120–128.
- Sallam, M. H., Martín-Monje, E., & Li, Y. (2020). Research trends in language MOOC studies: A systematic review of the published literature (2012–2018). *Computer Assisted Language Learning*, 1–27.
- Sciarrone, F., & Temperini, M. (2021, April). Monitoring Massive Open Online Courses (MOOC) during the Covid-19 pandemic. *The International Research & Innovation Forum* (pp. 143–153). Springer.
- Song, J., Dong, Y., & Wang, W. (2020). Construction of the Online Open Courses of Mechanical Drawing in Chinese Colleges Based on Chinese XuetangX MOOC Platform. *Proceedings of the 2020 8th International Conference on Information and Education Technology* (pp. 1–5).

- Stone, C. (2021). Improving student engagement, retention and success in online learning. In M. Shah, S. Kift, & L. Thomas (Eds.), *Student Retention and Success in Higher Education* (pp. 167–189). Palgrave Macmillan, Cham.
- Sunar, A. S., White, S., Abdullah, N. A., & Davis, H. C. (2016). How learners' interactions sustain engagement: a MOOC case study. *IEEE Transactions on Learning Technologies*, 10(4), 475–487.
- Swan, K., Day, S., Bogle, L., & van Prooyen, T. (2014). AMP: A tool for characterizing the pedagogical approaches of MOOCs. *E-Mentor*, 54(2), 75–85.
- Taib, T. M., Chuah, K. M., & Abd Aziz, N. (2017). Understanding pedagogical approaches of Unimas MOOCs in encouraging globalised learning community. *International Journal of Business and Society*, 18(54), 838–844.
- Xie, Y., Qiu, Y., Huang, Y., Li, J., Liu, Y., & Wu, J. (2020). The construction and effect of the MOOC-based one plus three teaching model during the COVID-19 pandemic. *2020 Ninth International Conference of Educational Innovation through Technology (EITT)* (pp. 199–204). IEEE.
- Yaşar, M. Ö., & Polat, M. (2021). A MOOC-based Flipped Classroom Model: Reflecting on pre-service English language teachers' experience and perceptions. *Participatory Educational Research*, 8(4), 103–123.
- Yeager, C., Hurley-Dasgupta, B., & Bliss, C. A. (2013). CMOOCs and global learning: An authentic alternative. *Journal of Asynchronous Learning Networks*, 17(2), 133–147.
- Yu, Z. (2021). A model of multiple factors influencing learner retention in MOOC during the COVID-19 pandemic. *Research Square*. <https://doi.org/10.21203/rs.3.rs-558331/v1>
- Zalli, M. M. M., Nordin, H., & Hashim, R. A. (2019). The role of self-regulated learning strategies on learners' satisfaction in Massive Open Online Course (MOOC): Evidence from Malaysia MOOC. *International Journal of Innovative Technology and Exploring Engineering*, 8(10), 2286–2290.

The Potentials of Gamification in Online Learning: Insights from ESL Undergraduates

Nur Yasmin Khairani Zakaria, Amelia Abdullah & Siti Nazleen Abdul Rabu

Introduction

The recent outbreak of COVID-19 pandemic at the end of 2019 has predominantly shifted a new paradigm to the education landscape in Malaysia. The shift of paradigm in education sector has brought in multiple challenges for both educators and learners. Teaching and learning process during pandemic appeared to be highly correlated with VUCA dimension – volatile (turbulent), uncertain (uncertain), complex (complex), and ambiguity (unclear) (Sia & Adamu, 2020). Despite of a solid year of learning in a new norm, challenges, and struggles in for both educators and learners are still prominent. At university level, the focus of attention lies on possible solutions and suggestions to be taken into consideration to make sure that learners are able to survive in this challenging times. Complexities in online learning context becomes the main concern for both educators and learners especially during a Movement Control Order due to the restriction in physical contact and meetings. Challenges in conducting effective learning experience become twice as hard for the learning designers due to uncertainties lies in a pandemic (Almusharraf & Khahro, 2020; Wijaya et al., 2020). Despite of the on-going challenges, execution of learning activities should be carried out to ensure the continuation of nation's aspiration to produce human capitals.

Therefore, on-going effort must be enforced by educators and the authorities at university levels to sustain the synergy between the learners and learning experience. In order to ensure the sustainability of effective teaching and learning activities, educators are obliged to be more proactive and innovative in making necessary changes to cope with the current change in education landscape during the pandemic (Rajab et al., 2020; Sutarto et al., 2020). In response to the current situation, educators who serve the role as learning designers should be able to priorities the learners' needs and expectation in learning during pandemic without compromising their socio-economic background and learning abilities. A shift from face-to-face learning to a virtual learning reinforced the educators to get out of their comfort zone whereby the learners' interest, motivation, and attention span become the main concerns (Baber, 2020). It is quite a challenge for both educators and learners considering that not all learners are extroverts and constantly struggling to actively engage in a virtual classroom especially during a pandemic.

Uncertainties during the pandemic forced educators to be well-versed in the use of technology to keep up with the shift in the new norm. Therefore, it is crucial for both educators and researchers to map out adaptable strategies and favourable approaches to the teaching and learning process. In response to the current issues of learners' lack of interest, motivation, and attention span in a virtual classroom, educators should implement multiple methods and approaches in online teaching to ensure an effective teaching and learning process (Tang et al., 2021; Nartiningrum & Nugroho, 2020). 'Game-based learning' and 'gamification' have long been suggested to be one of the most useful approaches to be integrated into teaching and learning to increase students' learning motivation and classroom engagement.

Previous researchers have also noted various possibilities for implementing integrated approaches in teaching and learning, including the introduction of game-based learning in online platforms. The current teaching and learning process on an online platform with conventional one-way or two-way communication is perceived as less effective and lacks engagement (Behforouz et al., 2021; Fauzi & Khusuma, 2020). In the current context of learning in a pandemic, learners are inclined to be less participative due to the nature of the virtual classroom, which lacks human touch with no physical interaction. The decline in learners' motivation to learn in an online setting is presumably due to the inability of both educators and learners to have face-to-face interaction (Setiawan & Lasha, 2020). Therefore, it is crucial for educators to trigger students' interest by promoting interactive and rewarding learning experiences which could eventually motivate learners in general (Dliss & Sukur, 2021).

Gamification in Learning During Pandemic

The integration of gamification into classroom teaching and learning has been highlighted as one of the means to improve the quality of education at primary, secondary, and tertiary levels. Gamification in classroom teaching and learning, or 'gamified classroom' can be executed both inside the classroom and outside of the classroom (Nadlifatin et al., 2020). In other words, the learning process in a gamified context does not necessarily require a teacher's presence but is also applicable for individual learning. One of the key findings in research related to gamified learning lies in the improvement of students' motivation and interest in learning (Satrio et al., 2021). The use of games elements in other contexts, such as education, is an alternative to achieve specific learning objectives by increasing students' motivation and attracting students' interest (Hadi & Irbah, 2021).

One of the goals of online learning during the pandemic is to establish a meaningful and effective learning experience despite the challenges and struggles that both students and teachers face in this uncertain situation. In a recent study by Malaysian researchers to discover students' perception of information and communications technology technologies (mobile assisted language learning, MALL; gamification; and virtual reality, VR) in teaching English during the pandemic in Malaysia, 38.1% of the respondents chose MALL, 33% chose gamification, and 29% chose VR, as their preferred technology (Azar & Tan, 2020). The results of the quantitative study revealed that gamification is regarded as one of the most accepted approaches to online learning by students, especially in times of pandemic. Despite the successful implementation of game-based learning during the pandemic, it is also worth noting that the key to an effective learning experience lies in the lecturers' and students' perception of the adaptability of games to facilitate learning (Supian et al., 2021). In a review by Nieto-Escamez and Roldán-Tapia (2021), a total of 11 past studies from chemistry, business, computer science, biology, and medical areas have been analysed to discover the in-depth insights of the implementation of gamification in online classrooms during a pandemic. Researchers have noted that the integration of gamification into classroom learning is perceived as an effective strategy to maintain students' social interaction during quarantine and isolation time. It has also been reported that the use of game elements in online classroom learning is engaging and fun at the same time. It is also asserted that gamified teaching strategies have yielded a new paradigm in providing better learning experience for students during pandemic.

Apart from increasing learners' motivation in learning, integration of gamification elements in online classroom learning also useful to keep students' morale during social distancing time. The result of this analysis is parallel to a study conducted to 170 Gen Z students to explore their perception of gamified health awareness campaigns by Zain et al. (2021) whereby positive perception and acceptance towards gamified learning context have been noted by the researchers. Lestari and Noer (2021) discovered useful findings on how the implementation of gamification could greatly complement the current teaching strategies during pandemic. An increase of learners' motivation had been noted particularly in terms of students' engagement and participation in classroom. Teaching strategies related to gamification could possibly help students to develop more personalised learning and promote students' interaction and collaboration. One of the key features of gamified learning is the implementation of points, rewards, and levels throughout the learning activities. In a study by Darmawan et al. (2020) the researchers asserted that the integration of games into online assessment activities has a great potential to increase students' motivation and interest in learning. Learning in gamified contexts has also resulted in mixed findings from previous studies. Seaborn (2021) asserted that gamification in learning is a reflection of 'forced fun' whereby the sustainability of students' motivation and interests is still questionable. Employing gamification in the classroom may also activate negative effects on students due to 'unwanted' reinforcement, tests and assessment, which lead to uneasy feelings as if students are about to sit for an examination (López-Belmonte et al., 2020). Despite the weaknesses and shortcomings of gamification, the implementation of games in classroom learning, particularly during a pandemic, has the promising possibility of providing a better learning experience for learners (Lestari & Noer, 2021; Darmawan et al., 2020). Therefore, this chapter will discuss the promising possibilities of gamifying learning in the context of Malaysia, where a survey study in a Malaysian learning institution is presented. The chapter also suggests the possible initiatives and directions of gamification in learning institutions in Malaysia.

The Study

The study aims to identify the possibility of implementing a game-based learning approach in an online learning environment during the pandemic. Results of this study will be useful for future researchers to produce suitable learning materials for students to adapt to the new norms of the learning paradigm. Grounded theory (Strauss & Corbin, 1997) was used as the theoretical guide for this study. It involves systematically analysing qualitative data to identify patterns and develop concepts. The study intends

to generate meaningful theoretical justifications that provides a thorough explanation for gamification in online language learning. In this study, the researchers focused on analysing learners' needs in online learning in pandemic. Integration of games into classroom learning is henceforth referred to as 'game-based learning' which will be able to guide future researchers in developing suitable modules for designing instructional materials. The results obtained in this study will also provide insight into the possibilities of integrating games into online learning to increase students' motivation in the online learning environment during a pandemic. In response to the current research aims, two research objectives were formulated as follows:

1. To discover English as a second language (ESL) learners' current satisfaction with online learning during the pandemic
2. To identify ESL learners' views on the implementation of games in online classroom learning during the pandemic

The current study employed a qualitative survey research design to gather the data to answer the research questions. In survey research, qualitative surveys contain a number of open-ended questions regarding an issue presented in the study. Participants in the study are required to respond to questions posed by the researchers on a particular topic. These questions are usually self-administered with a fixed and standard order to the targeted participants of the study. Responses obtained from participants usually originate from the participants' overview of a certain issue with in-depth insights into the topic. A fully qualitative survey provides comprehensive, rich, and insightful feedback from the participants as compared to pre-determined responses in other types of survey research, such as in a quantitative research design. The richness and complexity of the data are supported by the quality of responses obtained from the participants, including their subjective experiences, narratives, practices, positionings, and discourses (Braun et al., 2020).

In this study, 10 undergraduate ESL students at a public university in Malaysia who have undergone online learning experience during the pandemic were chosen. These students are in their penultimate year of study and are currently preparing for their final year project as a part of their graduation requirements. A purposive sampling technique was employed in this study based on a few criteria: (1) ESL undergraduate students, (2) currently enrolled in online distance learning mode during the pandemic, and (3) have an experience of learning in a gamified environment during a pandemic. To fulfil the research ethics, pseudonyms were given to the participants in this study using different names.

Participants in this study are undergraduate ESL students who have completed all courses that were conducted on an online platform during the pandemic. This group of participants are also currently enrolled in a fully online learning context that was conducted during the pandemic. In general, all participants already have experience of learning in an online distance mode that integrates games elements throughout the course. The participants in this study also completed an online course which was integrated with elements of games that were conducted during the pandemic. The course is a core course related to writing skills acquisition among undergraduate students in the Faculty of Education at a public research university in Malaysia. The outbreak of the pandemic has shifted the former mode of teaching and learning from a blended learning mode to a fully online mode. In 14 weeks of online lectures, the students underwent online teaching and learning with the integration of games as supplementary formative assessment. At the end of the online lesson, the students were asked to participate in an online game platform to recapitulate each week's lesson.

In order to obtain in-depth views from the students, 10 undergraduate ESL students were selected to participate in this study. Discovery of their feedback was done through semi-structured interviews and focus group discussion with the students. The limitation of physical contact during the pandemic motivated the researchers to use an online platform to communicate with the students. Asynchronous interview sessions were conducted according to the students' availability to compensate for limitations and restrictions in communication during the pandemic. Responses obtained from the students were transcribed in verbatim and analysed thematically. Transcribed interviews were codified according to the objectives of this study. Identification of prominent responses were coded and grouped according to the objectives of this study.

To provide thorough and rigorous feedback from the participants, transcripts of the interviews were piloted beforehand. Selection of participants in the pilot study was chosen based on the similar characteristics of the participants in the current study as previously outlined. Necessary amendments and changes were made based on the feedback received in the pilot study. Students with similar characteristics in the pilot study were selected as the participants in the current study. The improved version of the questionnaire was distributed after necessary changes were made. A total of two questions were improved and simplified to avoid ambiguity and vagueness. After the responses were collected, the completed transcripts were reviewed, approved and confirmed by the participants to ensure the validity of the data. Transcripts that have been approved by the participants were analysed using thematic analysis based on the feedback received from the participants. Analysis of themes

was done based on the objectives of the study. Data from semi-structured interviews and focus group discussions were categorised, subcategorised, and analysed using coding methods to produce themes (Miles et al., 2014).

Results and Discussion

A summary of participants' background is presented in Table 1 as a guideline for further discussion of research findings. The table presented will provide useful insights into the participants' background, particularly regarding electronic devices owned and online learning. The majority of students have adequate familiarity with the term 'online learning' whereby half of the students are familiar (50%) with the term, 40% of the students are moderately familiar, and 10% of the students responded with a high familiarity. The researchers also discovered necessary information in terms of their ownership of electronic devices, familiarity with online learning, types of electronic devices used for online learning, and level of competency in using electronic devices during online learning. A total of 10 participants were selected to participate in this study. There are four male students and six female students aged between 21 and 23 years old who are in their third year of the undergraduate programme. Most of the participants obtained similar exposure to the English language, i.e., 6 years of primary schooling, 5 years of secondary schooling and 1 year of a bachelor's degree preparation programme. Participants in this study were given pseudonyms for ethical purposes.

Analysis of students' responses was presented in two sections to highlight the research objectives of this study. In response to the formulated research objective, semi-structured interviews and focus group discussions were conducted with the participants in this study to discover their experience of online learning during the pandemic. Before further detailed questions were posed to the participants, the researchers sought their familiarity with the term online learning and what they could say about online learning.

Table 1 Background of participants

Participants	Age	Gender	Ownership of ED	Familiarity with OL	Types of ED used for OL	Level of competency in using ED during OL
1. Siti	21	F	Yes	Familiar	Tablet	Excellent
2. Amir	21	M	Yes	Very familiar	Smartphone	Excellent
3. Johan	21	M	Yes	Moderately familiar	Smartphone	Good

(continued on next page)

Table 1 (*continued*)

Participants	Age	Gender	Ownership of ED	Familiarity with OL	Types of ED used for OL	Level of competency in using ED during OL
4. Farid	23	M	Yes	Moderately familiar	Smartphone	Good
5. Amira	21	F	Yes	Familiar	Laptop	Good
6. Ahmad	22	M	Yes	Familiar	Smartphone	Fairly Competent
7. Sarah	23	F	Yes	Moderately familiar	Laptop	Fairly Competent
8. Aini	23	F	Yes	Moderately familiar	Laptop	Good
9. Farah	21	F	Yes	Familiar	Tablet	Excellent
10. Izzah	21	F	Yes	Familiar	Tablet	Excellent

Notes: ED = electronic devices; OL = online learning

Learners' satisfaction in online learning

In general, all participants in this study show moderate to high familiarity with online learning. One male participant responded that he has high familiarity with online learning due to his experience of attending multiple personal courses conducted outside of the classroom. One of the participants, Amir, expressed his familiarity with the context of online learning in his statement: "I am very active in social media. I also joined a few workshops and short courses to polish my skills ... it is usually done in Zoom". He also added that he owns a YouTube channel with a high number of subscribers. As an active social media user, he has an excellent level of competency in using electronic devices for online learning.

Four other participants responded that they are moderately familiar with online learning. Sarah added that, "we do have online class before, but usually the lecturer only upload file in i-Folio (University Learning Management System) and we do the exercise". Participants in the current study also added that the execution of online learning before the pandemic was not conducted as intensively as during the pandemic. Supporting that statement, a male participant, Farid, also mentioned that "before this, online class in not really serious. But during pandemic it is a need". When the researcher asked further about 'seriousness' mentioned by Farid, he added that online classes before the pandemic were usually more like 'self-study' whereby the students need to do their own revision.

Learners' competency in adapting with online learning

Regarding students' competency in adapting to online learning during the pandemic, eight out of ten students expressed good and excellent competency in learning through online platforms during the pandemic. Students' competency refers to how well students are able to adapt to the new norms and practise teaching and learning in an online context (Darmawan et al., 2020). This includes their ability to actively participate in the classroom session as well as their ability to troubleshoot minor technical problems that could occur throughout the session. Upon being asked the question "do you find it hard to login and access the online classes provided by lecturers?", most of the students responded positively to the inquiry.

Farah, a female student with excellent competency in using electronic devices in online learning, stated that, "so far I don't find it difficult to access to live classes such as in Zoom and Google Classroom." Her statement is also supported by another participant, Izzah, who uses a tablet as her main device for online learning. Izzah did not require much time to prepare for the class and agreed that the execution of online classes is more convenient for her, "usually I took less than 5 minutes to prepare and enter the class if the line (internet connection) is good".

In order to obtain a more comprehensive view, the researchers also posed summative questions, such as "how do you conclude your online learning experience during the pandemic?" Analysis of the transcribed interview recording revealed that responses received by the students varied according to gender. All male students responded positively to the current mode of learning in the pandemic, whereas there was mixed feedback received by the female participants. From a total of six female students, only two of them agreed that online learning is a great alternative during a pandemic. When the researcher asked about their willingness to enrol in an online class after the pandemic was over, two of them answered "Yes".

Siti, a 21-years old female student with excellent competency in online learning during the pandemic, responded, "if I were to choose, I would like to enrol in a full online course. Much convenient and free". After being asked further about her statement: 'free', she also explained that in an online class, she has the freedom to learn remotely and avoid the hassle of travelling and commuting to class. Her statement is also supported by another female student. Farah added that "online classes is more flexible than a face-to-face class".

Despite the positive feedback received from the students, it is also worth noting that online classes could also be burdensome for some students. Aini, a 23-years old female student who is moderately familiar with online learning, finds it hardly adaptable. She mentioned that “I have completed one semester of fully online class last semester. I find it very tiring and stressful. Learning through a camera is not the same as in classroom. It is lonely”. Responses obtained from the participants reflected that the current online classroom lacks physical interaction, which limits students’ socialisation opportunities (Barry & Kanematsu, 2020).

Despite her good competency level in online learning during the pandemic, Aini also expressed her preference to be in a physical classroom rather than a virtual classroom. She also added, whenever the class started, “sometimes I only log into the class but do something else instead of focusing on what the lecturer is teaching”. Amira, who shares the same competency level as Aini, added that the execution of online classes is generally different than in conventional classrooms. She also agreed that learning in a real (physical) classroom weighs more (impactful) compared to a virtual classroom. Overwhelming workloads from multiple online courses also added more stress to her, making online learning less interesting for her.

I personally think that learning using a laptop weighs less than learning in a real classroom. I don’t know, I don’t feel like the lecturer is talking to me, sometimes I feel so stressful and burnout with all the overwhelming workloads. It is all in one computer. Amira

Implementation of games in online classroom learning

From semi-structured interviews that were conducted previously, the researchers have discovered various feedback and mixed responses from the participants. The majority of the participants agreed that online learning in virtual classrooms is the most appropriate alternative during challenging times, such as the world pandemic (Hadi & Irbah, 2021). However, the adaptability of online learning during uncertain times like this is still questionable. In this study, the second research objective was formulated to identify ESL learners’ views on the implementation of games in online classroom learning during the pandemic. Therefore, the researchers in this study conducted a focus group discussion to discover the students’ feedback on the integration of games and gamified learning into online learning to respond to the current challenges faced by students in online learning during a pandemic.

In general, the majority of the respondents agreed that their motivation levels are gradually decreasing over time. The words 'stressful', 'burnout' and 'tiring' indicated students' decrease in motivation throughout online learning due to the limitations of the virtual classroom. Students' decrease in motivation is reflected in the responses in the previous section, which indicate their frustration and lack of motivation for online learning during the pandemic. Continuous enrolment in a virtual classroom drains out most of their energy and the need for constant focus in one sitting is unbearable for some students. It is also agreed that the execution of a virtual classroom for a longer period of time could negatively affect their interest in participating and learning (Park & Kim, 2021).

Familiarity with games and gamified learning

Game-based learning has long been known as the integration of games into classroom learning (Oe et al., 2020). Most educators from all levels of institutions have been implementing this approach to integrate fun elements into classroom learning, especially during times of pandemic (Supian et al., 2021; Azar & Tan, 2020). Before discovering students' responses in an in-depth inquiry into game-based learning, general questions were posed to the students to identify their experience and knowledge of game-based learning. The researchers posed questions such as (1) have you heard of game-based learning?, (2) what do you know about game-based learning?, and 3) what can you say about game-based learning? Analyses of students' responses revealed that all students are familiar with the term game-based learning.

Responses from the students that highlighted their experience in playing Kahoot! in the classroom, reflected their familiarity with the use of games in classroom learning. Some students expressed their familiarity with game-based learning after being explained in detail by the researchers. All the male participants agreed that they are very much familiar with game-based learning and the implementation of game-based learning is very much accepted by students in a face-to-face classroom. For instance, Amir stated, "we do play games like Kahoot sometimes in physical classroom".

However, implementation of game-based learning in an online classroom is extremely rare. Ahmad mentioned that "during online class, usually our lecturers only give links for us to answer quiz, it is not much a game, more like exercise". Responses received by the students proved that the implementation of game-based learning in an online classroom is still being overlooked. Sarah expressed her thought that learning while playing is a new thing, especially in an online class during a pandemic. She added that learning in an online

setting affected her motivation and interest in learning, she said, “sometimes we are not into learning that much. With all the workloads. I think if we have games, it could be quite interesting and less boring”.

From the statement, it could be generally concluded that the current teaching and learning in online learning during the pandemic is still largely conventional with limited resources for fun and interactive learning. The current situation may be caused by educators’ workloads and time limitations during the pandemic. In response to the current statement, previous studies have highlighted the burden of constant workloads on university lecturers and schoolteachers during a pandemic. Most educators are currently struggling with preparation of online materials and never-ending administrative work resulting from the new norms and work from home activities.

Readiness for gamified online learning

Before introducing a new pedagogical approach especially in global pandemic situation, it is crucial to discover the learners’ readiness to adapt with a new change in teaching and learning (Barry & Kanematsu, 2020). Upon being asked about for students’ readiness gamified online learning during pandemic, some students were unsure if they are well-prepared for a change. It could be assumed that one of the constraints is students’ ability to cope with the need for high bandwidth of internet data.

A male student, Johan who used smartphone for online learning added that online learning (without the implementation of games elements) has already consumed large capacity of internet bandwidth, “I don’t know ... because right now I used quite a lot of data (internet) already”. His responses clearly depicted his limitation to cope with the requirement of the new approach.

Sarah who used a portable laptop for online learning also expressed her uncertainty on her readiness to cope with the gamified learning experience. She also expressed her uncertainty in terms of her readiness to learn in a gamified online learning context during pandemic, she stated, “not sure if I am ready ... but I think it could be interesting too if lecturer give us game”.

Despite the low level of readiness noted by some of the participants, it is also worth noting that some participants believe that the implementation of gamified learning in online learning during a pandemic will be able to bring about great advantages for students (Darmawan et al., 2020). Farah, a female participant, mentioned that acknowledging the students’ achievements using rewards and badges could motivate the students to learn in the classroom.

She also expressed her excitement by saying “I would love to if we get rewards”. Her statement was also agreed by another female participant, Siti mentioned “yes, of course ... maybe it could motivate us a bit” implying that the implementation of games in an online learning context could motivate students to learn.

Learning in an online setting during a pandemic is undoubtedly a challenging experience for students. In online learning, most students feel burdened and mentally exhausted with a continuous workload which requires them to be present in front of electronic devices (Nieto-Escamez & Roldán-Tapia, 2021). One of the participants also expressed their lack of interest in learning and attended the class for the sake of attendance. Siti added that “sometimes we felt so burdened to attend daily classes. The mood is no longer as before ... for some classes I only attend for attendance”, making her feel less interested in learning.

Upon being asked about rewards and punishment, the researcher noted that these students were more concerned if the lecturers penalised their marks. It is also interesting to note that negative reinforcement, such as the implementation of penalties for incomplete tasks, will be taken seriously by the students. One of the participants, Aini added, “of course if my lecturer said she will deduct marks, I will take it more seriously”. Her statement is also supported by other participants who agreed that she would be more disciplined in her studies if the lecturer implied more strictness during the lesson. Izzah added “I will make sure to standby early if my lecturer warns earlier”. It could also be concluded that, if the lecturers do not imply strictness to their students, there is a higher possibility for the students to be more laidback.

Another participant, Aini, agreed that some students do not take the lesson seriously, especially when the lecturer was being lenient, she said, “some classes where lecturers are more laidback, I noticed some of my friends don’t really take that seriously”. In general, feedback received from students, including responses like “not sure” and “don’t know” could reflect their uncertainty about adapting to the game-based approach in online learning. After being asked a slightly different question about whether they would love to receive rewards, most of the students agreed that it could motivate them to learn during a pandemic.

Possible benefits of gamified learning

The integration of games into the classroom and the implementation of game elements such as rewards, levels, and badges have long been recognised as an approach to improving learners' motivation to learn. In the context of online learning, learners' attention span has always become the main challenge for learners. In order to improve the current situation, particularly during the times of pandemic, gamification and implementation of games in online classrooms are rising as the means to curb the problems (Park & Kim, 2021).

In this study, the researchers discovered multiple responses from the students in terms of the benefits of gamified learning in the online classroom. One of the participants mentioned that implementation of negative reinforcement could be useful for teachers. Sarah added that negative enforcement could make students more disciplined, she said, "in order to survive during times like this (pandemic), maybe using that (punishment) will be beneficial (effective) for some students".

Her statement is further supported by another male respondent, Ahmad, who responded positively towards the use of rewards and positive reinforcement to increase students' motivation. He also mentioned that, instead of implying negative reinforcement, lecturers could also motivate the students by giving rewards to the students to attract their interest and motivation to learn, he said, "giving rewards could be nice too ... I remember my lecturer brought us some food and gave us chocolate if we answer correctly and my classmates are so active (participative)".

His response was also supported by one of the participants, Amir, who agreed that the implementation of a continuous gamified context enables on-going rewards and recognition of achievement could motivate them to learn, he said, "I like it if it is done in longer time (continuous). Like, not just once. Maybe for each class we collect marks and points, and the winner is announced at the end of the semester".

Some courses could be very challenging for some students. Therefore, these courses require more effort from the lecturers to ensure effective teaching and learning experience. Fun and interactive elements in a gamified classroom could be useful for online classrooms, especially during a pandemic (Suwanmolee, 2021). Previous research on learning in pandemics showed that more effort should be employed by educators as a tool to gauge the learning in the right direction. Aini, a female participant, also added that implementing

game elements in an unpleasant context and unattractive courses could motivate the students to learn, she said, “it could be beneficial especially when the subject is quite heavy, and we are not that motivated to attend”.

Apart from the challenging experience of online learning during the pandemic, it is also worth noting that some students who are from low socio-economic status are adversely affected in terms of their financial. Farid, a male participant, mentioned that rewards are beneficial for students as they could attract them intrinsically making them more motivated to learn, he said, “For times like this (pandemic), if we can get rewards, it is nice too. Some of us are not from comfortable family, so if we can get some rewards, maybe we will feel more motivated to learn”. His views on the challenges faced by students during pandemic gave an insightful input about the current uncertainty and volatility in pandemic.

Pedagogical implications

Findings from this study revealed a number of practical pedagogical implications. Analysis of the results highlighted that the current context of online learning during the pandemic could be overwhelming for students with all courses being conducted online. It is also noted that during the pandemic, course instructors were conducting generic and basic materials for online learning with limited features of motivating and engaging elements such as games. Therefore, it is suggested that ESL instructors (particularly those who were conducting online classes during the pandemic) use multiple teaching approaches, such as game-based learning approaches and gamification elements for classroom learning. Students who participated in this study also concurred that the distribution of rewards and points for every achievement can potentially increase their motivation and interest in learning. Therefore, the researchers in the current study suggested online instructors embed multiple elements of game-based learning, such as points and rewards, to overcome students’ demotivation and loss of interest in the lesson particularly in online learning during a pandemic.

Conclusion

The results from the analysis revealed that despite the convenience of online learning in terms of hassle-free travelling and flexible timing, online learning during a pandemic is still very challenging for students. Some of the participants in this study agreed that the implementation of online distance learning was very helpful during this pandemic. However, it is also worth noting that some students are also struggling to adapt to the new norms,

especially those with limited resources and facilities. It is also noted that, despite the promising benefits of gamified learning in the context of online learning, some students are unsure if they are fully ready and prepared to cope with the new norms and the need for better internet connection and data. Implementation of some features and elements of games, such as rewards, levels, and badges, is generally useful for students as it could potentially increase their motivation to learn. However, both researchers and practitioners should take into consideration the feasibility and practicality of implementing such elements in the new norms. This includes the integration of more activities that promotes students' interaction such as live quizzes and games throughout the lesson. It is also worth to implement rewards and penalty elements for every task accomplishment. The current study explores students' insights into the potential of gamified learning in the context of online learning during a pandemic. Discovery of the potential of gamified learning is only limited to the current implementation of teaching and learning during the pandemic after the outbreak of COVID-19 at the end of 2019. The researchers also limited this study to a certain number of participants and the data obtained in this study could not be generalised to a larger population as the results of this study do not reflect an overall scenario of the current situation of the pedagogical process in Malaysia during the pandemic. Therefore, further analysis on the effects of gamification on students' learning is also yet to be discovered.

References

- Almusharraf, N., & Khahro, S. (2020). Students' satisfaction with online learning experiences during the COVID-19 pandemic. *International Journal of Emerging Technologies in Learning (IJET)*, 15(21), 246–267.
- Azar, A. S., & Tan, N. H. I. (2020). The application of ICT techs (mobile-assisted language learning, gamification, and virtual reality) in teaching English for secondary school students in Malaysia during Covid-19 pandemic. *Univers J Educ Res*, 8(11), 55–63.
- Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. *Journal of Education and eLearning Research*, 7(3), 285–292.
- Barry, D. M., & Kanematsu, H. (2020). Teaching during the COVID-19 pandemic. *Online Submission*. <https://eric.ed.gov/?id=ED606017>
- Behforouz, B., Al Gaithi, A., & Fekri, N. (2021). Omani EFL learner perceptions and motivation toward online learning. *Journal of University Teaching & Learning Practice*, 18(4), 13.
- Braun, V., Clarke, V., Boulton, E., Davey, L., & McEvoy, C. (2020). The online survey as a qualitative research tool. *International Journal of Social Research Methodology*, 1–14.

- Darmawan, M. S., Daeni, F., & Listiaji, P. (2020). The use of Quizizz as an online assessment application for science learning in the pandemic era. *Unnes Science Education Journal*, 9(3), 144–150.
- Dliss, F., & Sukur, A. (2021). The effect of online learning and student motivation during the COVID-19 pandemic. *Gladi: Jurnal Ilmu Keolahragaan*, 12(01), 62–72.
- Fauzi, I., & Khusuma, I. H. S. (2020). Teachers' elementary school in online learning of COVID-19 pandemic conditions. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 5(1), 58–70.
- Hadi, M. S., & Irbah A, N. (2021). Gamification's effectiveness in online English teaching in the pandemic era. *Jurnal Studi Guru dan Pembelajaran*, 4(2), 282–286.
- Lestari, B. D., & Noer, S. H. (2021). The learning strategy of the flipped classroom with gamification as an alternative learning solution during the COVID-19 pandemic. Proceedings of the 2nd International Conference on Progressive Education, ICOPE 2020, 16–17 October 2020, Universitas Lampung, Bandar Lampung, Indonesia. <https://doi.org/10.4108/eai.16-10-2020.2305193>
- López-Belmonte, J., Segura-Robles, A., Fuentes-Cabrera, A., & Parra-González, M. E. (2020). Evaluating activation and absence of negative effect: Gamification and escape rooms for learning. *International Journal of Environmental Research and Public Health*, 17(7), 2224.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook*. SAGE Publications.
- Nadlifatin, R., Persada, S. F., Bhawika, G. W., Handiwibowo, G. A., Noer, L. R., Prayitno, B. S., & Rahman, M. F. (2020). Factors affecting students' intention of gamification for learning model in the COVID-19 pandemic era at Indonesia: A confirmatory factor analysis. *Proceedings of the 2nd International Conference on Business and Management of Technology*. <https://doi.org/10.2991/aebmr.k.210510.050>
- Nartiningrum, N., & Nugroho, A. (2020). Online learning amidst global pandemic: EFL students' challenges, suggestions, and needed materials. *ENGLISH FRANCA: Academic Journal of English Language and Education*, 4(2), 115–140.
- Nieto-Escamez, F. A., & Roldán-Tapia, M. D. (2021). Gamification as online teaching strategy during COVID-19: A mini-review. *Frontiers in Psychology*, 12.
- Oe, H., Takemoto, T., & Ridwan, M. (2020). Is gamification a magic tool?: Illusion, remedy, and future opportunities in enhancing learning outcomes during and beyond the COVID-19. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, 3(3), 1401–1414.
- Park, S., & Kim, S. (2021). Is sustainable online learning possible with gamification?—The effect of gamified online learning on student learning. *Sustainability*, 13(8), 4267.
- Rajab, M. H., Gazal, A. M., & Alkattan, K. (2020). Challenges to online medical education during the COVID-19 pandemic. *Cureus*, 12(7).
- Satrio, Y. D., Wardoyo, C., Sahid, S., Fauzan, S., & Ma'ruf, D. (2021). The effectiveness of educational games on post-pandemic learning. *KnE Social Sciences*, 366–373.
- Seaborn, K. (2021). Eliminating gamification: A research agenda. *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (CHI EA '21)*. In Press.

- Setiawan, B., & Lasha, V. (2020). Covid-19 pandemic: The influence of full-online learning for elementary school in rural areas. *JPsd (Jurnal Pendidikan Sekolah Dasar)*, 6(2), 114–123.
- Sia, J. K. M., & Adamu, A. A. (2020). Facing the unknown: Pandemic and higher education in Malaysia. *Asian Education and Development Studies*, 10(2), 263–275.
- Strauss, A., & Corbin, J. M. (1997). *Grounded Theory in Practice*. SAGE Publications.
- Supian, N., Wilson, T., & Cheah, K. S. (2021). Challenges and solutions to implementing digital game-based language learning during the Covid-19 pandemic. *International Conference of Research on Language Education (I-Role) 2021: Engaging in Change: Empowering*.
- Sutarto, S., Sari, D. P., & Fathurrochman, I. (2020). Teacher strategies in online learning to increase students' interest in learning during COVID-19 pandemic. *Jurnal Konseling dan Pendidikan*, 8(3), 129–137.
- Suwanmolee, S. (2021). The gamification of Covid-19 pandemic as an active learning tool in disaster education. Paper presented at 6th UPI International Conference on TVET 2020 (TVET 2020).
- Tang, Y. M., Chen, P. C., Law, K. M., Wu, C. H., Lau, Y. Y., Guan, J., ... & Ho, G. T. (2021). Comparative analysis of Student's live online learning readiness during the coronavirus (COVID-19) pandemic in the higher education sector. *Computers & Education*, 168, 104211.
- Wijaya, T. T., Zhou, Y., Purnama, A., & Hermita, N. (2020). Indonesian students' learning attitude towards online learning during the coronavirus pandemic. *Psychology Evaluation, and Technology in Educational Research*, 3(1), 17–25.
- Zain, N. H. M., Johari, S. N., Aziz, S. R. A., Teo, N. H. I., Ishak, N. H., & Othman, Z. (2021). Winning the needs of the Gen Z: Gamified health awareness campaign in defeating COVID-19 pandemic. *Procedia Computer Science*, 179, 974–981.

Breaking into New Norms: Synchronous Collaborative Language Teaching and Learning via Breakout Sessions in Video Conferencing Tools

Ezleena Mustafa Kamal & Debbita Tan Ai Lin

Introduction

The severity of the COVID-19 crisis has forced educators to make an unprecedented shift towards online teaching and learning (OTL). Events caused by the pandemic have necessitated the full – and somewhat unready – adoption of online instruction by language teachers and learners in efforts to not only maintain continuity in learning, but to also maintain some semblance of normalcy in a very uncertain time.

Dhawan (2020) deemed the pandemic a tragedy that has shaken up the education sector, and is likely to force many educational institutions to remain closed. This does not bode well for all academic subjects in general, but especially so for skill-based ones like language courses. This is because language learners require a great extent of interaction and communicative opportunities in order to develop their proficiency in the skills of reading, writing, listening, and speaking. Since lockdowns were imposed, educators have had to cope with drastic changes as well as the burden of finding alternative methods that can perpetuate the teaching-learning process (Maican & Cocorada, 2021),

and while video conferencing tools do offer features that may facilitate communicative opportunities, a lack of technical and functional knowledge can hamper efforts to break into new norms effectively.

In essence, online education has garnered wider attention since the emergence of the COVID-19 crisis. When discussing online education, many aspects – including pedagogical shifts, use of unfamiliar tools and platforms, the role of educators, students' engagement and motivation, faculty support, and emotional challenges – flood most of extant literature. To provide a critical background to this chapter, OTL will first be discussed from the perspective of emergency OTL in times of crises. Secondly, the discussion delves into the realm of collaborative teaching and learning within the construct of virtuality. Third, we look towards the use of breakout sessions for synchronous collaborative language education, and in the final portion of this chapter, readers will find discourse pertaining to the challenges of online education as well as practical recommendations.

Emergency Online Education

The global pandemic crisis of COVID-19 has upended educational institutions all over the world, forcing educators to shift swiftly from face-to-face instruction to online teaching. This shift took place under unique circumstances as it happened simultaneously and immediately in all countries against the backdrop of a global health emergency. Although online education is not an unfamiliar concept in the pedagogical world, the unprecedented global crisis has created a surge in the discourse of online teaching and learning. In providing a critical context to this chapter, it is important to highlight the necessity of drawing distinctions between OTL and emergency OTL. This serves to divorce the former from the latter, to avoid the common misconception of equating them as one and the same.

Despite sharing similar platforms for instruction to take place, emergency OTL differs greatly from regular OTL in terms of purpose and planning. Emergency online teaching serves the purpose of temporarily replacing face-to-face instruction in times of critical crises (Hodges et al., 2020). Arguably, the sudden and unplanned shift to virtual learning platforms is meant only to provide the continuity of face-to-face education, rather than replacing it. Under usual circumstances, courses that are planned to be taught online undergo planning, preparation, and development for at least six to nine months to ensure effective delivery (Hodges et al., 2020). In stark contrast, emergency online teaching is driven by the urgency for immediate set-up as well as limitations pertaining to time and resources (Juhary, 2020).

Thus, it is unjustified for emergency online education to be viewed from conventional angles in terms of readiness and effectiveness. However, emergency online education is not uncommon in some parts of the world. In fact, it has managed to provide quick and temporary access to education for many learners. According to the Inter-Agency Network for Education in Emergencies (Davies & Bentrovato, 2011, as cited in Hodges et al., 2020), an instance where educators resorted to using creative means to deliver instruction is the case of Afghanistan, at a time when the country was disrupted by conflict and violence, impacting educational institutions. The educators there turned to radio education and DVDs to maintain knowledge delivery and access to education.

In thinking about emergency OTL at the present time due to the emergence of the COVID-19 crisis, it is undeniable that educators are put under constant pressure to meet the multiple demands of lesson delivery, including the attainment of course objectives, materials preparation, and ensuring learner participation. However, we must bear in mind the tendency to also equate emergency OTL with face-to-face teaching and learning, and manage our expectations accordingly. Nevertheless, educational planning in times of emergency and crisis requires creative problem-solving to compensate for the disadvantages that come with teaching and learning in unconventional ways.

Fortunately, creative problem-solving does not necessarily require new and inventive tools, but is truthfully more about fully and effectively embracing available tools to creatively deliver the lesson. One of the available tools on online platforms that can contribute towards lesson delivery and manage group tasks effectively is the breakout session or breakout room feature. It is hoped that this chapter can offer some insights and guidance, in terms of incorporating this feature into individual learning sessions.

The Breakout Session Feature

As interest in OTL deepens due to the recent paradigm shift in education, there is now also an increase in efforts to encourage collaborative education in online courses. According to Moore and Kearsley (2012), as cited in Robinson et al. (2017), collaborative learning occurs in an environment whereby individual learners support and add to the group knowledge, with an emphasis on peer relationships as learners work together. This in turn creates a learning community (Robinson et al., 2017).

In the online environment, Hrastinski (2009), as cited in Robinson et al. (2017), advocated the practice of collaboration in online learning, noting collaboration and participation as the drivers of online learning. Although learner-to-learner collaboration may take different forms in an online setting in comparison to a face-to-face one, it remains an essential pedagogical approach to ensure student engagement.

A recent study by Saltz and Heckman (2020), conducted in response to the global health crisis, demonstrates the practicalities of using Zoom's breakout session feature in delivering a pair programming course. The researchers highlighted that learner-to-learner interaction took place gradually within the eight-week duration of the course. An interesting insight from the study is that peer collaboration did not happen immediately but rather, gradually. In the beginning, the participants displayed slight confusion about their roles but continuously increased their engagement and participation as they developed better social connections with each other.

Interestingly, a similar but more recent study by Li et al. in 2021, also involving the use of breakout sessions and pair programming lessons, echoed Saltz and Heckman's findings. Li and colleagues garnered positive feedback from the students with most of them noting that they were able to interact more with others from the use of breakout feature. However, they did mention that a lack of digital literacy affected their performance and participation, with many citing difficulties when using the feature for the first time without specific instructions or tutorials.

A key takeaway from these studies remains that breakout sessions do not automatically create student engagement and higher levels of learning, but require careful task or lesson design by instructors. Both studies also concluded that breakout sessions are capable of enhancing collaborative learning in online classrooms and promote active as well as problem-based learning.

On a similar path, Wut and Xu (2021), through in-depth interviews with university instructors and students, found that student-instructor and student-student interactions in online classroom settings cannot fully establish cognitive and affective social presence without the use of suitable tools and techniques. The researchers recommended breakout rooms and engagement techniques including active encouragement and incentives. On a more practical note, they pointed out the need for instructors to improve their digital literacy skills and for universities to be adaptable in decision-making and policy implementation in times of crises and emergencies. In another

study on OTL, Hew et al. (2020) focused on video conferencing-assisted online flipped classrooms, noting that the COVID-19 outbreak has compelled many universities to switch immediately to online lesson delivery. Among others, they emphasised the need to help students transition to e-platforms like Zoom, to engage and re-engage their attention, and allow the use of mobile instant messaging apps like WhatsApp to facilitate interactions during breakout sessions. It was concluded that online flipped classrooms can be just as effective as conventional flipped classrooms when good practices are adhered to.

Breakout Sessions for Language Teaching and Learning

Breakout sessions are increasingly utilised in OTL even prior to the urgent shift to online platforms due to the COVID-19 crisis. For example, Martin and Parker (2014) reported that 25% of surveyed online educators used breakout sessions. Most of the OTL using breakout sessions prior to the health crisis occurred within the dimension of distance learning. However, most studies pertaining to the use of breakout sessions in OTL describe the feedback generated rather than the pedagogical aspects (Saltz & Heckman, 2020). Furthermore, there has been minimal research done on language teaching using breakout sessions.

From the perspective of language teaching, Kohnke and Moorhouse (2020) highlighted the availability of various feedback icons such as hand raise, thumbs up, and other emojis, describing them as paralinguistic cues in interactions. These paralinguistic cues are important in online language learning because they can aid students who are nervous about their oral English skill, and for educators to provide corrective feedback.

Additionally, the breakout session feature helps facilitate communicative language learning. For example, learners are put in pairs or small groups of three to five people, with specific tasks designed to promote discussion and interaction. In this way, learners are directed towards managing language input and output, as well as negotiation of meaning. These aspects are not only instrumental to language acquisition, but also to the refinement of one's language skills.

Most importantly, working with peers permits learners to improve their metacognitive skills (Robinson et al., 2017) which helps to steer the process from a teacher-centred one to a student-centred one. The available tools in breakout sessions can be used by both educators and learners to improve learners' language production, interaction, and engagement. Not only that,

when well-designed language tasks are executed in breakout sessions, they can promote meaning-focused output, which is essential for successful language learning.

Now that educators are informed of the importance of including collaboration and utilising breakout sessions in online language education, it is crucial to know the technicalities of the feature, available on most video conferencing tools such as Zoom and Webex. The subsequent section presents the practical features and functionalities of breakout sessions.

Breakout Sessions: The Break Down

Over the past year, the COVID-19 pandemic has shifted the way we communicate, meet, and teach. Many restrictions have been imposed, forcing educators worldwide to embrace new norms. Varieties of video conferencing platforms are being utilised for OTL such as Zoom, Webex, Google Meet and Microsoft Teams. One of the key features included in most of these platforms is breakout rooms (on Zoom) or breakout sessions (on Webex).

What are breakout sessions?

Think about when you give a lecture in the classroom and then physically assign students with a group task. They would start to break out and move into their assigned groups to brainstorm and collaborate on the task assigned. The breakout session feature makes this possible in virtual classrooms.

The breakout session feature in video conferencing tools presents opportunities for students to collaborate with their peers in the virtual classroom by engaging in small group discussions. One of the challenges of OTL for learners is turn-taking or hand-offs (Earnshaw, 2017). While conversations in a face-to-face setting may typically be seamless, it is more challenging in computer-mediated exchanges such as in an online synchronous course. For instance, in conversations that occur face-to-face, participants display paralinguistic cues including facial expressions, gestures and voice intonation to show certain responses to communicate exchanges. In the context of classroom learning, these cues can especially help instructors by indicating the learners' interest, comprehension, and engagement (Kohnke & Moorhouse, 2020).

However, virtually, it may pose a challenge for instructors to gauge learners' attentiveness, confusion or lack of drive, particularly in a session that involves a large number of participants. In ensuring successful language learning, educators need to provide meaning-focused input, provide opportunities

for teacher-student and peer interactions, and encourage the production of meaningful output from learners. This can be achieved by utilising the breakout session feature. It allows the host or co-host to split a session at any time during a synchronous learning session into multiple separate sessions or 'rooms'. Depending on the platform, each breakout session allows up to 50 to 100 participants to collaborate via the chat box or via audio-visual means.

To create the breakout session, the host or co-host (in this context, the instructor) needs to click on the breakout session button available either at the top or bottom of the main meeting screen. The instructor has the option to either assign participants automatically or manually into different breakout sessions. This way, the instructor is in control of the grouping exercise for any task. Manual assignment of students is useful for when instructors intend to group students according to a particular skill level or proficiency. This is crucial because higher proficiency students can support the weaker ones, via peer support and interaction. Automatic assignment of participants helps to speed up the process and allows students to be grouped randomly, increasing the chance of variation which can work well for enhancing interactional experiences. Additionally, participants can also choose to join any active session if allowed to do so by the host or co-host. Figure 1 illustrates the assignment of participants on the Webex platform.

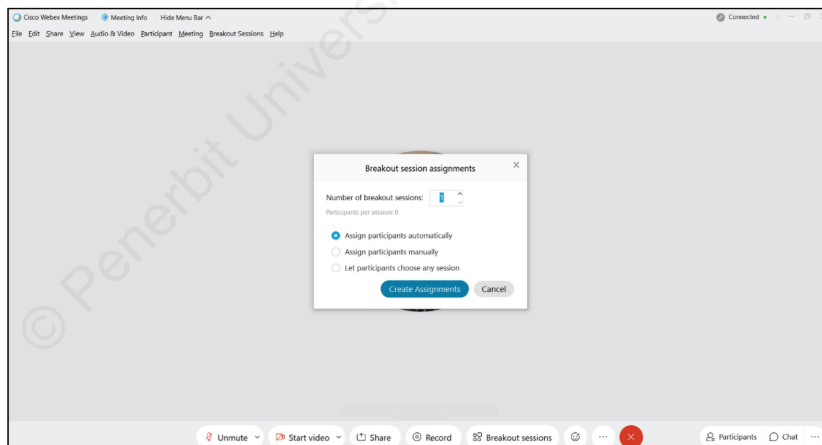


Figure 1 Options for creating breakout sessions

As the host, instructors can access the host privileges for the breakout sessions created (Figure 2). One of the privileges is control over the time setting when assigning a task to participants. Participants are directed back into the main meeting once the time set by the instructor is up. This helps to keep the task assigned time-focused and helps participants maximise the time

given efficiently. Aside from that, host privileges include assigning, moving, exchanging and removing participants from a room, adding and deleting room(s), and ending all sessions. Instructors can also manage participant collaborations by joining and leaving any room at any time – a feature that mimics teacher support and assistance in a face-to-face group discussion.

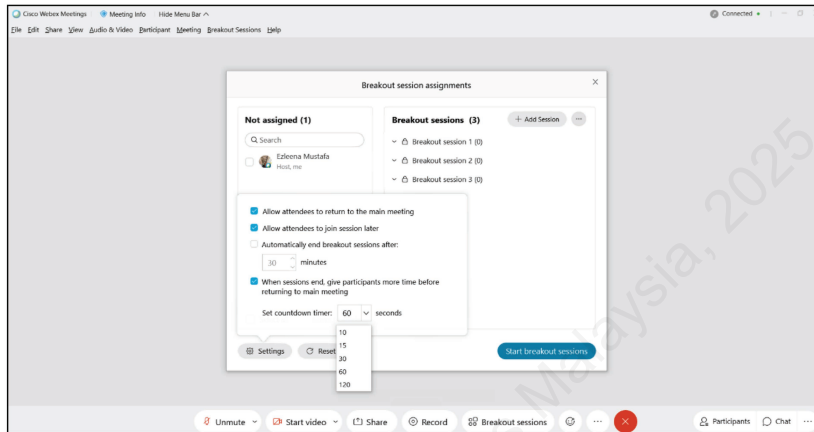


Figure 2 Host privileges in breakout session setting

From the participants' side of the screen, once breakout rooms are created, a notification will appear to inform them to either join a room assigned to them or to manually select one (Figure 3). Participants are able to see the names of other attendees and collaborations primarily occur through discussions via the microphone or via the chat box.

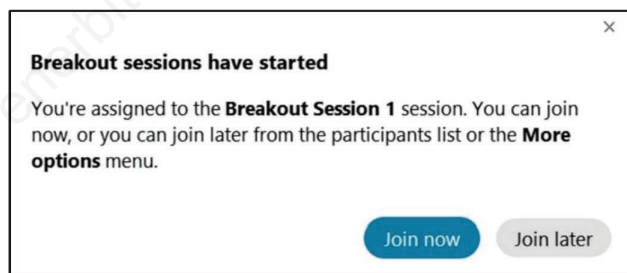


Figure 3 Message appears on-screen prompting participants to join a breakout session

Preliminary set-up measures

Before deciding to utilise the breakout session feature, instructors must anticipate several challenges that may occur. These challenges are most likely to occur if students are not provided with enough information to go about the

task. As teachers develop their digital literacy, it is essential to also keep in mind our students' digital competencies which may vary at different levels. Students with lower digital competency are most likely unable to navigate their way in breakout sessions, which may then lead to frustration and minimal collaborative effort.

Therefore, preliminary measures are vital. If uninformed, students might not be able to attend a session fully prepared, leading to an anxious learning environment that may hinder successful learning. The following set-up measures do not only help learners, but also support educators in developing and applying collaborative teaching methods.

Pre-prepare the task

Educators may be inclined to move forward with teaching on the virtual platform as how they would in a physical classroom. Yet, the fundamental difference between virtual and physical classrooms lies in the limitation of communication between all parties. Additional considerations and modifications are needed because of this limitation. A group task that would normally be assigned spontaneously in a face-to-face classroom now has to be prepared ahead of time to ensure effective group work among participants. Task pre-preparation can be done asynchronously, allowing for synchronous and asynchronous teaching and learning to occur together.

Pre-preparation of tasks may include designing group activities in accordance with the topics to be covered in a course. The design should include identifying and deciding on group divisions, time limitations, instructions, and flow of potential discussions. Depending on how much support is needed by the participants and the complexity of the task, instructors can decide on the extent of task preparation. An instance in language learning, students may be asked to interpret a text during a synchronous online session. Thus, as a preliminary measure, the instructor can make the materials available for students to access ahead of time. There is flexibility in doing this, either by posting the materials on a learning platform or sharing them on a cloud platform such as a shared drive. Figure 4 shows samples of actual class materials, posted ahead of time to allow students to prepare themselves before each lesson.



Figure 4 Pre-prepared materials for different breakout sessions

Clear instructions

To ensure student interaction and engagement in a breakout session, instructors need to provide clear instructions to learners for the group activities designed. As many elements in OTL are not within our control such as the internet connection, audio quality, and video appearance in real time, it is especially helpful to share all task instructions in written form. This can be done in advance by posting them on a shared platform. Simple, widely-used applications like WhatsApp can come in useful for this purpose.

Learners also find it helpful when teachers clearly explain what is expected from them. Teachers' expectations may include very specific items such as the number of answers or points that students should come up with and the angle of discussion. Thus, teachers can further support learners by displaying written instructions on a shared screen and supplementing them with verbal guidance (Figure 5). In a virtual classroom, a clear set of instructions at the start of a lesson can help instructors engage learners in the task that they need to complete (Li et al., 2021).

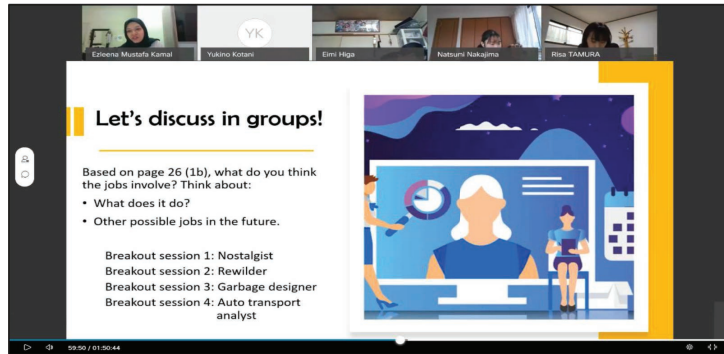


Figure 5 Sample of task instructions displayed via a shared screen

Assign specific roles

One mistake that educators tend to make when managing a virtual classroom is they tend to expect peer participation and engagement among learners to unfold spontaneously in the same way they would in a physical classroom. There is an obvious mismatch between this expectation and the reality of it because of the limitations present in a virtual classroom. For instance, in a virtual classroom, learners might not know each other well enough to establish a close and comfortable relationship. This results in weaker group dynamics, unlike in a physical classroom where learners have the chance to bond and develop social connections prior to working together on group tasks.

Hence, students may struggle with matters like task division and resort to working independently with minimal collaborative efforts in a breakout session. Teachers are in the best position to prevent this by creating task divisions for them. To maintain some measure of autonomy, teachers can specify the roles while students decide – with their peers – which role to take up. Ideally, a breakout session should have about three to five participants to ensure that each student has a meaningful task to complete. An approach that might work best is to assign a group leader for each breakout session. The group leader can assist in keeping other participants focused on the task at hand. Ultimately, it is important for instructors to keep in mind that learners need time to get comfortable in a new environment, especially one that involves working with unfamiliar individuals.

Set a time limit

Similar to a group task in a face-to-face setting, group tasks in virtual settings function most efficiently when a time limit is set by the instructor. This works simply because it keeps participants on track. With online group work, it is advisable for instructors to lower the stakes when introducing a new tool to learners. Instructors need to impose flexible time limits to accommodate possible technical interruptions in breakout sessions such as unstable connection and audio-visual issues.

In language learning, straightforward group activities require only five to ten minutes of participation in a breakout session. Meanwhile, a task of higher complexity might take up to 20 minutes. When using the breakout session feature, instructors can utilise the time limit setting to keep participants informed of how much time they have left to complete a task. A breakout session can also automatically end if set to do so by the host. A point that needs to be taken into consideration is the possibility of learners experiencing screen fatigue or burnout, thus it is best to avoid extending breakout sessions longer than they need to be. In virtual learning, longer collaboration time in a session does not necessarily result in better interaction among learners.

Designing Effective Materials and Tasks for Breakout Sessions

As technology continues developing over the years, the functionality of video conferencing tools has also undergone development. Online learning platforms are no longer mono-directional and teacher-centred entities. They have evolved into efficient multi-user domains capable of creating engaging learner-centred environments. The varied video conferencing tools should be of particular interest to language instructors due to the potential role that they demonstrate for communicative language teaching (Goertler, 2009). The breakout session feature specifically allows for easy and seamless integration of communication activities through the practice of peer collaboration among learners.

When discussing communicative activities in language teaching and learning, an approach that is most relevant for mention is the communicative language teaching (CLT) approach. Researchers have observed that learners' cooperative participation is central in the CLT approach (Ng, 2020). Through the CLT approach, language learners engage in meaningful interactions through peer collaboration when accorded the opportunity to work together on the virtual platform. Synchronous collaboration occurs through classroom

activities in which learners negotiate meaning, use communication strategies, ask for clarifications, voice out opinions, correct misunderstandings, and work to avoid communication breakdowns (Richards, 2006).

One central concept to the CLT approach is the practice of having activities or tasks designed to be carried out either in pairs or in small groups. Another key characteristic is that the tasks should promote authentic communication. A study by Ng (2020) on language teaching among pre-service teachers in Singapore considered these key features of the CLT approach and applied them through synchronous online teaching via Zoom.

In the study, two course activities were designed, related to the current issue of COVID-19. These activities involved creative problem-solving through discussion and role-plays. It was concluded that the activities managed to promote spontaneous discussion and peer collaboration, contributing to authentic language production. The initial main concerns were whether two-way communication between learners could happen and managing learner contributions in the tasks assigned. Fortunately, built-in features in video conferencing platforms can help educators manage these concerns by using them as 'teacher tools'.

As previously mentioned, the CLT approach is driven by communicative language activities that encourage learners to identify problems, brainstorm for solutions, and negotiate ideas. These activities may include situational tasks such as role-playing or real life situations to prompt learners even further, to draw from personal experiences and share thoughts with one another.

Task-based learning (TBL) is highly suitable for use in breakout sessions, given proper infrastructure and proper planning with respect to the task-based language activities to be implemented. TBL interweaves with CLT as well as the collaborative learning approach, and apart from promoting learner-centredness, prioritises discursive practices that encourage learners to shape the discourse and solve problems or complete tasks successfully (Ellis, 2003).

The task is the heart of the task-based learning approach and Prabhu (1987), who first mentioned TBL in 1982, defined a language task as an activity which requires learners to reach an outcome from given information and which permits teachers to regulate the process. Nunan's (1989) definition sees it as a unit of classroom work which involves learners comprehending, manipulating, producing, and interacting in the target language – focusing their attention more on meaning rather than form.

TBL is fundamentally an approach rooted in the concepts of creativity, autonomy, and interactiveness, and the practice of focusing more on meaning rather than form as learners rely, to a substantial degree, on their own linguistic and non-linguistic resources (as well as benefiting from their peers) to successfully complete given tasks. TBL also prioritises authentic target language use (Saranraj & Ebenezer, 2020) and activities such as dialogues, negotiations, debates, and speeches, as well as pedagogical ones like vocabulary and grammatical exercises, all fall within the structure of TBL. Evidently, language instructors stand to enjoy a good measure of flexibility with TBL, CLT and collaborative learning, which goes a long way in helping one manage the challenges of teaching during a pandemic. Similarly, language learners can expect to benefit from this flexibility in the virtual classroom, as a means of mitigating the difficulties of learning in the midst of a global health crisis.

Figures 6 and 7 are examples of actual communicative, task-based language activities used in breakout sessions with English as a second language (ESL) learners. Figure 6 shows a problem-solving task that requires peer collaboration among students. The task required them to work together to solve a murder mystery. The lesson revolved around the topic crime and prior to assigning the task, the learners were first exposed to new vocabularies related to crime. This was necessary so that the learners could use the vocabularies in their discussion.

Furthermore, the learners were given access to the task sheet prior to the lesson. This was to enable them to be well-prepared so they could contribute meaningfully to discussions. The learners were also given a specific time frame to complete the task. During the activity, instructors may check in on learners by entering each breakout session alternately and may even provide hints for solutions to learners depending on their need. These scaffolding techniques are essential in supporting learners during online learning. Figure 7 depicts another communicative language activity that can be used in the virtual language learning classroom, curated for the business, and workplace context.

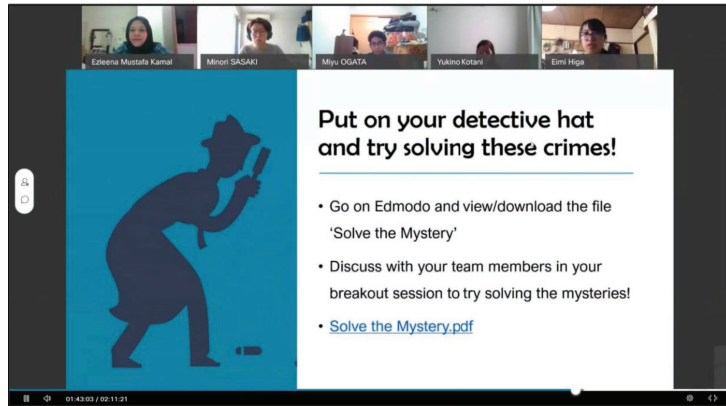


Figure 6 Example of problem-solving task for breakout sessions

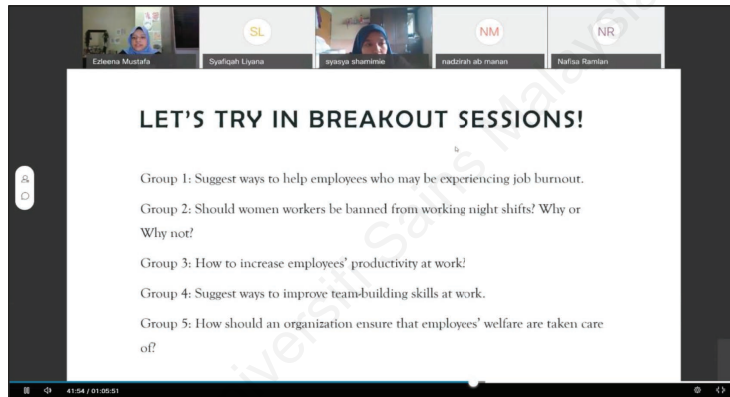


Figure 7 Example of group discussion task for breakout sessions

Teacher tools

Breakout rooms include built-in features that can be utilised by instructors to gain feedback on the effectiveness of the tasks assigned. These features serve as 'teacher tools' that can garner insights for pedagogical improvement, adjustment, and realignment to accommodate a virtual classroom. The features to be introduced in the next section are accessible by the host and participants. When managing a virtual classroom, it can prove to be rewarding for instructors to not only recognise the usefulness of available tools, but also how to leverage them to produce more effective learning environments. In the virtual classroom, it is even more vital for instructors to reassure students that support is available when and where needed. This is because the absence of non-verbal cues might lead to higher learning anxiety and hinder knowledge uptake as well as language productivity. To ensure

enjoyable and effective collaborative learning experiences among their students, teachers should implement online teaching practices that include checking-in, broadcasting and polling.

Checking-in

Among the host privileges made available during an ongoing breakout session is the ability to move from one session to another in order to observe each group's progress. Promoting independent collaborative learning is important when utilising the breakout session feature. However, managing student contribution is also essential to ensure that everyone has equal opportunities to voice their opinions, rather than having one or two participants dominating a discussion. From the instructors' angle, checking-in is done by switching between breakout sessions and offering support as well as feedback to learners to keep them on track. There is one drawback though – the instructor cannot attend and observe all active breakout sessions simultaneously. Fortunately, from the participants' angle, there is a feature available ('Ask for help') that can be used to inform the host or instructor that assistance is needed from a breakout session (Figure 8).

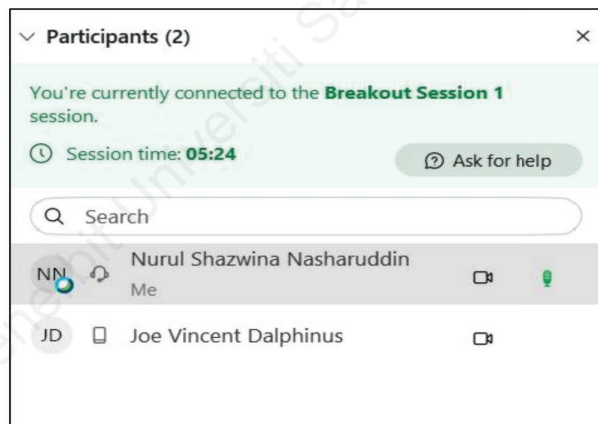


Figure 8 The 'Ask for help' feature for participants to call for assistance

If the instructor is monitoring participants in other breakout session, or in the main meeting, a message will appear on-screen to notify the instructor (Figure 9). Instant, real-time feedback, clarification, or even acknowledgement received from the instructor can help participants feel more secure, connected, and supported, almost as if they were in a face-to-face session.

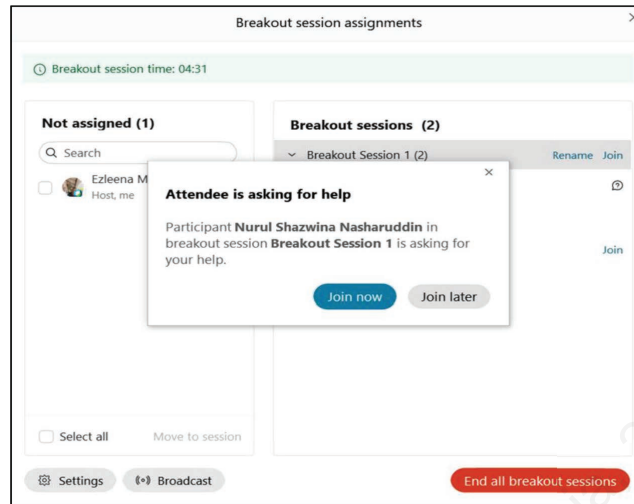


Figure 9 Notification on host's screen

Broadcasting

The broadcast function (Figure 10) helps instructors to send out a message, reminder, or even prompts to participants from the main meeting room. When using the broadcast function, instructors have the option to broadcast to all participants in all breakout sessions or to selected ones in specific breakout sessions. In terms of broadcasting task instructions, this feature is especially practical for mass announcements. Although it is best for teachers to give task instructions ahead of time, there is often the need to provide additional instruction or information to improve the flow and coherence of collaborative sessions.

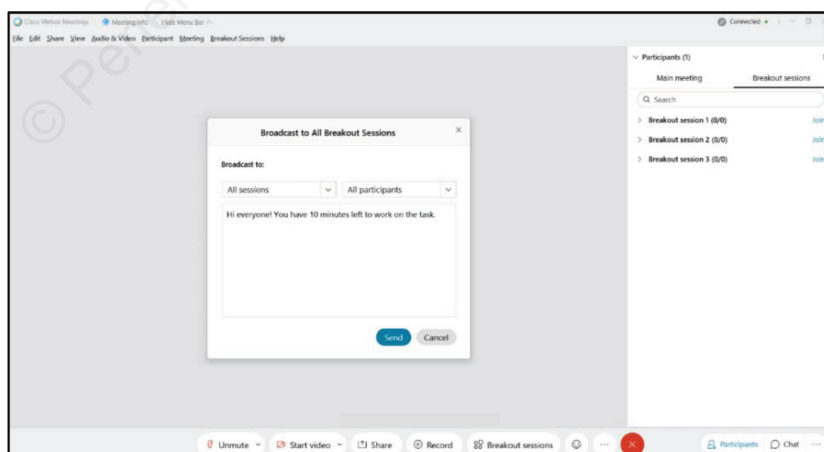


Figure 10 The broadcast function

Polling

Active collaboration among participants take place not only when they feel comfortable with each other, but also with the tools used. If learners are hesitant and uncomfortable using a digital tool, this may hinder their participation in any form of group work. They may experience increased anxiety and resort to avoidance behaviour. Therefore, it is important to find out what learners' experiences are like, gather feedback from them and ask about their struggles. This can be done conveniently using the polling feature available on most video conferencing platforms (Figure 11). Table 1 provides an overview of the availability of features across different platforms.

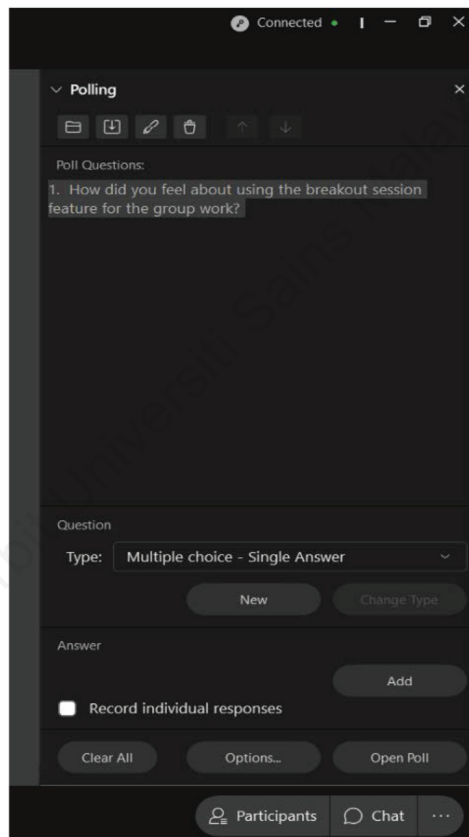


Figure 11 The polling function

Table 1 Availability of features in video conferencing tools

Features	Webex	Zoom	Microsoft Teams
Pre-assignment of participants	Yes	Yes	No
Meeting co-hosts	Yes	Yes	No
Broadcast feature	Yes	Yes	Yes
Time limitation setting	Yes	Yes	Yes
'Help' feature	Yes	Yes	Yes
Maximum number of breakout sessions	100	50	50

Model for Planning and Implementing Breakout Sessions

The authors suggest the following model (Figure 12) for the planning and implementation of breakout sessions via video conferencing tools, specifically for authentic and communicative language production in OTL. The model proposes to educators the core elements involved in the virtual classroom – before, during, and after class.

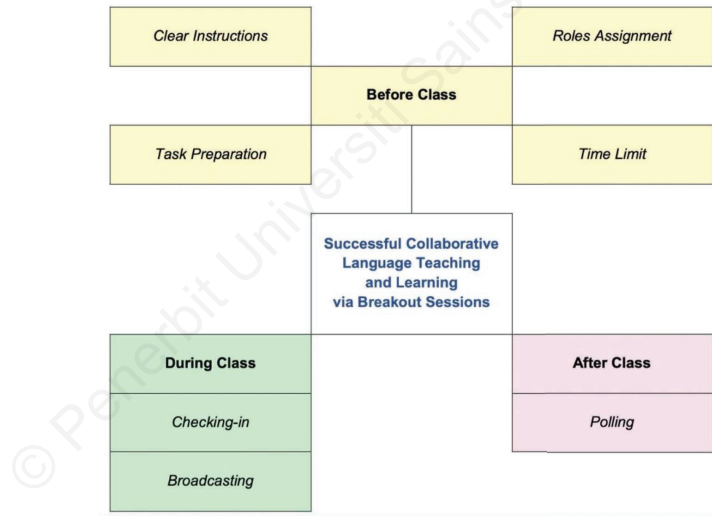


Figure 12 Breakout sessions model for collaborative language teaching and learning

Conclusions

Evidently, technology has enhanced teaching and learning and accorded it a new dimension. In the present pandemic crisis, e-platforms have proven to be the most feasible channels through which language teaching and learning can occur. In fact, referring to Dhawan (2020), online education is no longer an

option but a necessity, “the panacea for the crisis” (p. 7). More specifically and as presented in this chapter, the breakout session feature is an essential tool for authentic and communicative language production in OTL. However, the urgent and unprecedented shift to OTL has presented many educators with challenges in navigating the realm of technology. One of the main challenges is the lack of or limited training for educators. Prior to shifting their courses online immediately due to the emergence of the global health crisis, many instructors had not received formal and comprehensive training to prepare them for online delivery. With limited training, limited infrastructure and time constraints, educators were (and still are) placed under a lot of pressure to conduct their lessons online successfully. It is essentially a mismatch between preparedness and expectation. Khatoony and Nezhadmehr (2020) in their study reiterated the need for faculty support as most of their participants provided feedback calling for more teacher training courses that are relevant to current needs.

Much of the support provided at the faculty or institution level may only focus on the general use of online platforms. However, when using a specific feature such as the breakout session, a more detailed approach is necessary to enable and empower educators. Educators, in short, need to be able to manage and utilise the tools at their disposal efficiently and seamlessly. This will in turn only benefit the students under their tutelage.

Additionally, time is again at the heart of discussion for many educators in terms of lesson plans and task design. This is especially true when educators intend to use the breakout session feature in language teaching. To ensure the ease of task flow for both instructors and learners, group activities need to be carefully planned and complemented with a generous dose of support from instructors, to compensate for the ‘teacher presence’ that would otherwise have been easily accessible in the traditional face-to-face classroom. It is vital to always keep in mind that placing participants in breakout sessions does not automatically create collaboration and accelerate interest – but careful planning and designing of learning tasks does.

Aside from the pedagogical aspects, educators must also not discount the technical and social aspects of teaching online. These include Internet connectivity, digital literacy levels, and psychological preparedness for emergency OTL. It is important to realise that educators and learners can be unprepared for the immediate and unprecedented degree of shift to OTL. This may impact quality, presence, participation, and engagement during online lessons. Here, it is essential for the governing panels of educational institutions

to play the roles of mitigator and mediator, and to provide funding, training, and emotional aid where and when necessary to the educators and students under their care.

In relation to OTL in language learning, recent research has gained attention in terms of technologically-enhanced education, especially within the sphere of English language learning. Ahmad et al. (2019) have further referred to technologically-enhanced language learning as 'new technologies', particularly when discussing the teaching and learning of ESL. New technologies include the introduction of novel digital approaches in teaching and learning. While Ahmad et al. (2019) focused more on the recent emergence of massive online open courses (MOOCs) and blended learning tools, the authors find it equally important to emphasise the readily available sources and built-in features of OTL platforms (as is the case with the breakout session feature highlighted in this chapter).

Additionally, innovations in technology, be it new practices such as MOOCs or built-in features of online platforms, have been linked to shifts in learning experience, student engagement and conduciveness of learning environments (Al Fadda, 2019). By incorporating digital approaches, educators are often able to shift the focus of teaching and learning away from repetitive and traditional delivery methods to more dynamic and collaborative practices. In this discussion specifically, the breakout session feature places emphasis on virtual learning groups that create a more supportive and socially authentic environment for language learning.

Nevertheless, from the angle of the breakout session feature itself, there are also limitations worth mentioning. For example, one major disadvantage is that the host is not able to observe all sessions simultaneously from the main meeting room. Teacher presence can only be experienced when the instructor virtually enters each session separately, one at a time. This can be potentially time-consuming and may affect the management of student contribution; there may be instances of students dominating a discussion without allowing others the opportunity to speak, or students who refuse to participate even though there are allowances to do so.

Despite the challenges and limitations, OTL can be helpful during critical situations (Khatoony & Nezhadmehr, 2020). Technology integration is and will continue to be essential in assisting both educators and learners. The breakout session feature, specifically, offers us a creative and purposeful platform for online language teaching and learning. Sure, it may not be able to yield similar volumes in terms of teacher-learner and learner-learner engagement

as in a non-virtual classroom, but it nevertheless provides us with continuity of instruction, much like the overall purpose of emergency OTL or even when OTL has been transformed into a normality in the near future.

References

- Ahmad, M. K., Adnan, A. H. M., Azamri, N. M., Idris, K. B., Norafand, N. N., & Ishak, N. I. (2019). Education 4.0 technologies for English language teaching and learning in the Malaysian context. *Proceedings of the International Invention, Innovative & Creative (InIIC) Conference, Series 2/2019* (pp. 6–16).
- Al Fadda, H. (2019). The relationship between self-regulations and online learning in an ESL blended learning context. *English Language Teaching*, 12(6), 87–93. <https://doi.org/10.5539/elt.v12n6p87>
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>
- Earnshaw, Y. (2017). Navigating turn-taking and conversational repair in an online synchronous course. *Online Learning Journal*, 21(4), 315–332. <https://olj.onlinelearningconsortium.org/index.php/olj/article/view/1029>
- Ellis, R. (2003). *Task-Based Language Learning and Teaching*. Oxford: Oxford University Press.
- Goertler, S. (2009). Using computer-mediated communication (CMC) in language teaching. *Die Unterrichtspraxis/Teaching German*, 42(1), 74–84. <https://doi.org/10.1111/j.1756-1221.2009.00038.x>
- Hew, K. F., Jia, C., Gonda, D. E., & Bai, S. (2020). Transitioning to the “new normal” of learning in unpredictable times: Pedagogical practices and learning performance in fully online flipped classrooms. *International Journal of Educational Technology in Higher Education*, 17(57), 1–22. <https://doi.org/10.1186/s41239-020-00234-x>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review*, 27, 1–12. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Juhary, J. (2020). Emergency remote teaching during COVID-19 pandemic: Roles of educators in Malaysia. In M. M. C. Shobel (Ed.), *E-Learning and Digital Education in the Twenty-First Century: Challenges and Prospects* (Online, IntechOpen). <https://www.intechopen.com/online-first/emergency-remote-teaching-during-covid-19-pandemic-roles-of-educators-in-malaysia>
- Khatoony, S., & Nezhadmehr, M. (2020). EFL teachers’ challenges in integration of technology for online classrooms during Coronavirus (COVID-19) pandemic in Iran. *AJELP: Asian Journal of English Language and Pedagogy*, 8(2), 89–104. <https://ejournal.upsi.edu.my/index.php/AJELP/article/view/3523/2500>
- Kohnke, L., & Moorhouse, B. L. (2020). Facilitating synchronous online language learning through Zoom. *RELC Journal*, 1–6. <https://doi.org/10.1177/0033688220937235>

- Li, L., Xu, L. D., He, Y., He, W., Pribesh, S., Watson, S. M., & Major, D. A. (2021). Facilitating online learning via Zoom breakout room technology: A case of pair programming involving students with learning disabilities. *Communications of the Association for Information Systems*, 48(1), 88–100. <https://doi.org/10.17705/1CAIS.04812>
- Maican, M. A., & Cocorada, E. (2021). Online foreign language learning in higher education and its correlates during the COVID-19 pandemic. *Sustainability*, 13(2), 781–801. <https://doi.org/10.3390/su13020781>
- Martin, F., & Parker, M. A. (2014). Use of synchronous virtual classrooms: Why, who, and how? *MERLOT Journal of Online Learning and Teaching*, 10(2), 192–210. https://jolt.merlot.org/vol10no2/martin_0614.pdf
- Ng, C. H. (2020). Communicative language teaching (CLT) through synchronous online teaching in English language preservice teacher education. *International Journal of TESOL Studies (Special Issue, Part 1)*, 2(2), 62–73. <https://doi.org/10.46451/ijts.2020.09.06>
- Nunan, D. (1989). *Designing Tasks for the Communicative Classroom*. Cambridge: Cambridge University Press.
- Prabhu, N. S. (1987). *Second Language Pedagogy*. Oxford: Oxford University Press.
- Richards, J. C. (2006). *Communicative Language Teaching Today*. Cambridge: Cambridge University Press.
- Robinson, H. A., Kilgore, W., & Warren, S. J. (2017). Care, communication, learner support: Designing meaningful online collaborative learning. *Online Learning*, 21(4), 29–51. <http://dx.doi.org/10.24059/olj.v21i4.1240>
- Saltz, J., & Heckman, R. (2020). Using structured pair activities in a distributed online breakout room. *Online Learning*, 24(1), 227–244. <https://doi.org/10.24059/olj.v24i1.1632>
- Saranraj, L., & Ebenezer, S. P. R. (2020). Impact of task-based language learning among engineering students: A try-out. *Gedrag & Organisatie Review*, 33(2), 1144–1149. <https://doi.org/10.37896/GOR33.02/120>
- Wut, T., & Xu, J. (2021). Person-to-person interactions in online classroom settings under the impact of COVID-19: A social presence theory perspective. *Asia Pacific Education Review*, 1–13. <https://doi.org/10.1007/s12564-021-09673-1>

The Effectiveness of Using Telegram Messenger to Promote Motivation amongst ESL Students in Online Classroom

Nazirah Md Yusof, Amelia Abdullah & Mohammad Jafre Zainol Abidin

Introduction

The COVID-19 spread has impacted the whole academic community. Malaysia is not excluded since it has been declared a global pandemic by World Health Organization (Cucinotta & Vanelli, 2020). The outbreak has resulted in approximately 549,514 COVID-19 cases in Malaysia, with 2,552 deaths, and the number continues to rise (COVID-19 MALAYSIA, 2021). Significant intervention is required in terms of policies around classes, and this outburst represents a considerable challenge for the educational organisation (Ali & Kaur, 2020). The unprecedented crisis has cost all academic institutions to move their classes online, and tertiary institutions are not excluded. This condition necessitates that everyone acts to prevent the spread of COVID-19. As a result, most Malaysian tertiary institutions have moved to online teaching and learning (OTL) and learning management systems adhering to the government's instructions. However, Stark (2019) found that OTL has caused the students to have lower levels of motivation than face-to-face learning. According to Adnan and Anwar (2020), the importance of motivation for OTL is one of the less recognised aspects of online education. Besides, due to their face-to-face interaction with the lecturer and classmates, students in traditional classes are more likely to participate in academic activities actively. Their

study shows that 71.4% of students said that traditional classroom learning was more motivating than OTL. It also suggests that lack of study motivation is the most important explanation for students dropping out (Boström & Bostedt, 2020). Therefore, since we do not have any other choice during the pandemic but to switch to OTL, it is crucial to keep students motivated to ensure the learning outcomes are met.

Motivation to study is important as it will contribute to the student success and professional competence (Ekşi et al., 2020), especially in second language learning. Xu (2008) stated that motivation is the ultimate factor in language acquisition besides student intellectual ability and language aptitude. Since all the classes have been moved to online, teachers should have creative ways to enhance student motivation. This study aims to determine the effectiveness of using Telegram Messenger as a tool to promote motivation amongst ESL students in online learning classrooms during the COVID-19 pandemic. The study also tested a hypothesis on the relation of student scores to achieve the subject learning outcome.

Online Teaching and Learning

According to Means et al. (2010, p. 9), “learning that takes place partially or totally over the Internet” is how online learning is defined. Online learning appeals to a broad spectrum of students and is becoming more widespread in settings ranging from elementary schools through high schools and beyond. Students who prefer self-directed learning have found that online courses are beneficial (You & Kang, 2014). “It is more self-guided to spend more time on the ideas that I need help with and less time on concepts that I can pick up quickly”, (Kirtman, 2009, p. 110), a response collected about an online course. In this regard, self-regulated students are more likely to employ various “cognitive and metacognitive methods” (You & Kang, 2014, p. 126) to achieve their learning objectives.

There are many alleged benefits and uses of OTL, which is one of the reasons why there are many discussions about it. OTL has the effectiveness in educating students, its use as professional development. It is also cost-effective in combating rising post-secondary education costs, credit equivalency at the postsecondary level, and the possibility of providing a world-class education to anyone with an internet connection are just a few of the most important factors (Bartley & Golek, 2004; De la Varre et al., 2011; Gratton-Lavoie & Stanley, 2009; Lorenzetti, 2013).

In terms of educational benefits, regardless of background characteristics, student learning outcomes for online learners were as excellent as or better than traditional learners, and the students were delighted with OTL (Navarro & Shoemaker, 2000). Besides, Harmon and Lambrinos (2012) discovered that after controlling for sample selection bias, test scores for online format students were four points higher than the traditional learning students in a study comparing learning outcomes for students who self-selected online a macroeconomics course.

During the COVID-19 pandemic, OTL is the best choice for continuing education since all face-to-face classes have been suspended. According to Agarwal and Kaushik (2020), students said that the online sessions were an excellent use of time and that the content was easy to obtain. They were inspired to read about those topics, which helped them forget about COVID and sleep soundly.

Online Teaching and Learning Via Social Media

OTL primarily aims to enable students to be self-sufficient and take ownership of their learning. Additionally, it empowers students by emphasising personalisation, which involves adapting to learners' skill levels and gaining information tools for mutual support (Stone & Logan, 2018). Additionally, student adaptive attitudes create space and versatility for self-organisation, resulting in academic performance and achievement (Pratama & Yusro, 2016). Until now, OTL research has tended to focus on three distinct viewpoints on learning models. First, research exploring OTL as a novel mode of instruction promotes a more successful learning application. Students are likely to receive more rewarding facilities due to OTL media. Amry (2014) shared the same belief that OTL entails identifying components that aid in student learning and encourage student engagement with content. Besides, Amal (2019) states four primary factors to consider when developing OTL. The first one is the learning structure, the presentation material, the interaction and collaboration, and the timely feedback. Second, OTL is to make learning resources more accessible to students. The high demand for internet use stimulates subject-based learning materials, which results in creating the final product type of e-materials (Ross & Genevois, 2006).

OTL is in fact not new in the education sector. It is a viable option in the current age of technology and communication (Selvanathan et al., 2020). Additionally, the COVID-19 pandemic emphasises using online management systems and other applications to accomplish learning objectives (Dhawan, 2020). As a result, creativity in education is compulsory to ensure the continued growth

of global education (Azhari & Ming, 2015). New interventions in OTL can be defined as changes or updates brought together by other things to answer challenges encountered by individuals or groups and difficulties that arise and enhance particular conditions or processes occurring in society (Indaryani & Suliworo, 2018). In light of the present COVID-19 pandemic situation, more learning tools such as learning management system or Blackboard are prepared and upgraded by universities and can be retrieved via campus websites or the usage of online apps (Shahzad et al., 2020). This constructivist-based integrated instructional learning design incorporates many other social networks such as Facebook, Twitter, Instagram, and Telegram Messenger to share images, videos, instant messages, and social networking sites that both students and teachers have access (Atiah, 2020).

Telegram Messenger

In this study, the researcher has chosen Telegram Messenger to improve student motivation in English as a second language (ESL) classrooms. Telegram Messenger application is a cloud-based mobile and desktop messaging framework focused on security and speed. On 14 August 2013, it was released to simplify and speed up communication and the delivery of multimedia messaging. Telegram Messenger is a free messaging application that provides quick and easy-to-use instant and safe communication among users (Momani, 2020). Individuals can download this application simultaneously on any portable devices and seamlessly sync their communications through any number of their devices. Millions of people now use Telegram Messenger. Approximately one in every seven people uses Telegram Messenger every month to stay connected with their loved ones, acquaintances, and relatives. In January 2021, it has reported approximately 500 million users (Statista, 2020) were using this application. Momani (2020) also added that Telegram Messenger is very successful as it is supported by the Durov's brothers in terms of financial, ideological, and technical supports.

Telegram Messenger in English language education improved student comprehension of vocabulary and grammatical rules (Alkhezzi & Al-Dosari, 2016). Since Telegram Messenger is a relatively new tool, little research has been conducted on its effect on interpersonal communication in general and communication between high school teachers and their students (Church & de Oliveira, 2013). While conducting a review of the literature about this research, it was discovered that few references and books were addressing the problem of Telegram Messenger from a teaching and learning perspective. The majority of knowledge discovered was in the form of papers, studies, or

dissertations. Most authors concluded by recommending Telegram Messenger as an ideal educational assistant. On the other hand, some do not share this sentiment about the application.

The ARCS Model of Motivation

The study adopted Keller's (2012) ARCS (attention, relevance, confidence, satisfaction) model to assess learner motivation in language learning. ARCS is a structured model for developing motivational strategies for learning (Malik, 2014). The first aspect is Attention (A), which aims to determine whether the learning activities afforded will increase student curiosity and focus. The second aspect, Relevance (R), evaluates if the activities are appropriate for a particular group of students. The third aspect, Confidence (C), determines students' sense of confidence in accomplish the tasks given and improve their performance. Lastly, Satisfaction (S) assesses students' satisfaction after they have gone through the learning activities. In this regard, Li and Keller (2018) revealed that activities that based on the four factors of ARCS would influence motivation in learning.

Since motivation is a significant aspect of determining whether students complete the given tasks, the ARCS model is beneficial for education, especially online or distance education, or assessing student motivation throughout the learning process (Song & Keller, 2001). This strategy emphasised extrinsic motivation and was created to help improve students' intrinsic motivation. The ARCS model is also used to construct successful motivating strategies as a design guide. Therefore, ARCS model is chosen because of its importance for OTL and e-learning. Pappas (2021) stated that motivating learners in an online course is more complicated than face-to-face courses. In addition, Keller (2012) affirmed that other motivational models recommended the four same strategies as the ARCS model; therefore, the components in the ARCS model can be used to measure motivation.

Additionally, this method assesses whether activities implemented in Telegram Messenger build students' trust. It also measures whether online activities provide students with satisfaction and can meet the learning outcomes. Student motivation or level of interest may be used to predict their performance or learning outcomes (Li & Keller, 2018). Learning outcomes are the skills or competencies that students acquire as a result of their learning experiences. Bloom's taxonomy indicated that learning outcomes could be observed in the cognitive, affective, and psychomotor realms (Cooper & Higgins, 2015). Learning outcomes are critical in the teaching and learning process because they serve as a benchmark for

assessing student success and providing recommendations for optimising the learning process to reach predetermined learning objectives (Maunah, 2016). Teachers should plan advanced learning based on these learning outcomes and student characteristics to boost their motivation to fulfil the purposes (Berns et al., 2016).

Previous studies on ARCS model

ARCS model has been used widely in different studies and students. The two criteria in Kim and Keller's (2008) study were satisfaction: whether or not students were satisfied with their past grades, and motivational messages with tailored information: whether or not students got personalised messages. One aspect was participants' intrinsic drive in the topic area, while another was motivational-enhanced learning materials (Chang & Lehman, 2002). The experimental or quasi-experimental design is an extensively utilised research method. For this method, the independent variable(s) are altered, and the outcomes associated with each manipulated condition are measured (Bhattacharjee, 2012). The difference between experimental and quasi-experimental designs is that participants are randomly assigned to each experimental condition. In contrast, in quasi-experimental design studies, randomness does not occur. In all experimental and quasi-experimental research, one group received learning materials or classroom instructions that included ARCS methods, whereas the other received materials or instructions that did not.

Bhattacharjee (2012) has also suggested that case studies look into a phenomenon in a natural context in considerable detail throughout time and provide detailed descriptions by analysing data from various sources. As an example of the other designs, a case study design article is examined in depth. Bhattacharjee (2012) also did experimental research on the ARCS model. He aimed to investigate the causal relationship between applying the ARCS model in teaching and student motivation, achievement, and/or other factors in the (factorial) experimental and quasi-experimental studies outlined earlier. These studies offered confirmation to researchers and practitioners that the ARCS model effectively enhances participants' motivation and achievement (along with other variables) in a specific educational setting.

Learning motivation via the usage of technology

Technology now plays a significant role in the teaching and learning process. Most pupils are more motivated to learn English when they use technology. Motivation is perhaps the most commonly used catch-all term for explaining

the success or failure of nearly any difficult job, according to Brown (2000). As a result, it's simple to assume that success in any activity is just down to someone being 'driven'.

Based on the perspectives, online learning with the incorporation of technology seems to have been structured as a platform for combining traditional learning with information and communication technologies. This is a critical need in light of the COVID-19 pandemic currently affecting the islands. As a result, it is important to be as prepared as possible to achieve the desired learning outcomes. This chapter sets out to fill some of the gaps in prior research that have depicted the development of online learning models as smooth and unchallenged by many teachers. The accessibility of various aspects of online learning would allow substantial learning outcomes to be demonstrated. Online learning will also enable the realisation of a self-regulated learning strategy, as the times demand, each student be autonomous and innovative in their learning process.

Learning motivation during COVID-19 pandemic

Yulismayanti et al. (2020) stated that teachers must give inventive lessons for students to absorb the substance of the lectures delivered by the teacher during the COVID-19 epidemic time. Because face-to-face learning between teachers and pupils is no longer possible due to the COVID-19 pandemic, teachers must be inventive in their learning techniques to improve motivation. The current application that they are using in their study is Zoom, a learning tool used by teachers to supplement classroom instruction.

Parents are also concerned with student's motivation during the pandemic. Zaccoletti et al. (2020) emphasised that some students may find the motivation to participate in school activities a challenge in and of itself; the COVID-19 pandemic and its accompanying restrictive measures (such as home confinement, school closures, and distance learning) may have hampered students' ability to maintain academic motivation for school activities such as attending online and asynchronous classes, studying, and completing assignments.

Tan (2020) stressed the impact of COVID-19 on students' motivation and learning performance. According to the data, students lost motivation and learning performance during the Movement Control Order period using online learning methods. There is a shortage of learning infrastructure as well as social support from professors and classmates. In solving these problems, Kaharuddin (2020) found that incorporating technology and

culture into classroom learning might affect students' motivation to learn English directly and indirectly through attitude. The effect of technology and culture on motivation is strengthened by attitude. The favourable influence of technology and culture on motivation is unaffected by the absence of attitude as a mediator.

Faridah et al. (2020) indicated that the technique of online learning is to blame for the lack of enthusiasm to study. Students may become less engaged in expressing their opinions and beliefs, making learning more difficult. Students that are bored while learning will make progress in their learning outcomes. As a result, a driver must move students to develop a passion for learning and attain learning success. Therefore, incorporating one of the technology tools, namely Telegram Messenger, in this study would help in increasing learner's motivation using the ACRS model of motivation in one of the ESL subjects.

The Study

This is a quasi-experimental study which employed a pre-test and post-test design to investigate the effectiveness of using Telegram Messenger to promote motivation amongst ESL students in an online classroom. The convenience sampling method was used to select the participants in the study. A total of 30 ESL students were recruited from one of the tertiary institutions in Malaysia. Since the study was conducted during the pandemic, convenience sampling was deemed adequate. The participants were exposed to Telegram Messenger Application, which intended to support OTL in place of in-class interactions, was employed to assess student motivation to achieve the subject learning outcome. The research procedure was carried out as shown in Figure 1. After the post-test, students were also required to complete a questionnaire on student motivation that was adapted from a modified instructional materials motivation survey (IMMS) questionnaire based on Keller's ARCS model. The Likert scale system of 1 to 5 (5 = very good, 4 = good, 3 = quite good, 2 = less good, and 1 = not good) was used to collect the responses from the participants. There were 25 questions to measure the four aspects of ARCS in four sections. Figure 2 illustrates the process of the study.

Step 1

In this quasi-experimental study, students will be given a pretest on a topic they have studied before. The total mark for the pretest is 100 points. Students will never know the correct answer or their score until after the post-test.

Step 2

Students then were asked to join a channel in Telegram Messenger. The researcher acts as the channel creator and will upload learning materials and educational resources related to the subject. Since this is a public Telegram Channel, it is meant to be a one way communication.

Step 3

The student can only refer to the learning materials without getting additional help from the researcher. After the intervention, students will be given the same post-test and their points were recorded.

Figure 1 Research procedure for the Telegram Messenger intervention

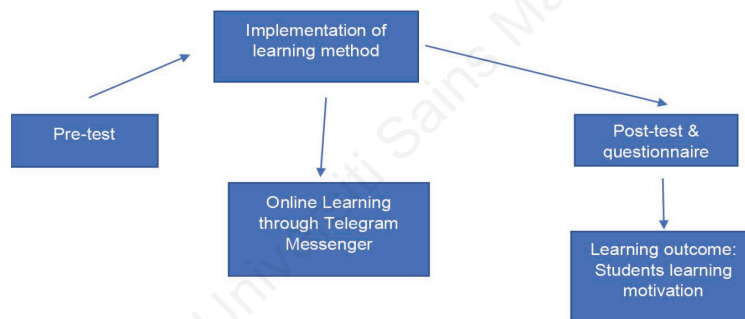


Figure 2 Research process in implementing Telegram Messenger in online learning classroom

Results and Discussion

Figure 3 shows that the pre-test scores where 30 was the lowest, while the highest was 70, with a standard deviation of 10.53. Figure 4 indicates that the lowest post-test score is 60, while the highest is 90, with a standard deviation of 9.14. The normality test result (Table 1) for the pre-test shows that Shapiro-Wilk test was at 0.606 indicating that the data analysed was normally distributed. However, for the scores for the post-test were not normally distributed ($p = 0.029$). A paired t -test was used to test the hypothesis.

Tables 2 and 3 show the effects of hypothesis testing. According to Table 2, the pre-test average is 53.70, and the standard deviation is 10.50. Meanwhile, the mean score on the post-test was 72.03, with a standard deviation of 9.34.

The standard deviation indicates the degree of difference in the data for each component, and N denotes the total number of data points, 30 students. Table 3 shows the correlation coefficient for the two variables is 0.891, indicating a correlation between the pre-test and post-test. Although H_0 was rejected due to the significant value $p < 0.001$, H_1 was approved, meaning that there is a considerable increase in the scores for the test. The scores contribute to meet student learning outcomes before and following the use of Telegram Messenger to increase student motivation in the ESL subject.

The data description indicates that the average score concerning the learning outcomes for the ESL subject before using Telegram Messenger was 43.33. In contrast, the mean score concerning the learning outcomes after using Telegram Messenger was a relatively high average of 66. Therefore, using Telegram Messenger to meet the learning outcome in the ESL subject is significant. In supporting the data, students were given the IMMS questionnaire after the post-test.

The first section of the questionnaire is regarding the students' attention in the ESL subject before and after the usage of Telegram Messenger in the ESL subject. About 27 students give a score of 5 in the section, while the remaining 3 give a score of 4. The second section is on the relevance. The relevance of students' lives, either through present experience or ownership, is relevant to current or future job demands. About 23 students give a score of 5 while the remaining 5 give a score of 4. Only 2 students give a score of 3. The third section is regarding confidence. The attitude of an individual toward success and failure is referred to as confidence. As for this section/variable, 22 students give a score of 5 while another 4 give a score of 4 and the remaining 3 give a score of 3, and only 1 gives a score of 2. The final fourth section is on a level on the satisfaction that is important to maintain motivation has 23 students give a score of 5 while the remaining 5 give a score of 4. Only 2 students give a score of 3. The questionnaire intends to enquire about the student motivation to learn by the usage of Telegram Messenger. It consisted of 25 questions, yielded an average score of 80.33%, placing it in the very good result, which proved a good increase in motivation after implementing Telegram Messenger Application in the student learning activities during the COVID-19 pandemic.

The effectiveness of using Telegram Messenger in online classroom

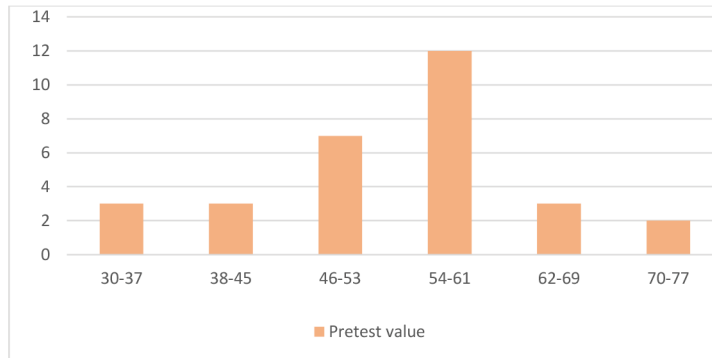


Figure 3 The frequency distribution of pre-test score

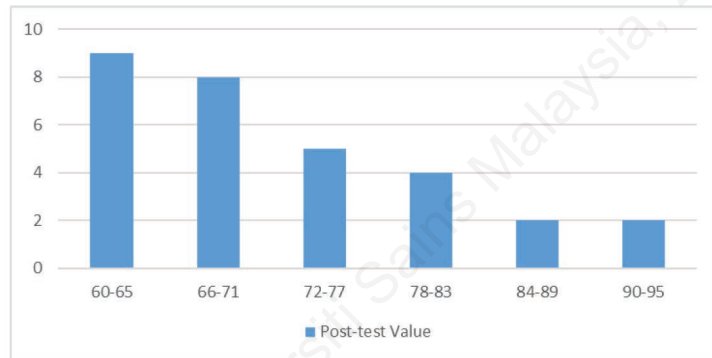


Figure 4 The frequency distribution of post-test score

Table 1 Normality test result

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.080	30	.200 [*]	.972	30	.606
Posttest	.127	30	.200 [*]	.921	30	.029

a. Lilliefors Significance Correction

^{*}. This is a lower bound of the true significance.

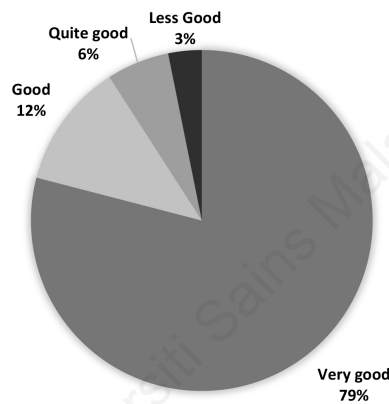
Table 2 Test hypothesis paired samples statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	53.70	30	10.508	1.919
	Posttest	72.03	30	9.349	1.707

Table 3 Paired samples correlations

	N	Correlation	Sig.
Pair 1 Pretest & Posttest	30	.891	.000

Figure 5 shows the combined value of the four sections in the ACRS motivation questionnaire. In the usage of Telegram Messenger, students have a high level of engagement in the teaching and learning process because they are more involved and enhance student motivation as it uses technology. If the motivation increase, it will also lead to the achievement of the learning outcome of the ESL subject.

**Figure 5** Combined value of the four sections

Technology plays an important role, and it leads to motivation. Johnson et al. (2012) stated that various online forum discussions are available on different platforms that educators may choose from, and the potential is undoubted. Based on teaching and learning activities using Online Learning through Telegram Messenger, it is evident that student motivation for learning has increased. The reality that exists among students demonstrates that most of them are designed solely for mobile phones, short message service, and online chat. Even though there is research on the use of social media in education, social media is not widely used to increase the standard of learning.

According to Amry (2014), when compared to traditional learning, mobile learning facilitates informal interaction, and ad hoc collaboration among its learners. Therefore, when online learning or blended learning is integrated with Telegram Messenger, it will benefit students in sharing information and expertise. Besides, it will also facilitate the development of discussion groups, thereby transforming social media into a positive tool for learning. Online learning through social media also will facilitate smooth interaction between

educators and students. Since the Telegram Messenger application is free and user-friendly, students would not have any problem downloading and using it for the classes.

As for the students' motivation, the questionnaire is one of the measurement tools for students. Motivation can be a boost and learning outcomes can be met if the students find an interest in learning the subject. It is essential to maintain student learning interest on the subject and maintain their motivation momentum. Therefore, the questionnaire is an excellent measurement to measure students' satisfaction on the subject. Even though the post-test score is better after the intervention, a questionnaire will be great to measure their motivation level better.

Educators and students must make the best use of online learning that intervals technology such as Telegram Messenger. These learning activities will boost students' motivation as it is easily accessible through mobile phone. Students will not find it tedious to open a laptop and access the additional materials for a subject. Therefore, a mobile downloaded application will ease the students' trouble accessing the online learning materials.

Implications of the study

According to the earlier study, it can be concluded that there was a substantial improvement in students' learning outcomes through integrated teaching and learning through Telegram Messenger for enrolling students in one of the ESL subjects during and after the COVID-19 pandemic. Interestingly, this study discovered that online learning via Telegram Messenger application was among the most successful method in responding to and recovering from the COVID-19 pandemic. Telegram Messenger is simple to use and does not require a lot of details. Therefore, learning is optimised when instructors and students connect and exchange files that include JPEG files, Excel, Word, and PowerPoint Slides. Besides, they can exchange links to any resource materials online and send voice notes in the group to ease the tediousness of typing in the Telegram Messenger.

Students' learning and conduct are influenced by motivation in a variety of ways. Motivation, for starters, leads to behaviour toward specific goals. The goal of this study is to improve students' motivation in the ESL subject. At the same time, it also manages to improve the scores of the students before and after the intervention. The study can guide tertiary institutions to implement Telegram Messenger as part of their learning activities during a pandemic. Telegram Messenger is just a tool to improve motivation, and

other technology can be implemented as well. The study will also help the instructors in designing more interactive activities related to technology. The learning outcomes for a subject are also essential in ensuring the students understand the learning goals and what they have learned. It will increase their motivation in the subjects if their scores improve and the learning outcome is met.

The study will also benefit the tertiary students in driving their motivation towards learning an ESL subject. It will also establish a pedagogical relationship between learners learning motivation and their achievements after implementing the technology as part of learning activities. In addition, it will also add more study to the ACRS model of motivation since it will have differences between online and face-to-face learning.

Conclusion

In conclusion, this study suggests that additional research can be conducted to address student barriers to OTL and create an alternative application for delivering successful online language classes. Therefore, there is a need for a more critical and comprehensive review or one that examines the implementation of OTL by another model, which would further advance online learning success in the future. Besides, the study was limited to only thirty participants in an ESL subject. Further study may be needed to involve more students and in different subjects. As an educator, we must keep in mind that it is always important to consider the overall learning environment when implementing any learning activities and selecting any learning application. Future research findings will contribute to the study on OTL, especially in tertiary institutions during crisis situations like COVID-19. Since we will be adapting to COVID-19 for a while, the findings can help to boost student motivation to a subject. Lastly, teachers will also have ideas how to implement the intervention in their class. It is crucial to avoid placing specific tasks and procedures on students as a prudent approach to addressing learning experiences. It is because there is no ideal method that applies to all circumstances.

References

- Adnan, M., & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students perspectives. *Journal of Pedagogical Sociology and Psychology*, 1(2), 45–51. <https://doi.org/10.33902/jpsp.2020261309>
- Agarwal, S., & Kaushik, J. S. (2020). Student's perception of online learning during COVID pandemic. *The Indian Journal of Pediatrics*, 87(7), 554–554. <https://doi.org/10.1007/s12098-020-03327-7>

- Ali, W., & Kaur, M. (2020). Mediating educational challenges amidst Covid-19 pandemic. *Asia Pac. J. Contemp. Educ. Commun. Technol.*, 6, 40–57.
- Alkhezzi, F., & Al-Dousari, W. (2016). The impact of mobile learning on ESP learners' performance. *Journal of Educators Online*, 13(2), 73–101.
- Amal, B. K. (2019). Pembelajaran blended learning melalui Whatsapp group (WAG). *Prosiding Seminar Nasional Fakultas Ilmu Sosial Universitas Negeri Medan*, 2019, Universitas Negeri Medan, 3, 700–702.
- Amry, A. B. (2014). The impact of WhatsApp mobile social learning on the achievement and attitudes of female students compared with face to face learning in the classroom. *European Scientific Journal*, 10(22), 116–136.
- Atiah, N. (2020). Pembelajaran era disruptif menuju masyarakat 5.0. *Prosiding Seminar Nasional Pendidikan Program Pascasarjana Universitas PGRI Palembang 10 Januari 2020*, 605–617.
- Azhari, F. A., & Ming, L. C. (2015). Review of e-learning practice at the tertiary education level in Malaysia. *Indian Journal of Pharmaceutical Education and Research*, 49(4), 248–257. <https://doi.org/10.5530/ijper.49.4.2>
- Bartley, S. J., & Golek, J. H. (2004). Evaluating the cost effectiveness of online and face-to-face instruction. *Educational Technology & Society*, 7(4), 167–175.
- Berns, A., Isla-Montes, J.-L., Palomo-Duarte, M., & Dodero, J.-M. (2016). Motivation, students' needs and learning outcomes: A hybrid game-based app for enhanced language learning. *SpringerPlus*, 5(1). <https://doi.org/10.1186/s40064-016-2971-1>
- Bhattacharjee, A. (2012). *Social Science Research: Principles, Methods, and Practices*. Anol Bhattacharjee.
- Boström, L., & Bostedt, G. (2020). What about study motivation? Students' and teachers' perspectives on what affects study motivation. *International Journal of Learning, Teaching and Educational Research*, 19(8), 40–59. <https://doi.org/10.26803/ijlter.19.8.3>
- Brown, H. D. (2000). *Principles of Language Learning and Teaching*. Pearson Education.
- Chang, M. M., & Lehman, J. D. (2002). Learning foreign language through an interactive multimedia program: An experimental study on the effects of the relevance component of the ARCS model. *CALICO Journal*, 81–98.
- Church, K., & de Oliveira, R. (2013). What's up with WhatsApp? *Proceedings of the 15th International Conference on Human-Computer Interaction with Mobile Devices and Services – MobileHCI '13*. <https://doi.org/10.1145/2493190.2493225>
- Cooper, D., & Higgins, S. (2015). The effectiveness of online instructional videos in the acquisition and demonstration of cognitive, affective and psychomotor rehabilitation skills. *British Journal of Educational Technology*, 46(4), 768–779.
- COVID-19 MALAYSIA. (2021). COVID-19 Malaysia updates. <https://covid-19.moh.gov.my/> (accessed on 21 May 2021).
- Cucinotta, D., & Vanelli, M. (2020). WHO declares COVID-19 a pandemic. *Acta Biomed*, 91(1), 157–160.
- De la Varre, C., Keane, J., & Irvin, M. J. (2011). Enhancing online distance education in small rural US schools: A hybrid, learner-centred model. *Journal of Asynchronous Learning Networks*, 15(4), 35–46.
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>

- Ekşi, H., Özgenel, M., & Metlilo, E. (2020). The effect of motivation of success of university students on personal-professional competence: Mediation role of lifelong learning tendency. *International Journal of Evaluation and Research in Education (IJERE)*, 9(3), 583. <https://doi.org/10.11591/ijere.v9i3.20664>
- Faridah, I., Ratna Sari, F., Wahyuningsih, T., Putri Oganda, F., & Rahardja, U. (2020). Effect Digital Learning on Student Motivation during Covid-19. *2020 8th International Conference on Cyber and IT Service Management (CITSM)*. <https://doi.org/10.1109/citsm50537.2020.9268843>
- Gratton-Lavoie, C., & Stanley, D. (2009). Teaching and learning principles of microeconomics online: An empirical assessment. *The Journal of Economic Education*, 40(1), 3–25.
- Indaryani, E., & Suliworo, D. (2018). Dampak pemanfaatan WhatsApp dalam meningkatkan motivasi belajar siswa pada pelajaran fisika. *Prosiding Seminar Nasional Quantum*, 25, 25–31.
- Harmon, O. R., & Lambrinos, J. (2012). Testing the effect of hybrid lecture delivery on learning outcomes. Working papers 2012-36, University of Connecticut, Department of Economics. <http://ideas.repec.org/p/uct/uconnp/2012-36.html>
- Johnson, E. O., Charchanti, A. V., & Troupis, T. G. (2012). Modernization of an anatomy class: From conceptualization to implementation. A case for integrated multimodal-multidisciplinary teaching. *Anatomical Sciences Education*, 5(6), 354–366. <https://doi.org/10.1002/ase.1296>
- Kaharuddin, A. (2020, September 27). Contributions of technology, culture, and attitude to English learning motivation during COVID-19 outbreaks. SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3700381
- Keller, J. M. (2012). ARCS model of motivation. *Encyclopedia of the Sciences of Learning*, 304–305. https://doi.org/10.1007/978-1-4419-1428-6_217
- Kim, C. M., & Keller, J. M. (2008). Effects of motivational and volitional email messages (MVEM) with personal messages on undergraduate students? Motivation, study habits and achievement. *British Journal of Educational Technology*, 39(1), 36–51. <https://doi.org/10.1111/j.1467-8535.2007.00701.x>
- Kirtman, L. (2009). Online versus in-class courses: An examination of differences in learning outcomes. *Issues in Teacher Education*, 18(2), 103–116.
- Li, K., & Keller, J. M. (2018). Use of the ARCS model in education: A literature review. *Computers & Education*, 122, 54–62. <https://doi.org/10.1016/j.compedu.2018.03.019>
- Lorenzetti, J. (2013). *Academic Administration – Running a MOOC: Secrets of the World's Largest Distance Education Classes*. Magna Publications.
- Malik, S. (2014). Effectiveness of arcs model of motivational design to overcome non completion rate of students in distance education. *Turkish Online Journal of Distance Education*, 15(2). <https://doi.org/10.17718/tojde.18099>
- Maunah, B. (2016). Implementasi pendidikan karakter dalam pembentukan kepribadian holistik siswa. *Jurnal Pendidikan Karakter*, 1, 90–101. <https://doi.org/10.21831/jpk.v0i1.8615>
- Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2010). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies. <https://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf> (accessed on 21 May 2021).

- Momani, M. A. (2020). The effectiveness of social media application "Telegram Messenger" in improving students' reading skills: A case study of EFL learners at Ajloun University College/Jordan. *Journal of Language Teaching and Research*, 11(3), 373. <https://doi.org/10.17507/jltr.1103.05>
- Navarro, P., & Shoemaker, J. (2000). Performance and perceptions of distance learners in cyberspace. *American Journal of Distance Education*, 14(2), 15–35.
- Pappas, C. (2021, May 12). Instructional design models and theories: Keller's ARCS model of motivation. <https://elearningindustry.com/arcs-model-of-motivation>
- Pratama, H., & Yusro, A. C. (2016). Implementasi WhatsApp mobile learning untuk meningkatkan hasil belajar mahasiswa pokok bahasan pengenalan komponen elektronika. *Jurnal Pendidikan Fisika dan Keilmuan (JPFK)*, 2(2), 65. <https://doi.org/10.25273/jpfk.v2i2.696>
- Ross, K. N., & Genevois, I. J. (2006). Cross-national studies of the quality of education: Planning their design and managing their impact. Paper presented at the International Institute for Educational Planning (IIEP) UNESCO, 17–18 June 2004, Paris, France.
- Selvanathan, M., Hussin, N. A., & Azazi, N. A. (2020). Students learning experiences during COVID-19: Work from home period in Malaysian higher learning institutions. *Teaching Public Administration*, 014473942097790. <https://doi.org/10.1177/0144739420977900>
- Shahzad, A., Hassan, R., Aremu, A. Y., Hussain, A., & Lodhi, R. N. (2020). Effects of COVID-19 in E-learning on higher education institution students: The group comparison between male and female. *Quality & Quantity*, 55(3), 805–826. <https://doi.org/10.1007/s11135-020-01028-z>
- Song, S. H., & Keller, J. M. (2001). Effectiveness of motivationally adaptive computer-assisted instruction on the dynamic aspects of motivation. *Educational Technology Research and Development*, 49(2), 5–22. <https://doi.org/10.1007/bf02504925>
- Stark, E. (2019). Examining the role of motivation and learning strategies in the success of online vs. face-to-face students. *Online Learning*, 23(3). <https://doi.org/10.24059/olj.v23i3.1556>
- Statista. (2020, April). Number of monthly active Telegram users worldwide from March 2014 to April 2020. <https://www.statista.com/statistics/234038/telegram-messenger-mau-users/>
- Stone, S., & Logan, A. (2018). Exploring students' use of the social networking site WhatsApp to foster connectedness in the online learning experience. *Irish Journal of Technology Enhanced Learning*, 3(1), 42–55. <https://doi.org/10.22554/ijtel.v3i1.28>
- Tan, C. (2020). The impact of COVID-19 on student motivation, community of inquiry and learning performance. *Asian Education and Development Studies*, 10(2), 308–321. <https://doi.org/10.1108/aeds-05-2020-0084>
- Xu, X. (2008). Influence of instrumental motivation on EFL learners in China and its implication on TEFL instructional design. *Educational Communications and Technology*.
- You, J. W., & Kang, M. (2014). The role of academic emotions in the relationship between perceived academic control and self-regulated learning in online learning. *Computers & Education*, 77, 125–133.

- Yulismayanti, H., Iye, R., & Susiati, S. Z. B. T. (2020). Variative method in improving student learning motivation in pandemic COVID-19 situations. *Journal of Critical Reviews*, 7(5), 1584–1595.
- Zaccoletti, S., Camacho, A., Correia, N., Aguiar, C., Mason, L., Alves, R. A., & Daniel, J. R. (2020). Parents' perceptions of student academic motivation during the COVID-19 lockdown: A cross-country comparison. *Frontiers in Psychology*, 3602.

© Penerbit Universiti Sains Malaysia, 2025

Digital Storytelling as an Innovative Assessment: From the Undergraduates' Point of View in the English Language Classroom

Agelyia Murugan, Selvamalar Selvarajan & Selvakumar Selvarajan

Introduction

Digital storytelling (DST) is one of the educational tools that promote creative and critical thinking in the classroom. Several studies on DST have proved that many students and educators worldwide have embraced this method to support the educational process. DST means using computer software to tell a story (Robin, 2016; Simsek, 2020) and integrates traditional and emerging literacies, and facilitates the understanding of content areas (Robin, 2009; Ohler, 2013).

Apart from being one of the classroom teaching methods, DST also plays an important role in students' engagement, achievement, motivation, and critical thinking, leading to deep and meaningful learning. Hardy and Sumner (2014, as cited in Yocom et al., 2020) defined DST as "the art and craft of using media and software programs to communicate stories in innovative and powerful ways" (p. 164). On another note, Robin (2009, p. 19) defined DST as a "process of creating short stories that allow students and educators to enhance their information gathering and problem-solving skills and to facilitate the ability to work in a collaborative team". Although many studies have suggested that DST is popular among 21st century language skills learning, other

strategies were investigated through DST, such as collaborative learning, community service learning, critical learning, and cultural perspective learning (Wu & Chen, 2019).

As stated by Razmi et al. (2014, p. 1542) “the first application of multimedia technology in the classroom for educational purposes is introduced by Lambert and the Atchley who helped the advent of the DST movement in the late 1980s as cofounders of the Center for Digital Storytelling (CDS) in Berkeley, California”. When students actively narrate their scripts and do their voice over, it simultaneously allows them to interact and use the language in a more personally meaningful way. Apart from improving their communication and proficiency skills, the students also learn to systematically collaborate, organise, express, and construct their opinions and ideas through DST.

DST is effective for student learning as it caters for multiple intelligences (Gardner, 1983 cited in Yee et al., 2018). Students who prefer visuals could see the images, musical learners could hear the music, and linguistic learners could learn the words or vocabulary. Moreover, it is believed that DST has the potential of merging student-centred learning approaches such as using technology in their learning process while actively participating in authentic and real-world meaningful projects (Wu & Chen, 2019). On the other hand, Schmoelz (2018) suggested that DST enables co-creativity among the students. The important focus in the co-creativity consists of ethics and impact, dialogue, control, engaged action and re-framing. So, co-creativity plays a pivotal role in “focusing on students’ interactions that emerge through using digital tools to write stories and to create videos” (Schmoelz, 2018, p. 4).

Digital Storytelling

Storytelling, ancient art in language teaching and learning, has been transformed into DST with modern technology. Storytelling has the power to revolutionise the way we engage with cultural heritage and has been widely recognised as an important direction for attracting and satisfying the audience of museums and other cultural heritage sites (Vrettakis et al., 2019). The second language theories in DST used to do this research are experiential learning, cooperative and collaborative learning and communicative language teaching.

Experiential learning

David Kolb developed the experiential learning model in the year 1984. As stated by Kolb and Kolb (2005), this sort of learning can be characterised as the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience. Furthermore, he stated that “learning is the process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p. 38 cited in Mick & Alan, 2000). Experiential learning varies from psychological and social hypotheses that focus on abstract involvement with the learning interaction. Kolb and Kolb (2005) proposed that the experiential theory adopts a more overall strategy and accentuates how experience, natural elements, and feelings impact learning interaction.

Kolb and Kolb (2005) mentioned that individuals who are considered watchers incline toward intelligent perception, while the individuals who are practitioners are bound to participate in dynamic experimentation. There are four stages in Kolb’s experiential learning model. Effective learning happens when a learner goes to each step and completes it. Each step is equally important and supportive and plays an important role when the students learn through experience via DST. This can be seen in Figure 1.

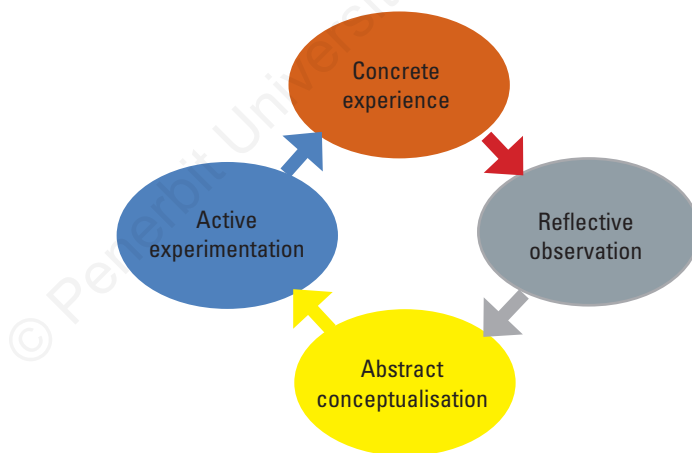


Figure 1 Experiential learning model
Source: Adapted from Kolb and Kolb (2005)

Each step is equally important and supportive and plays an important role when the students learn through experience via DST (Figure 1) as follows:

1. Concrete experience – getting or doing a new venture or a reinterpretation of existing knowledge.
2. Reflective observation of the new experience – the process of reflecting, reviewing, and understanding the experience.
3. Abstract conceptualisation – concluding from the new and existing ideas from experience.
4. Active experimentation – planning and trying out the ideas from experience.

Collaborative learning

Collaborative learning involves student working in pairs or small groups to discuss concepts or find solutions to problems. Some researchers found that students teach each other through peer instruction by addressing misunderstandings and clarifying misconceptions. Laal and Ghodsi (2012, p. 486) stated that “collaboration is a philosophy of interaction and personal lifestyle where individuals are responsible for their actions, including learning and respecting their peers’ abilities and contributions”. In other words, it gives opportunity for the students to work together and recognise each other’s hidden abilities and contributions in their group tasks.

In DST, students are exposed to various educational experiences that are active, social, contextual, engaging, and student-centred learning for a meaningful learning experience. Through collaborative learning, students can:

1. Increase their understanding of the lessons taught.
2. Increase their learning retention, self-esteem and responsibility.
3. Develop thinking skills and oral communication skills.
4. Increase in positive interactions among peers.
5. Prepare for real-life situations and employments.

To guide the students to have effective collaborative learning to do their assignments, teachers should set clear goals and objectives for the lessons. They also need to explain and guide the students on the group work functions and how this will affect their DST assignment. Overall, collaborative learning

seems to have more advantages in the learning process that produces higher academic achievements, active class participations, committed relationships, and positive competitive spirit among their peers (Laal & Ghodsi, 2012).

Both theories are adapted in constructing the questionnaire and interview questions for this research. The relationship between the views and DST can be seen in Figure 2. DST refers to a short form of digital film-making that allows students to recreate a story relating to their field of study (Gimeno-Sanz, 2015). Burmark (2004) as cited in Razmi et al. (2014) stated that “digital storytelling as a high-quality technology for gathering, creating, examining and merging visual images within the texts” (p. 1542). He further explained that “integrating visual images with written texts both expand and accelerate student’s comprehension by boosting the students’ interest in discovering new ideas” (p. 1542). Storytelling needs no special equipment beyond the imagination and the power of listening and speaking to create artistic images. As a learning tool, storytelling can encourage students to explore their expressiveness and can heighten a student’s ability to communicate thoughts and feelings in an articulate, lucid manner. With qualitative analysis, this study had found that storytelling activities for the foundation students had improved their language skills and delivery as they were confident and had high self-esteem when they conveyed the stories (Mokhtar et al., 2011).

Studies have proven the impact of DST in various fields. Mallan (1992) (cited in Farzaneh, 2018) pointed that there are positive effects in the intellectual, social, and emotional development of students who are encouraged to use storytelling. As students engage in storytelling, they learn to listen, participate in, and understand narrative discourse and create a path to more sophisticated use of language in their everyday lives. Besides developing language skills, Pandian et al. (2020) stated that DST could foster digital competencies and civic engagement and cultivate intellectual and creative curiosity through media literacy. Nassim (2018) found that DST provides engaging and intellectually rich learning environments through creativity, diverse forms of literacy, and multiple modalities. Students who participated in the study were engaged and gained confidence in their communicative skills by the end of the project.

Psomos and Kordaki (2012) presented an analysis of eight Educational Digital Storytelling Environments (EDSE), developed in the last five years using the DS Pedagogical Evaluation Star reference model (Psomos & Kordaki, 2012) consisting of sixteen pedagogical criteria-dimensions, namely collaborative learning, creativity and innovation, multiple representations, motivation, cultural sensitivity, gender equality, cognitive effort, feedback, learner control, flexibility, learner activity, valuation of previous knowledge,

sharply-focused goal orientation, experiential value, knowledge organisation and metacognition. This analysis gives a clear picture of some essential pedagogical dimensions of the existent EDSE to make appropriate decisions for the pedagogical design of EDSE.



Figure 2 The relationship between theories and DST

Follow-up research is encouraged to explore the influence of DST or other technology-integrated pedagogies in promoting 21st century skills such as creative thinking, problem-solving, and global literacy (Yang & Wu, 2012). As the study has demonstrated the potential for DST in terms of academic achievement in English as a foreign language class, instructors and researchers should take confidence in designing a variety of courses with interesting and challenging DST strategies. Digital communication media offers new communication modalities, which are not possible in face-to-face verbal conversations and can further actualise narrative practices ‘dual-focus potential’ (Chan & Sage, 2021). In the effort to create life-world experiences in holistic ways (Pandian et al., 2020), the present study focused on utilising DST as an innovative assessment during the implementation of online teaching and learning due to the COVID-19 pandemic.

The Study

Though studies on DST have been carried out for various purposes, its impact as an assessment in language classrooms still needs to be explored. Thus, the objectives of this study are to find the perspective of the students regarding the DST assignment and the effectiveness during the online classes conducted amid the COVID-19 pandemic. Thus, the research questions (RQ) that guided the study are:

RQ1: How is the students’ perspective regarding the DST assignment, which was part of the ongoing English for Professional course assessment during online classes conducted amid the COVID-19 pandemic?

RQ2: How effective is the DST assignment as part of the ongoing English for Professional course assessment during online classes conducted amid the COVID-19 pandemic?

This study adopted survey research to answer participants' perspectives on the assignment method used in this English language subject. This is supported by Creswell (2014, p. 201) that stated, "a survey design provides a quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of that population". By using this design, the researcher can generalise and infer on how this assignment method had impacted the English language subject. Due to COVID-19 pandemic, this survey research design was the best mode to collect the data through online as Fraenkel et al. (2015) further posited that by administering online surveys in research, it gives huge advantages in terms of cost effective, lesser process in the data entry, faster results through the use of technology and able to reach the survey participants in any parts of the world. The data collected through this research survey were by using online questionnaires and online interviews. This survey used the cross-sectional survey design to effectively provide the participants' current behaviours, attitudes, and beliefs. Collecting data through this design is inexpensive as the questionnaire and interviews were conducted online, and it was relatively quick, and the response rate was higher.

This study was conducted among undergraduates in a private university in Malaysia. A total of 83 male and female students with mixed language proficiency abilities participated in this study from April to July 2020. The students were selected based on purposive sampling as this target group of students were required to take English for Professional Purposes course during their first-year studies. The participants are between 20 and 22 years old. The researcher is the instructor of this course for the semester. DST is one of their English for Professional Purposes course assignments during that semester, evaluated 20% from the ongoing assessment marks.

Both qualitative and quantitative methods were used to evaluate the students' perspective and the effectiveness of the DST assignment during the COVID-19 pandemic in the English Language classroom. A questionnaire with ten items was created using Google Forms to conduct the survey, adapted from Wan and Hamidah (2020). The items were constructed based on the theories depicted in this study. The survey findings are used to evaluate the perspective of the 83 students on the use of DST as one of their assignments in their online classroom during this pandemic. A 5-point Likert scale was used to measure the students' perspectives, which are Not True, Slightly True, Moderately

True, Mostly True and Very True. The purpose of getting the data through the quantitative method is to understand the students' perspective towards DST, which may make a huge difference and improve the teaching and learning process.

For the qualitative method, interview question items were adapted from Yocom et al. (2020). Five questions were administered during the online interview, which took place in the Microsoft Teams platform. A total of 83 students were interviewed, and each student took approximately 4–6 minutes to answer the questions. The interview responses were then transcribed using NVivo R1 software before they were analysed by using the content analysis method with a word-based and code-based approach.

The research process involves several steps to ensure the flow of the study that can lead to a successful outcome of this study. It is broken down into eight steps to be more manageable and easier to understand when expressing ideas.

- Step 1: Selecting the research area from the classroom practice
- Step 2: Formulate research objectives, research questions, and develop hypotheses
- Step 3: Review of literatures
- Step 4: Prepare the research design
- Step 5: Select the quantitative and qualitative methods for data collection
- Step 6: Collecting the data
- Step 7: Data analysis
- Step 8: Interpretation and report writing

Data analysis procedures play a pivotal role in the research method. It guides a researcher to collect and analyse the data collected for the study and supports decision-making in answering the research questions. The two core areas that were covered in this study are quantitative and qualitative methods.

In this quantitative method, the descriptive statistics from the data were analysed to understand the specific population of the samples exposed to DST in their classroom. The statistical test that was applied in this study are mean, median, mode and standard deviation. The procedures are as follows:

1. Identify the population
2. Choose the sampling method

3. Construct the questionnaire and distribute it to the population through Google Forms
4. Collect the data through the feedback by using the SPSS version 25 software
5. Interpretation of the data
 - Descriptions of the sample size (frequency)
 - Reports of the centre of the data (mean)
 - Descriptions of the spread of the data (standard deviation)
6. Discussion

Qualitative data is non-numerical data that are collected through observation and recording. In this study, the data were collected through one-to-one interviews, arranged categorically based on attributes. The following is the procedure employed for the qualitative data collection:

1. Identify the population
2. Choose the sampling method
3. Construct the semi-structured questions for the interview
4. Conduct the one-to-one interview via Microsoft Teams platform
5. Collect and organise all the data collected from the interview
6. Transcribe the interview by using NVivo R1 software
7. Apply content analysis (word and code approach) to analyse the data
8. Discussion

To conduct this study, some of the ethical considerations are as follows:

1. Getting approval from the management of the university to conduct the study.
2. Distribute the Consent form to the students.
3. Based on the Consent form feedback, only 83 students who agreed to participate in this study were given the questionnaire and called for the one-to-one interview.

Results and Discussion

In this section, the researchers aim to discuss the outcome of the research and the implications that it holds within the broader context of this research objectives and paving the way for deeper understanding of the relevance of DST as an assessment for higher education students.

Quantitative results

About 83 undergraduate students reported that they used laptops (95.2%), desktops (6%), handphones (56.6%), iPad (33.7%), tablets (4.8%), and e-books (1.2%) to study and do assignments online. Results showed very positive feedback from the students in terms of collaborative learning and experiential learning attained by the students throughout the digital assignment process. For all the ten questions asked in the questionnaire, most of the students answered, 'mostly true' followed by 'very true' and 'moderately true'. This can be seen on the mean score between 2 and 2.24 that the participants in this study answered the average scale (mostly true). The standard deviation scores imply that the scores are in the normal distribution, concentrated around the mean score. There were minimal numbers of respondents that answered, 'not true' and 'slightly true' as it may be due to some reasons such as lacking digital competency, not motivated nor interested and unproductive group communication.

Overall, the findings showed that most of the students were very interested in doing the DST assignment as it was interesting and captured their full interest in the lesson. It was an effective lesson, and the outcome of the assignment was amazing due to the active participation and good spirit among the group members and continuous facilitation by the lecturer throughout the process, from Step 1 until Step 8. The educators played a key role here as it is important to engage the students and at the same time increase their interest to foster active learning through the DST assignment. The findings also suggested that the DST assignment promoted authentic learning as students could narrate their own individual experiences in their assignment while integrating the theories and the content of the subject. Apart from that, DST assignment also allowed them to present their own perspectives and carry out negotiations among their peers. This is consistent with Kristiawan et al. (2022) who affirmed that collaborative learning of DST engages students in solving problems, sharing responsibilities, and respecting the ideas of group members. Consequently, integrating DST as an assignment in the classroom practice may increase cooperation and understanding among the students from various cultural and linguistic backgrounds besides facilitating them to achieve their learning goals.

Qualitative results

All 83 participants responded to five questions on their perspective and effectiveness of the DST assignment as one of the ongoing assessments of the English for Professional Purposes course during the interview session. In general, most of the participants expressed positive feedback to every question. Neutral and negative feedback was found very limited. The findings of the interview data were analysed using NVivo R1 software. The interview data were analysed using a content analysis approach by looking into word frequency analysis and thematic analysis.

Based on the data, it can be derived that the students' impression towards DST assignment was positive based on the frequency of words used during their interviews. The majority of them found that the DST assignment was interesting that brought creativity and skills in them. It is supported by the thematic analysis which showed that there were more positive themes than neutral and negative. Although some students felt that the DST assignment is troublesome, time-consuming, among others, most think it is very interesting, allowing creativity in everyone.

Also, data shows the words used by the students to express their feelings and what they have learned through the DST assignment. Most of the students found that it was interesting, informative, entertaining, and learned about creativity from other groups' DST assignments when all the students can view it through Edmodo posts. The thematic analysis indicated that the respondents feel more positive and learn better by viewing their peers' videos. The negative aspects were very minimal when the students did not bother to watch the videos.

Although many students found that they learned lots of skills and new ways to learn English interestingly, they still found that this assignment was time-consuming, and they faced difficulty editing their video. More editing skills should be exposed to the students before this assignment is given in future. This is also verified by the thematic analysis.

While some students thought that it made no changes in learning the English language, most of them stated that this assignment had improved their language usage and inspired creativity in them, which they enjoyed throughout the assignment process. Apart from this word analysis, the thematic analysis strongly shows that the respondents think this DST assignment brings more benefit as there was no negative feedback. It was just a neutral statement as 'nothing' and 'no opinion'.

The qualitative findings suggested that DST assignment could be a practical and empowering pedagogical supplement to existing English for Professional Purposes assignment. The key value of DST is the contribution to the meaning-making process of the subject matters. In this regard, DST enables the students to achieve a deeper understanding of the content learned in the classroom as this study pointed out that the step-by-step facilitation by the lecturer in the DST assignment had encouraged active participation among learners and enhanced their speaking ability during the videos production. Moreover, the findings indicated that DST assignment helped the students to become more proficient not only in speaking skills but also in creative thinking. This is because DST enabled the students to express themselves creatively when they created the story using the target language as posited by Yang et al. (2022). Thus, DST offered an engaging platform for nurturing creative thinking of students, enabling them to explore new possibilities of meaning-making in the form of digital stories.

Implications

This new assessment method for assignment-based learning has changed the teaching norm where students are used to remembering and understanding facts only, which falls under the lower-order thinking skills. Simultaneously, this DST assignment seems to be more significant in teaching higher-order thinking skills where the students must create, imagine, design, and plan. It is believed that DST encourages the social dimensions of learning among the students as they work together and support each other while acquiring information resources for learning purposes. Apart from focusing DST on the higher institutions' English Language courses, this method can be used to teach any courses and can be expanded to secondary schools that are implementing 'Home-based teaching and learning' classes during this COVID-19 pandemic in Malaysia. Moreover, this interesting way of learning could encourage students' creativity and critical thinking skills by challenging themselves in many phases of the DST process. Besides that, home-based education can develop positive study skills and habits as there is more flexibility in learning than in traditional face-to-face classrooms.

Conclusion

This research showed that most students' perceptions of DST assignments are positive. Apart from the responses via questionnaire, the interviews have given in-depth findings that DST is one of the effective assignments that create excitement, informative and explorative group work amid of online learning conducted 100%. Generally, there are some limitations in this study that are

highlighted due to some reasons. Firstly, due to the sample size and the class schedule, analysis on inferential statistics could not be employed as pre-test and post-test of the survey were not administered. Secondly, this study only focused on a group of students from the same programme. In future, it is recommended that this method of assignment should be applied to students from other programmes.

The findings can be summarised that DST assignment promotes experiential learning and collaborative learning among the students. This allows the students to actively give ideas, showcase their hidden talents, and think out of the box. This is supported by Pitler (2006) as cited in Smeda et al. (2014) that “applied effective technology not only increases students’ learning, understanding, and achievements but also augments their motivation to learn, encourages collaborative learning and develops critical thinking and problem-solving strategies” (p. 3). In short, it is believed that DST is powerful in documenting the quality of the teaching and learning process which happens in the classroom environment (Tendero, 2006). On another note, Erdoğan (2021, p. 443) stated that “it is necessary to compare the effectiveness of DST with different teaching methods such as problem-based learning, cooperative learning, etc.”. The conclusion that can be drawn in this research is that using DST in the classroom can attract students’ attention during the lesson and make the task more meaningful, effective, fun, and enjoyable. In addition, it is believed that the outcome of this research will enable the educators and the learners to tap into the DST method for more engaged OTL purposes especially when the pandemic soon becomes endemic.

References

- Burmark, L. (2004). Visual Presentations that Prompt, Flash & Transform. *Media and Methods*, 40(6), 4–5.
- Chan, C., & Sage, M. (2021). A narrative review of digital storytelling for social work practice. *Journal of Social Work Practice*, 35(1), 63–77. <https://doi.org/10.1080/02650533.2019.1692804>
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publication.
- Erdoğan, E. (2021). The impact of digital storytelling on the academic achievement and democratic attitude of primary school students. *Educational Policy Analysis and Strategic Research*, 427.
- Farzaneh, K. (2018). The impact of storytelling techniques through virtual instruction on English students’ speaking ability. *Teaching English with Technology*, 18(1), 24–36.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2015). *How to Design and Evaluate Research in Education* (9th ed.). McGraw – Hill Education.

- Gimeno-Sanz, A. (2015). Digital storytelling as an innovative element in English for specific purposes. *Procedia-Social and Behavioral Sciences*, 178, 110–116.
- Kolb, A., & Kolb, D. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education*, 4(2), 193–212.
- Kristiawan, D., Ferdiansyah, S., & Picard, M. (2022). Promoting vocabulary building, learning motivation, and cultural identity representation through digital storytelling for young Indonesian learners of English as a foreign language. *Iranian Journal of Language Teaching Research*, 10(1), 19–36.
- Laal, M., & Ghodsi, S. M. (2012). Benefits of collaborative learning. *Procedia – Social and Behavioral Sciences*, 31, 486–490.
- Mick, H., & Alan, J. (2000). Kolb's experiential learning theory and its application in geography in higher education. *Journal of Geography*, 99(5), 185–195.
- Mokhtar, N. H., Halim, M. F. A., & Kamarulzaman, S. Z. S. (2011). The effectiveness of storytelling in enhancing communicative skills. *Procedia – Social and Behavioral Sciences*, 18, 163–169.
- Nassim, S. (2018). Digital storytelling: An active learning tool for improving students' language skills. *PUPIL: International Journal of Teaching, Education and Learning*, 2(1), 14–29.
- Ohler, J. B. (2013). *Digital Storytelling in the Classroom: New Media Pathways to Literacy, Learning, and Creativity*. Corwin Press.
- Pandian, A., Baboo, S. B., & Yi, L. J. (2020). Digital storytelling: Engaging young people to communicate for digital media literacy. *Jurnal Komunikasi: Malaysian Journal of Communication*, 36(1).
- Psomos, P., & Kordaki, M. (2012). Pedagogical analysis of educational digital storytelling environments of the last five years. *Procedia – Social and Behavioral Sciences*, 46(c), 1213–1218. <https://doi.org/10.1016/j.sbspro.2012.05.277>
- Razmi, M., Pourali, S., & Nozad, S. (2014). Digital storytelling in EFL classroom (oral presentation of the story): A pathway to improve oral production. *Procedia – Social and Behavioral Sciences*, 98, 1541–1544.
- Robin, B. R. (2009). Digital storytelling: A powerful technology tool for the 21st century classroom. *Theory into Practice, Taylor & Francis Online*, 47(3), 220–228.
- Robin, B. R. (2016). The power of digital storytelling to support teaching and learning. *Digital Education Review*, 30, 17–29.
- Sanz, A. G. (2015). Digital storytelling as an innovative element in English for specific purposes. *Science Direct Procedia – Social and Behavioral Sciences*, 178, 110–116.
- Schmoelz, A. (2018). Enabling co-creativity through digital storytelling in education. *Thinking Skills and Creativity*, 28, 1–13.
- Simsek, M. R. (2020). Towards emancipatory L2 instruction: Exploring significant learning outcomes from collaborative digital storytelling. *International Journal of Educational Methodology*, 6(3), 555–569.
- Smeda, N., Dakich, E., & Sharda, N. (2014). The effectiveness of digital storytelling in the classrooms: A comprehensive study. *Smart Learning Environments*, 1(1), 1–21.
- Tendero, A. (2006). Facing your selves: The effects of digital storytelling on teacher education. *Contemporary Issues in Technology and Teacher Education*, 6(2), 174–194.

- Vrettakis, E., Kourtis, V., Katifori, A., Karvounis, M., Lougiakis, C., & Ioannidis, Y. (2019). Narralive – Creating and experiencing mobile digital storytelling in cultural heritage. *Digital Applications in Archaeology and Cultural Heritage*, 15, e00114.
- Wan, I., & Hamidah, Y. (2020). Students' perception on learning English language through conventional and digital storytelling. *International Journal of Academic Research in Business and Social Sciences*, 484–504.
- Wu, J., & Chen, D. T. V. (2019). A systematic review of educational digital storytelling. *Computers & Education*, 147, 103786.
- Yang, Y. T. C., Chien, Y. C., & Hung, H. T. (2022). Digital storytelling as an interdisciplinary project to improve students' English speaking and creative thinking. *Computer Assisted Language Learning*, 35(4), 840–862.
- Yang, Y. T. C., & Wu, W. C. I. (2012). Digital storytelling for enhancing student academic achievement, critical thinking, and learning motivation: A year-long experimental study. *Computers & Education*, 59(2), 339–352.
- Yee, B. C., Tina, A., & Abdullah, M. N. (2018). Digital storytelling to unlock reflective practice in the classroom. *Asian Social Science*, 14(11), 1911–2025.
- Yocom, D., Bashaw, C., Price, D., & Cook, M. (2020). Perceptions of digital storytelling in the classroom. *Teaching and Learning in Nursing*, 15(3), 164–167.

Does Micro-Learning Make a Difference in Vocabulary Acquisition?

Khong Hou Keat & Muhammad Kamarul Kabilan

Introduction

In recent years, the notion of micro-learning (ML) has been repeatedly accented as a successful learning approach in different learning phenomena including the language domain (Jahnke et al., 2019). ML is a technology-mediated learning approach whereby learners are directly exposed to short-term learning activities formally or informally. These activities are created based on well-planned microcontent by means of real-time micromedia environments to construct microknowledge whereby the 3Ms (microcontent, micromedia, and microknowledge) embody the uniqueness of ML (Hug et al., 2006a, 2006b; Lindner & Bruck, 2007). According to Lindner (2007), micromedia refers to digital atomised media including mobile networked devices that delivers reusable small and self-contained pieces of digital microcontent to facilitate the construction of single focus microknowledge. At this juncture, it is important to note that ML is chosen among other technology-mediated learning approaches because the conceptual characteristics and empirical observations of ML are found to correspond well with second language (L2) or foreign language (FL) vocabulary acquisition and this learning approach is also consistent with the contextual problems identified in the technical setting under study, for instance, the poor performance in Spanish language learning.

At the initial stages of L2/FL learning, students' low performance may stem from multiple factors. One of the result-based factors points to lexical deficiency which is evident in almost all assessments of the technical students. They often lacked vocabulary to convey the intended meaning in Spanish. This typical result suggests that recalling unfamiliar Spanish words in various situations is indeed challenging. Hence, repeating the same words, using their first language (L1), or leaving it unanswered are common practices of these students. This finding is congruent with the studies of Hu (2011) and Huang (2015) in that technical students usually have low level of second language vocabulary. Consequently, to improve student performance in Spanish language learning, first, their vocabulary must be strengthened.

In addition, the technical students face various personal and contextual problems in learning Spanish and three key obstacles were identified based on facts and figures: time factor, instructional approach, and motivation. Most technical students in the university have a very packed schedule throughout the academic semester. Besides, the researcher's observation resonates with the findings of Misran et al. (2016) on the time management skills, Liu et al. (2017) on learners' time commitment, and Romero and Barberà (2021) on time flexibility in that all these problems might have contributed to the poor performance in Spanish learning.

Besides the time factor, another impediment for successful Spanish language learning is the instructional approach adopted which does not fully coincide with the learning conditions. Consistent with the view of Kaur (2013) that "Malaysian learners, as the protagonists in the learning process, shun responsibility in learning" and "they lack the drive to be self-directed – within and beyond formal learning" (p. 10), it is observed that the students are less capable to carry out independent learning required particularly during the COVID-19 pandemic. This misalignment between the instructional approach and students' learning styles and needs may be responsible for the undesirable Spanish language performance of these students.

The last pronounced barrier that impedes effective Spanish language learning among the technical students is the lack of motivation in language learning in their immediate environment. Despite the students manifested a high level of motivation toward learning Spanish (Khong et al., 2017), in reality the actual performance results show the contrary and their proficiency remains low particularly in the productive skills (speaking and writing). While these personal and contextual problems were evident in the normal situation, they were exacerbated by the COVID-19 disruption whereby various authors have recently documented different levels of challenges including technical,

psychological, and emotional problems faced by students worldwide (e.g., Camacho-Zuñiga et al., 2021; Cao et al., 2020; Kee, 2021; Mohd Yusuf & Ahmad, 2020; Salimi et al., 2021). This in turn compels adequate pedagogical implementations during the pandemic.

Taking all these challenges into account, it is hence intended to investigate the practicality of ML in the context of online teaching and learning (OTL), whether it could improve Spanish vocabulary acquisition among technical students particularly during the COVID-19 pandemic where the teaching and learning is restricted to online settings. To our knowledge, ML is a relative new field of study, particularly in the L2/FL learning domain, whereby there are very few attempts to investigate this seemingly promising ML to enhance existing OTL and cater for new learning needs in this pandemic era. Besides, studies on ML are inconclusive when it concerns the effects of ML in various learning domains. Therefore, this study seeks to contribute empirical evidence to inform the notion of ML within a FL domain in a Malaysian technical setting.

Spanish Vocabulary Acquisition

With reference to Coady (1996), there are four main approaches to vocabulary instruction in relation to word-focused learning. While contextual vocabulary acquisition approach has been proven to be useful (e.g., De Wilde et al., 2021; Koval, 2019; Nakata & Elgort, 2021; Sánchez Gutiérrez, 2021) it is in fact less suitable for L2/FL learners who are generally required to learn a considerably large amount of words in a relatively short period of time. This time factor hence restricts the mere adoption of the time-consuming contextual approach in many formal learning situations particularly in those with beginner learners who have just started to learn a L2/FL. Consequently, the scenario of this study seems to be in favour of a compromise between direct and indirect vocabulary teaching and learning techniques (e.g., Fasih et al., 2018; Gallardo, 2020; Poláková et al., 2021; Rahimi & Allahyari, 2019) whereby explicit language-focused learning is particularly useful for vocabulary acquisition.

In order to investigate whether the learners have acquired the intended vocabulary, this study adopts a componential approach involving Nation's (2001) framework to measure four aspects of vocabulary knowledge. They are from two different categories, (1) form category – written form; (2) meaning category – form and meaning, concept and referents, and associations. This approach is based on two practical reasons. Firstly, it is impossible to measure all aspects of word knowledge in a single test. However, it resonates with the call for including multiple aspects in a study to render more accurate

assessment of one's vocabulary knowledge. Secondly, the four aspects are consistent with the course syllabus and the level of the Spanish language learners under study considering the fact that they have just started learning the language. In the early stages of any vocabulary learning what is more important is the connection between the form and the meaning, the basic concept of a word as well as some basic associations.

Written form (orthography)

Knowing the written form of a word includes being able to recognise the word during reading (receptive knowledge) and to produce the written form to express a meaning (productive knowledge). In Spanish, there are similar forms which can lead to potential confusions, for example, '*casa-caso-cosa*' (house-case-thing) are similar forms with different meanings, while '*esta-este-esto*' (this-this-this; these demonstratives have different grammatical functions in Spanish) are similar forms with similar meanings. In this regard, Schmitt (2010) argued against sidelining the orthographic/phonological mastery of word form and recommends that researchers must consider it an essential component of vocabulary learning. Afshar (2021) resonated with this argument by showing that task-related focus-on-forms could yield higher learning gains in FL vocabulary development. For instance, focus on spoken form and word parts could enhance participants' deeper processing and their self-confidence.

Form and meaning

Knowing a word is typically regarded as knowing the word form and its meaning. However, Nation (2020) emphasised the connection between the two in his seminal framework because it is possible that learners know only the form of a word but not the actual conceptual meaning, or learners are familiar with the form and have the corresponding concept, but they fail to connect the two. For example, Malaysian learners of Spanish might be aware of the form '*libro*' (book), but they might confuse it with '*libra*' in their L1, which denotes the seventh astrological sign in the zodiac, and this may lead to semantic misconception. Moreover, the learners should have known from their L1 the concept 'book'. When reading and listening to the form *libro*, or during expressing the meaning of *libro* in speaking or writing, a learner's ability to retrieve the word meaning or the word form indicates that there is a connection between the form and its meaning. When the connection is strong, the retrieval will be fast, and vice versa.

Concept and referents

On many occasions, learning a word is more than just a simple and linear connection between the form and its meaning. With reference to Crossley et al. (2010), a vague word consists of one meaning with only one sense, for instance, in Spanish, '*junio*' (June). When a word carries two or more unrelated meanings (i.e., '*banco*' can mean a bench as in a long seat or a bank as in a financial institution), it is termed a "homonym" (Nation, 2020, p. 19). A polysemous word refers to a word that has one core meaning with various peripheral senses. For example, the Spanish word '*clase*' (class) which usually refers to a set or category of elements with common characters. Other related senses of *clase* include a classroom, a school lesson, a course of study, a body of students, a collection of people sharing similar attributes, a social class, and a taxonomic group.

In reality, it is very unlikely that learners are required to learn all the unrelated meanings of a homonym or all the meaning senses of a polysemous word in any vocabulary learning. Therefore, the core meaning of a word used in this study, though may not be the most established as literal and central, has a clearly concrete referent that alludes to rather everyday concepts which are consistent with the course syllabus. The Spanish learners are only required to learn the core meaning of the target words considering their proficiency level as interference is not desired in the early stages of learning a particular word (Nation, 2020).

Associations

When learners learn new words and new concepts, they also expand and consolidate their vocabulary knowledge simultaneously by establishing connections among known words and concepts. There are numerous types of word associations in the mental lexicon of L2/FL language learners. According to Ma and Lee (2019), they can be categorised into three main groups: (1) Paradigmatic associations, e.g., noun-noun pairs like '*padre e hijo*' (father and son), adjective-adjective pairs like '*alto y delgado*' (tall and thin) and verb-verb pairs like '*cantar y bailar*' (sing and dance); (2) syntagmatic associations, e.g., adjective-noun pairs like '*buenos días*' (good morning), verb-noun pairs like '*leer libros*' (read books), and verb-adverb pairs like '*correr rápido*' (run fast); and (3) form-based associations, e.g., formally similar words like '*casa-caso-cosa*' (house-case-thing), phonologically similar words like '*hola-ola*' (hello-wave) and '*baca-vaca*' (roof rack-cow), and inflectionally similar words include '*cocino, cocinas, cocina, cocinamos, cocináis, cocinan*' (from the verb '*cocinar*', to

cook). While these associations can aid form-meaning link, they can also cause confusions among learners when these words refer to very different concepts or referents.

Micro-learning

Despite ML has repeatedly been corroborated as a successful learning strategy in different learning phenomena, it is a relative new field of study in view of the fact that pertinent literature mostly comes from conference proceedings. Overall, existing literature paints a positive picture of ML. For instance, ML supports work-integrated learning (Bruck et al., 2012; Decker et al., 2017), increases employees' engagement (Göschlberger & Bruck, 2017), accommodates learner needs (Gross et al., 2019), and improves learning across disciplines, such as, business, healthcare, science, and technology (Jahnke et al., 2019). ML has also been highlighted to have the potential to empower self-directed lifelong learning (Buchem & Hamelmann, 2010), support the development of learner autonomy (Nikou & Economides, 2018) and improve learners' motivation, engagement, and performance (De Vries et al., 2019; Kovacs, 2015; Leela et al., 2019; Mohammed et al., 2018; Ohkawa et al., 2019). To counter the disruption caused by the COVID-19 pandemic, Arnab et al. (2021) find that interactive mini-game activities can be used as stand-alone workplace ML resources while Busse et al. (2020) foregrounded 20 requirements for designing didactically appropriate microcontent including multimedia, interaction, and motivation-based designs to support learners in their moment of need.

Conversely, there are also studies which claimed that ML is not useful in acquiring complex skills (Jomah et al., 2016) and it may cause issues of over-optimistic expectations of its potential (Demmans Epp & Phirangee, 2019; Xue et al., 2017) and overreliance and misuse (Cutler, 2014) among teachers and learners. Some studies highlight other related issues including distraction (Aldosemani, 2019; Madden & Govender, 2020), lack of access (Wang et al., 2020), cost and bias (Jahnke et al., 2019), and some foreground the design and technical problems of ML (Hegerius et al., 2020; Inker et al., 2020). In sum, these contradictions signal a need for greater critical evaluation of ML and caution against focusing too narrowly on the pervasive power of state-of-the-art technology.

In the language learning domain, Baldauf et al. (2017) assessed students', parents', and teachers' acceptance of a mobile and gamified ML app for language teaching. Results of the questionnaires and interviews showed that the ML app was received favourably by the participants. Moreover, the

parents showed exceptional interest and willingness in using the app together with their children for language learning. Ohkawa et al. (2019) investigated the effect of a ML-based smartphone application, KoToToMo Plus, on blended learning of a group of Japanese learners of Chinese. Results showed that the application increased student learning times and reduced learning burden. Besides, participants found that the visualisation functions useful.

On the other hand, some studies reported a mix of positive and null effects of ML. While ML apps are found to have helped “sustain learning progress” (Cai et al., 2017, p. 38) and complemented existing learning techniques (Dingler et al., 2017), certain design and technical aspects limited their claims that the apps could lead to significantly positive effects. Another study conducted by Demmans Epp and Phirangee (2019) in a high school English course in Japan also showed that mobile tools and ML alone could only yield a brief spike in learner activity but could not improve learner vocabulary knowledge. By using a combination of behavioural data, tests, student work, and teacher observations, the study proposed that mobile ML should be used along with appropriately designed learning activities to achieve the desired deep processing and repeated effort from learners that will eventually lead to knowledge construction.

These inconclusive findings signal a need for greater critical evaluation of ML and further investigation and documentation in various learning contexts are needed, specifically during the disrupted learning condition like the COVID-19. Consequently, this study adopts a more systematic theoretical and methodological approach to illustrate a principled way to integrate ML into the present study. Khong and Kabilan’s (2020) theoretical model of ML was adopted to underpin the design and development of the ML. The model is supported by three theories. Sweller’s (2020) cognitive load theory (CLT), Mayer’s (2014) cognitive theory of multimedia learning (CTML), and Ryan and Deci’s (2017) self-determination theory (SDT) of motivation. Besides supporting the typical alignment of cognitivism with second language acquisition in comparison with behaviourism and constructivism (Atkinson, 2010), CLT is most consistent with the design and development of microcontent and the manipulation of micro-activities, CTML is closely related to the use of mobile and digital micromedia, and SDT is the motivational foundation of effective ML that leads to microknowledge construction. It is anticipated that this model would provide a more robust and descriptive picture of how ML can promote Spanish vocabulary acquisition in the research setting. As a result, to fill the research gap, the following research questions were formulated:

1. Does ML affect the overall Spanish vocabulary acquisition among learners during the COVID-19 pandemic?
2. Does ML affect different Spanish vocabulary knowledge acquisition among learners during the COVID-19 pandemic?

The Study

This quasi-experimental study consisted of two experimental conditions each receiving a specific but comparable treatment with the presence of a control group (Mackey & Gass, 2016). The addition of control groups intends to improve the internal validity of research with treatments. When all groups can be proven to be equivalent at the beginning of the study, this non-equivalent groups design will allow researchers to draw more unambiguous conclusions of the treatment effect (Cohen et al., 2007).

About 124 technical students, majoring in automotive engineering enrolled in Spanish language course at a university in Malaysia, were invited to participate in this study. Their age ranged from 19 to 25 with the mean being 21.03 (SD = 1.69). Following the sampling method outlined in Figure 1, 76 student volunteers were successfully recruited, experimental group (n = 31), comparison group (n = 22) and control group (n = 23). This sample size was in accordance with Onwuegbuzie and Collins's (2007) who proposed 21 participants per group for one-tailed hypotheses for moderate effect sizes with 0.80 statistical power at the 5% level of significance. However, attrition occurred throughout the research and the final sample was only 37, experimental group (n = 15), comparison group (n = 12) and control group (n = 10). To protect the participants' rights and the ethics of research, students could anytime stop taking part in the study without any penalty or loss of any benefits. Besides, all participants were given equal opportunity to access to all learning materials of the treatments after the research.

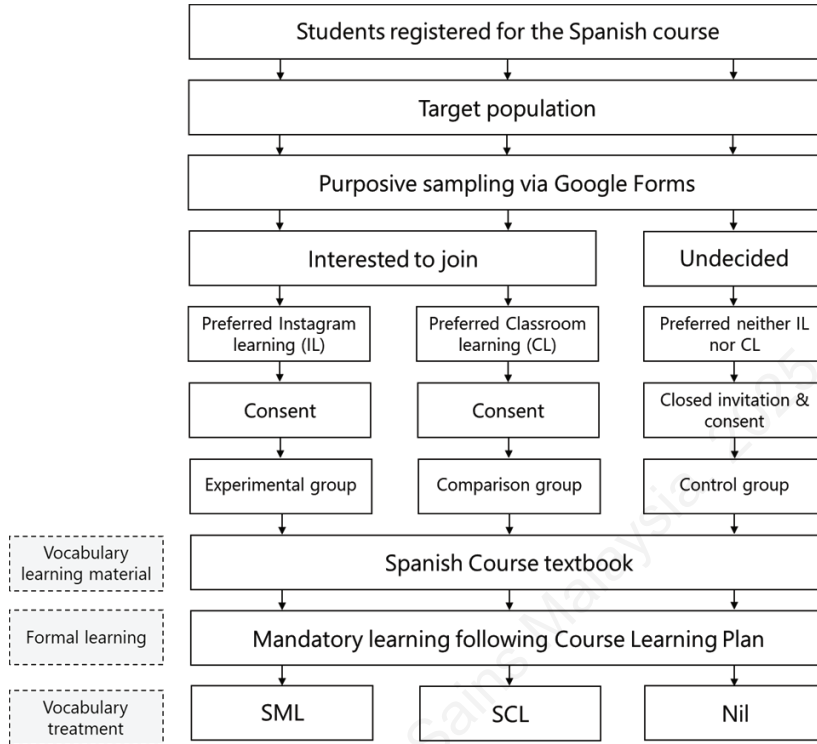


Figure 1 Sampling method of the study

Target words

The 140 target words (28 blocks of 5 words) were selected from the Spanish course textbook based on two criteria, that is, student learning needs and word frequency. For student learning needs, the target words maintain a good consistency ($\pm 5\%$) with the two course assessments (listening test and oral test) that assess students' overall vocabulary. In line with Nation and Hunston (2013) in that high-frequency words should receive most attention in any vocabulary learning programme as well as the need to learn a range of themes which involve mid-frequency (e.g., temporal reference like *lunes*, Monday) and low-frequency vocabulary (e.g., cultural reference like *paella*, a Spanish rice dish) from the course content perspective, a ratio of 6:3:1 for high, mid, low-frequency words was adopted. Besides, the words were carefully considered to achieve a balance between each semantic category, part of speech, cognate and non-cognate, content and function words, single and multiword units, and pragmatic and sociocultural perspectives. The complete list of words could be found in the larger research.

Learning instruments

For the experimental group, the vocabulary learning instrument was labelled as Spanish micro-learning (SML), meanwhile for the comparison group, it was labelled as Spanish classroom learning (SCL). The SML was carried out using a video format and the SCL was taken place in a virtual classroom setting similar to other usual classes during the research period. The design and development of both SML and SCL were based on two models: Khong and Kabilan's (2020) theoretical model of ML and Alessi and Trollip's (2001) instructional system design (ISD) model. The theoretical model of ML offers a theoretical justification for the instructional content and activities of the treatments while Alessi and Trollip's ISD model provides a structural foundation to systematically guide the developmental process of the treatments.

Spanish micro-learning

Video was selected to be the medium or format for delivering SML because it was highly consistent with the multimedia principle of CTML which constituted one of three pillars of the theoretical model of ML and it was thus far considered as the best medium for ML among others to engage viewers in constructing microknowledge (Eades, 2017; Valamis, 2020). Besides, Instagram was selected to be the platform for delivering SML because it was very popular among the population under study and comparing with other social media. Moreover, Instagram provided some unique operational features, such as, standalone IGTV in grid format, push notifications, and facility to accommodate videos of five minutes.

Spanish classroom learning

SCL was deliberately designed and developed in a way that it addressed all theoretical elements of SML but in varying degree based on the nature of the treatment. Hence, the basic design of SCL was also based on the communicative activities framework of Lozano and Ruiz Campillo (2009) because it was not only the foundation for the normal lesson planning, but also a good basis for reflection on the adequacy of the design in the communicative perspective. This framework also helped maintain the degree of similarity between the SCL treatment and the authentic classroom learning to minimise potential confounding interference and at the same time increase the ecological validity (Sato & Loewen, 2019).

Table 1 summarises the comparison between SCL and SML, highlighting their similarities and differences in facilitating Spanish vocabulary acquisition. This table provides a holistic view of the important criteria of the design and development so that on the one hand the comparability of both treatments could be justified, and on the other hand, the readers would be adequately informed on these treatments. The detailed design and development of SML and SCL could be found in the larger research.

Table 1 Comparison between SCL and SML

Criteria	SCL	SML
Similarities		
Objective	Vocabulary learning	Vocabulary learning
Learning outcome	Increase learners' vocabulary knowledge	Increase learners' vocabulary knowledge
Learning content	140 words (lemmas)	140 words (lemmas)
Duration	1 x 126 = 126 min	28 x 4.5 = 126 min
Differences		
Presentation format	1 vocabulary list	28 video clips
Instructional procedure	Formal (online classroom activity)	Informal (self-directed learning)
Learning method	Continuous (one-off mass learning)	Spaced (multiple micro learning sessions)
Learning approach	Classroom cooperative learning	Virtual social learning (via social media)
Learning type	Constructivism	Connectivism
Mediality/Platform	Microsoft Teams	Smartphone (portable devices)
Instruction	Synchronous (real-time)	Asynchronous
Theoretical aspect (CLT)	(ICL) not controlled	(ICL) controlled
	(ECL) mainly based on MP via PPT	(ECL) mainly based on MP via short videos
	(GCL) learning strategies are made explicit via classroom activities	(GCL) learning strategies are made explicit via student acting
Theoretical aspect (CTML)	(MP) picture + narration	(MP) picture + narration
Theoretical aspect (SDT)	(A) learners are given freedom to make decision	(A) learners are given freedom to make decision
	(C) classroom activities & online games	(C) quiz (video) & questions (Instagram)
	(R) classroom cooperative learning	(R) virtual social learning

(continued on next page)

Table 1 (*continued*)

Criteria	SCL	SML
Procedure/Process	(i) Contextualisation (open discussion on vocabulary) (ii) Motivation (try some ways to learn new words) (iii) Planning and working (prepare PPT) (iv) Presentation and communication (present PPT) (v) Fun auto-evaluation via online games (vi) Closing	(i) Video is posted daily via Instagram (ii) Students view video anytime throughout the day (iii) Students comment via Instagram (iv) Tutor gives question/feedback via Instagram (v) Auto-evaluation via Instagram comment Repeat (i) to (v) for 28 days
Section/Part of treatment	(i) Introduction (objective) (ii) Experiment (try some learning games) (iii) Working together (brainstorming) (iv) Communicating ideas (present via PPT) (v) Self-assessment via Kahoot!	(i) Introduction (objective) (ii) PPT learning (vocabulary learning via video) (iii) Interactive quiz (self-assessment) (iv) ML concept presentation (via student acting) (v) Closing (encouragement)

Measuring instruments

The measuring instruments included three 40-item Spanish vocabulary tests (pre-test, post-test and delayed post-test) to collect quantitative data at three time points. All testing materials were researcher-developed, and the design and development of all instruments were in line with the learning instruments (treatments) and the proficiency level of the participants. The validity and reliability of these measuring instruments were estimated using different procedures including two rounds of content validity and a pretesting alongside item analysis for the quantitative instruments. The detailed estimations of the validity and reliability of these instruments could be found in the larger research.

The vocabulary tests aimed to assess participants' vocabulary acquisition of the target words under study. These tests adopted the same format and comprised four sections which assess the four different aspects of students' vocabulary knowledge. The four sections were further divided into eight parts (namely Part 1–8). Each part consisted of five questions (with maximum mark: 5) that aim to evaluate one single vocabulary knowledge aspect in which students are required to answer the questions either productively (students produce an answer) or receptively (students select an answer). With reference

to Laufer et al. (2004), a sensitive scoring system was used for productive exercises (Part 1–4) and a strict scoring system was used for the receptive exercises (Part 5–8). Considering the level of the students under study, the duration of each test was 30 minutes. Overall, the item analysis indicated that the tests were good for use (pre-test: KR-20 = 0.883; SEM = 2.081, and post-test/delayed post-test: KR20 = 0.932; SEM = 1.804).

Procedure

The procedure can be divided into five stages: (1) sampling, (2) pre-test, (3) treatments, (4) post-test, and (5) delayed post-test.

After the sampling process of Stage 1, all three groups continued receiving usual classroom instructions as outlined in the course syllabus. At this juncture, it is imperative to reiterate that during the pilot study, the usual classes were conducted virtually via Microsoft Teams along with other university e-learning platforms like virtual learning environment (VLE). The pre-test was administered following a standard protocol via the university VLE for all groups in week 4 (Stage 2). All participants were also encouraged to ask for clarification whenever they encountered difficulties in understanding any questions or instructions. The average time taken to complete the pre-test was about 20 minutes. The data collected during this stage was documented and analysed using Microsoft Excel Spreadsheet before subjecting to SPSS analysis.

In Stage 3, participants of the experimental group were reminded a few days earlier and were provided with necessary information on the specific Instagram private account that would serve as a platform for the teacher participant to post the daily ML video. For this experimental group, the teacher participant was provided with an information kit that consisted of a detailed lesson plan written in Spanish and a list of suggested questions to be asked on Instagram to stimulate discussions and student participation. However, the teacher participant was given the freedom to ask any related questions wherever she deemed fit based on the situations. Throughout 4 weeks, participants viewed and commented on the videos posted on the Instagram. The teacher participant attempted to give relevant feedback on the same day or the following day if the student comments came very late during the day.

Participants of the comparison group were reminded a few days earlier and were provided with necessary information on the SCL session that would be conducted by the teacher participant via Microsoft Teams. Similarly, for

this comparison group, the teacher participant was provided with another information kit that comprised a detailed lesson plan written in Spanish, a 36-slide PowerPoint, and a suggested script for how to conduct the SCL session based on the PowerPoint. However, the teacher participant was given the freedom to conduct the lesson with reference to the rehearsal she had had with the researcher a week before. Participants of the control group was not getting any treatment, so they continued receiving usual classroom instructions.

A week after the treatments, the post-test was administered following the standard protocol via the VLE for all groups in week 12 (Stage 4). All participants were also encouraged to ask for clarification whenever they encountered difficulties in understanding any questions or instructions. The average time taken to complete the post-test was about 20 minutes. The data collected during this stage was documented and analysed using Microsoft Excel Spreadsheet before subjecting to SPSS analysis.

A month after the treatments, the delayed post-test was administered following the standard protocol via the VLE for all three groups in week 15 (Stage 5). All participants were encouraged to ask for clarification whenever they encountered difficulties in understanding any questions or instructions. The average time taken to complete the delayed post-test was about 20 minutes. The data collected during this stage was documented and analysed using Microsoft Excel Spreadsheet before subjecting to SPSS analysis. After this stage, all participants were given equal opportunity to access to all learning materials of the treatments at the VLE.

Results collected from the pre-test, post-test, and delayed post-test were analysed with SPSS version 23 using descriptive and inferential statistics including comparison of means techniques such as one-way analysis of variance (ANOVA) at a significance level of .05. For cases where the underlying assumptions are not met, nonparametric alternatives would be considered, for example, Mann-Whitney U test or Kruskal-Wallis one-way analysis.

Results and Discussion

This section presents and discusses the study results in accordance with the RQs, offering in-depth analysis and interpretation to elucidate the significance and implications of the findings within the context of the study.

RQ1: Overall Spanish vocabulary acquisition

Overall results show that there was a gradual growth in Spanish vocabulary acquisition across all three groups from pre-test to delayed post-test during the COVID-19 pandemic (Figure 2). The raw scores showed a tendency to rise from pre-test (T1) to post-test (T2) and eventually to delayed post-test (T3). This suggests that all vocabulary instructions, be it usual classroom learning (control group), SCL (comparison group) or SML (experimental group), facilitate Spanish vocabulary learning among the technical students. Nonetheless, it is important to note that this study is intended to compare the effects of SML against other instructions over the three time points, in other words, vocabulary gain is the focus of the analysis.

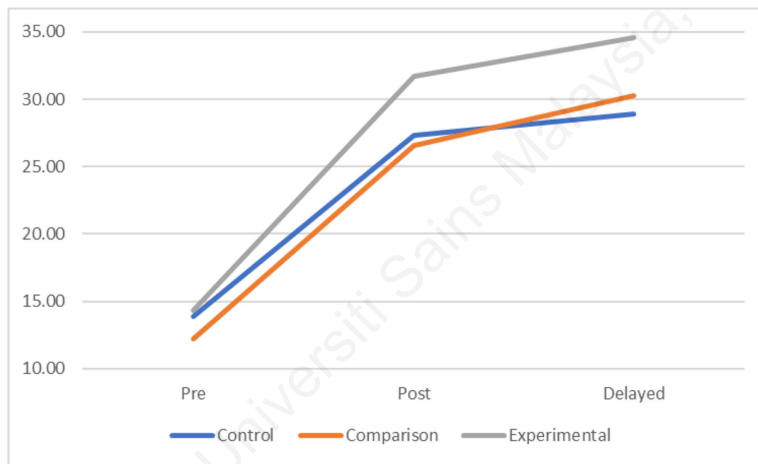


Figure 2 Overall mean scores of all groups from pre-test to delayed post-test

Owing to the overall gain score data violated the assumption of normality for ANOVA and the group sizes were relatively small in this study, therefore nonparametric tests were conducted. Kruskal-Wallis H tests showed that there was a statistically significant difference in overall gain score from T1 to T2 across all groups, $H(2) = 11.609, p = 0.003$, with a mean rank gain score of 17.15 for control group, 11.92 for comparison group and 25.90 for experimental group. Similarly, there was also a statistically significant difference in gain score from T1 to T3 across all groups, $H(2) = 12.434, p = 0.002$, with a mean rank gain score of 13.60 for control group, 14.04 for comparison group and 26.57 for experimental group. However, the gain scores from T2 to T3 were not significantly different across the three groups. Table 2 shows descriptive statistics for the three groups on overall gain score from T1 to T3. For the significant effect cases, post-hoc Mann-Whitney U tests using a Bonferroni-

adjusted alpha level of 0.017 were used to compare all pairs of groups ($k = 3$). Results of the post-hoc Mann-Whitney U tests on overall gain score from T1 to T3 are shown in Table 3.

No significant difference was found on the gain scores between the control group and the comparison group from T1 to T3. This finding implies that both usual classroom learning and SCL are equally effective in promoting Spanish vocabulary acquisition among the technical students. No significant difference was found on the gain scores between the control group and the experimental group from T1 to T2. Only at the time point, T3, the overall gain score ($p = 0.002$, $r = 0.60$) of the experimental group was found to be significantly improved if compared to the control group. Finally, significant differences on the overall gain score were found to be consistent between the experimental group and the comparison group from T1 to T2 ($p = 0.000$, $r = 0.65$) and T1 to T3 ($p = 0.003$, $r = 0.57$).

Table 2 Descriptive statistics on overall gain scores of the three groups

Gain	Control		Comparison		Experimental	
	M	SD	M	SD	M	SD
T1 to T2	13.40	5.23	11.33	3.17	17.40	3.90
T1 to T3	15.00	3.92	15.25	4.27	20.27	3.33
T2 to T3	1.60	4.45	3.92	3.12	2.87	3.56

Notes: M = Mean; SD = Standard deviation

Table 3 Post-hoc Mann-Whitney U tests on overall gain scores

Gain	Ctr vs. Com	Ctr vs. Exp	Com vs. Exp
T1 to T2	<i>ns.</i>	<i>ns.</i>	0.000* ($r = 0.65$)
T1 to T3	<i>ns.</i>	0.002* ($r = 0.60$)	0.003* ($r = 0.57$)
T2 to T3	<i>ns.</i>	<i>ns.</i>	<i>ns.</i>

Notes: *ns.* = not significant; *Post-hoc Mann-Whitney, $p < 0.017$ (Bonferroni correction); r = point biserial correlation (effect size)

While SML participants showed significantly higher gain in Spanish vocabulary compared to SCL participants both in T2 and T3, the gain is only significant in T3 compared to normal classroom learning. This finding indicates that SML has better retention effect than SCL and usual classroom learning. In accordance with Schmitt (2010), vocabulary learning is longitudinal and incremental in nature, only delayed post-tests are able to measure the true abilities of the Spanish language learners in retaining the vocabulary items previously learned and compare the long-term retention ability of all vocabulary instructions under study.

Apart from the statistical significance, additional insights can be obtained by looking at the effect sizes, r , which were interpreted as: 0.10 = small effect; 0.30 = medium effect; 0.50 = large effect (Fritz et al., 2012). For the significant effect cases (Table 3), all effect sizes were large. This suggests that, besides better retention effect, SML has a large and positive impact on Spanish vocabulary acquisition if compared to SCL and usual classroom learning.

RQ2: Different Spanish vocabulary knowledge acquisition

Likewise, some of the gain score data of the four vocabulary knowledge aspects violated the assumption of normality for ANOVA and the group sizes were relatively small in this study, nonparametric tests were conducted. As Kruskal-Wallis H tests showed that there was a statistically significant difference in gain score on different vocabulary knowledge aspects across all three groups from T1 to T2 and T1 to T3, but not from T2 to T3, therefore the results for T2 to T3 are not discussed further.

Table 4 shows descriptive statistics of the four vocabulary knowledge aspects for the three groups from T1 to T3. In almost all cases, gain scores still showed a tendency to rise from T1 to T3 except there were small drops on orthography in all the three groups. With reference to the raw scores, the participants from all three groups seemed to have known some written forms of the target words even before the research treatments were introduced. One possible explanation for this finding may be related to the highly similar orthographic regularities in the Malay and the Spanish language (García Paredes, 2019). The high pronounceability of the Spanish spoken forms among the Malaysian learners facilitates the learning of the written forms.

For the significant effect cases, post-hoc Mann-Whitney U tests using a Bonferroni-adjusted alpha level of 0.017 were used to compare all pairs of groups ($k = 3$). Results of the post-hoc Mann-Whitney U tests on different vocabulary knowledge aspects from T1 to T3 are shown in Table 5. Similarly, no significant difference was found on the gain scores of the four vocabulary knowledge aspects between the control group and the comparison group from T1 to T3. This finding indicates that both usual classroom learning and SCL are equally effective in improving the four vocabulary knowledge aspects among the technical students.

Table 4 Descriptive statistics on the gain scores of the four vocabulary knowledge aspects of the three groups

Gain	Control		Comparison		Experimental	
	M	SD	M	SD	M	SD
T1 to T2						
O	0.30	0.82	-0.08	1.38	-0.33	2.19
F	6.00	2.75	3.75	2.09	7.67	1.68
C	3.70	2.11	4.58	2.27	5.00	1.73
A	3.40	1.78	3.08	1.31	5.07	1.10
T1 to T3						
O	0.00	2.83	0.42	1.83	0.53	1.77
F	6.20	2.20	5.00	2.45	8.47	1.36
C	4.40	1.35	5.50	2.28	5.40	1.50
A	4.40	1.96	4.33	1.67	5.87	1.41

Notes: O = Orthography (written form); F = Form and meaning; C = Concept and referents; A = Associations; M = Mean; SD = Standard deviation

Table 5 Post-hoc Mann-Whitney U tests on the gain scores of different vocabulary knowledge aspects

Gain	Ctr vs. Com	Ctr vs. Exp	Com vs. Exp
T1 to T2			
O	<i>ns.</i>	<i>ns.</i>	<i>ns.</i>
F	<i>ns.</i>	<i>ns.</i>	0.000* ($r = 0.72$)
C	<i>ns.</i>	<i>ns.</i>	<i>ns.</i>
A	<i>ns.</i>	0.012* ($r = 0.51$)	0.000* ($r = 0.67$)
T1 to T3			
O	<i>ns.</i>	<i>ns.</i>	<i>ns.</i>
F	<i>ns.</i>	0.008* ($r = .54$)	0.000* ($r = 0.67$)
C	<i>ns.</i>	<i>ns.</i>	<i>ns.</i>
A	<i>ns.</i>	<i>ns.</i>	0.016* ($r = 0.47$)

Notes: O = Orthography (written form); F = Form and meaning; C = Concept and referents; A = Associations; *ns.* = not significant; *Post-hoc Mann-Whitney, $p < 0.017$ (Bonferroni correction); r = point biserial correlation (effect size)

The result pattern between the control group and the experimental group offers a relatively interesting picture of the effect of SML on different aspects of vocabulary knowledge. Only the gain score of associations was significantly higher in the experimental group from T1 to T2 compared to the control group ($p = 0.012$), with a large effect size, $r = 0.51$. However, this effect disappeared

in T3, in contrary, form and meaning ($p = 0.008$, $r = 0.54$) was found to be significantly improved among SML participants in T3. The inconsistency between the control group and the experimental group could be explained at least in part by the small sample size and the attrition (approximately 50%) across the three groups during this 14-week pilot study. This attrition might have introduced participant bias into the study whereby students who remained in the study might have certain attributes (e.g., higher interest that may lead to Hawthorne effect) in the research interest.

Finally, significant differences were found between the experimental group and the comparison group from T1 to T3 consistently on two vocabulary knowledge aspects, form and meaning ($p = 0.000$, $r = 0.72$ from T1 to T2; $p = 0.000$, $r = 0.67$ from T1 to T3) and associations ($p = 0.000$, $r = 0.67$ from T1 to T2; $p = 0.016$, $r = 0.47$ from T1 to T3). Despite the inconsistency in the control group, these results including the effect sizes suggest that SML was more effective in improving and retaining two aspects of vocabulary knowledge (F and A, see Table 5) among the technical students. In this study, the participants were only required to learn the core meaning but senses of the target words, this explains why the gain scores of 'concept and referents' were not significantly different across the three groups.

In summary, the findings of the study are in line with those of Fasih et al. (2018), Gallardo (2020) and Rahimi and Allahyari (2019) which indicated that intentional or explicit learning improved vocabulary gains. However, the results are not aligned with the inconclusive findings of Demmans Epp and Phirangee (2019) who cautioned that ML alone could not improve learners' vocabulary knowledge. Indeed, learning will not occur simply because the content is converted into a smaller chunk than it previously was. Despite the target words were learned in isolation via SML, students could practice them in the accompanying formal learning throughout the research period. This leads to another line of evidence which corroborates the study results. The findings of Klímová and Pražák (2019) and Poláková et al. (2021) affirmed that mobile apps supported formal vocabulary learning by extending the learning environment beyond the usual classrooms (as evident in SML) that would eventually lead to vocabulary acquisition. Nevertheless, it is imperative to note that this pilot study only provides preliminary empirical evidence to show that the theory-based SML as a whole could facilitate vocabulary acquisition. The study does not offer sufficient evidence to establish causal relationships between the components of the theoretical model of ML and how they facilitate the acquisition of different vocabulary knowledge aspects. More studies are needed to draw causal inferences from these latent variables, i.e., how different aspects of ML support different vocabulary knowledge learning.

Conclusion

To answer the question whether ML can make a difference in vocabulary acquisition during the COVID-19 pandemic, the findings of this study showed noteworthy potential of ML if compared to other vocabulary instructions. Overall, SML significantly improved and retained more Spanish vocabulary among technical students than SCL and usual classroom learning. This was particularly true for two vocabulary knowledge aspects, form and meaning, and associations. In summary, the study has provided empirical support for the claim that ML can serve as a reliable word-focused Spanish vocabulary instruction in the Malaysian technical context including in the future enforced restrictions like the COVID-19 or when OTL has become a norm in the language learning domain.

Regarding pedagogical implications, this study has provided empirical evidence where ML promotes meaningful L2/FL learning in relation to vocabulary acquisition. Consistent with Khong and Kabilan (2020), a theory-based ML constitutes a viable pedagogical tool to enhance the online L2 instruction during the COVID-19 pandemic. Besides, the retention effect of ML is particularly useful in consolidating the vocabulary knowledge of Form and Meaning as well as Associations aspects. Therefore, L2/FL researchers, practitioners and learners might consider the value of ML to facilitate meaningful OTL in SLL. In terms of methodological implications, this study exemplifies a quasi-experimental study whereby the clarity in methodological rigor is reflected. This not only assures the validity and reliability of the empirically derived evidence, but also allows proper replications and assessments of potential sources of bias and variability. Several questions were answered in this study, but future research is suggested to replicate the study investigating how ML could facilitate other vocabulary knowledge aspects such as word parts or collocations including receptive and productive knowledge.

Nevertheless, cautions should be exercised in interpreting the findings of this study based on the following limitations. Firstly, the study focuses on a setting where the participants were university technical majors and the final sample size was small due to attritions, therefore, the findings should be interpreted primarily within the scope of this study. Secondly, despite the research was conducted in a rigorous manner, other qualitative data collection methods, such as semi-structured interview and non-participant observation should be integrated in future research to triangulate the quantitative data. Lastly, while the same Spanish teacher participant was employed to conduct both the comparison and experimental groups as a measure to increase the internal

validity, it is important to note that the teacher participant only possessed partial knowledge of both the research treatments. Although several training and simulations were performed prior to the study, the teacher participant might not be able to deliver the job as anticipated. In this regard, close monitoring and timely supports were exercised by the researcher to alleviate this potential limitation.

Acknowledgement

The study is part of the Ph.D. study of one of the authors financially assisted by the Universiti Sains Malaysia under study. We are grateful for the constructive comments and suggestions we received for this study.

References

- Afshar, H. S. (2021). Task-related focus-on-forms foreign language vocabulary development: Focus on spoken form and word parts. *System*, 96, 102406. <https://doi.org/10.1016/j.system.2020.102406>
- Aldosemani, T. I. (2019). Microlearning for macro-outcomes: Students' perceptions of Telegram as a microlearning tool. In T. Völjätaga, & M. Laanpere (Eds.), *Digital Turn in Schools-Research, Policy, Practice Proceedings of ICEM 2018 Conference* (pp. 189–201). Springer Singapore. <https://doi.org/10.1007/978-981-13-7361-9>
- Alessi, S. M., & Trollip, S. R. (2001). *Multimedia for Learning: Methods and Development* (3rd ed.). Allyn & Bacon. <http://oapub.org/edu/index.php/ejes/article/view/5/53>
- Arnab, S., Walaszczyk, L., Lewis, M., Kernaghan-Andrews, S., Loizou, M., Masters, A., Calderwood, J., & Clarke, S. (2021). Designing mini-games as micro-learning resources for professional development in multi-cultural organisations. *Electronic Journal of E-Learning*, 19(2), 44–58. <https://doi.org/10.34190/ejel.19.2.2141>
- Atkinson, D. (2010). Extended, embodied cognition and second language acquisition. *Applied Linguistics*, 31(5), 599–622. <https://doi.org/10.1093/applin/amq009>
- Baldauf, M., Brandner, A., & Wimmer, C. (2017). Mobile and gamified blended learning for language teaching – Studying requirements and acceptance by students, parents and teachers in the wild. In J. Williamson, & S. Schneegass (Eds.), *Proceedings of the 16th International Conference on Mobile and Ubiquitous Multimedia* (pp. 13–24). ACM Press. <https://doi.org/10.1145/3152832.3152842>
- Bruck, P. A., Motiwalla, L., & Foerster, F. (2012). Mobile learning with micro-content: A framework and evaluation. In U. Lechner, D. Lux Wigand, & A. Pucihar (Eds.), *25th Bled eConference – eDependability: Reliable and Trustworthy eStructures, eProcesses, eOperations and eServices for the Future* (pp. 527–543). AIS Electronic Library (AISeL). <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1041&context=bled2012>
- Buchem, I., & Hamelmann, H. (2010). Microlearning: A strategy for ongoing professional development. *ELearning Papers*, 21(7). <https://www.bibsonomy.org/bibtex/2b6c48a9dc5a4c25cbb85343368331d3c/trude>

- Busse, J., Lange, A., Hobert, S., & Schumann, M. (2020). How to design learning applications that support learners in their moment of need – Didactic requirements of micro learning. *AMCIS 2020 Proceedings: IS in Education, IS Curriculum, Education and Teaching Cases (SIGED)*, 15.
- Cai, C. J., Ren, A., & Miller, R. C. (2017). WaitSuite: Productive use of diverse waiting moments. *ACM Transactions on Computer-Human Interaction*, 24(1), Article No.7. <https://doi.org/10.1145/3044534>
- Camacho-Zuñiga, C., Pego, L., Escamilla, J., & Hosseini, S. (2021). The impact of the COVID-19 pandemic on students' feelings at high school, undergraduate, and postgraduate levels. *Heliyon*, 7(3), e06465. <https://doi.org/10.1016/j.heliyon.2021.e06465>
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*, 287, 112934. <https://doi.org/10.1016/j.psychres.2020.112934>
- Coady, J. (1996). L2 vocabulary acquisition: A synthesis of the research. In J. Coady, & T. Huckin (Eds.), *Second Language Vocabulary Acquisition: A Rationale for Pedagogy* (pp. 273–290). Cambridge University Press. <https://doi.org/10.1017/cbo9781139524643.020>
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education* (6th ed.). Routledge.
- Crossley, S., Salsbury, T., & McNamara, D. (2010). The development of polysemy and frequency use in English second language speakers. *Language Learning*, 60(3). <https://doi.org/10.1111/j.1467-9922.2010.00568.x>
- Cutler, D. (2014). The story behind micro-learning. http://www.spinedu.com/the-story-behind-micro-learning/#.W08KQdUzat_
- De Vries, P., Van Den Bogaard, M., & Overschie, M. G. F. (2019). Microlearning to support authentic learning in continuing education and for engineering students. In R. Clark, P. M. Hussmann, H. M. Javinen, M. Murphy, & M. E. Vigild (Eds.), *Proceedings of the 46th SEFI Annual Conference* (pp. 716–723). European Society for Engineering Education SEFI.
- De Wilde, V., Brysbaert, M., & Eyckmans, J. (2021). Formal versus informal L2 learning: How do individual differences and word-related variables influence French and English L2 vocabulary learning in Dutch-speaking children? *Studies in Second Language Acquisition*, 1–25.
- Decker, J., Hauschild, A.-L., Meinecke, N., Redler, M., & Schumann, M. (2017). Adoption of micro and mobile learning in German enterprises: A quantitative study. *16th European Conference on E-Learning ECEL 2017, October 2017*, 132–141.
- Demmans Epp, C., & Phirangee, K. (2019). Exploring mobile tool integration: Design activities carefully or students may not learn. *Contemporary Educational Psychology*, 59, Article No. 101791. <https://doi.org/10.1016/j.cedpsych.2019.101791>
- Dingler, T., Weber, D., Pielot, M., Cooper, J., Chang, C.-C., & Henze, N. (2017). Language learning on-the-go: Opportune moments and design of mobile microlearning sessions. In M. Jones, & M. Tscheligi (Eds.), *Proceedings of the 19th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)*. ACM Press. <https://doi.org/10.1145/3098279.3098565>
- Eades, J. (2017). Why video is the best medium for microlearning? <https://elearningindustry.com/video-best-medium-microlearning>

- Fasih, P., Izadpanah, S., & Shahnavaz, A. (2018). The effects of mnemonic vocabulary instruction on content vocabulary learning of students. *Journal of Language and Education*, 4(1), 42–62. <https://doi.org/10.17323/2411-7390-2018-4-1-42-62>
- Fritz, C. O., Morris, P. E., & Richler, J. J. (2012). Effect size estimates: Current use, calculations, and interpretation. *Journal of Experimental Psychology: General*, 141(1), 2–18. <https://doi.org/10.1037/a0024338>
- Gallardo, M. H. (2020). Recuperación y el reconocimiento del vocabulario en español LE/L2 para itálofonos [Effects of the method of vocabulary presentation on Spanish FL/L2 vocabulary recall and recognition of Italian speakers]. *RILEX. Revista Sobre Investigaciones Léxicas*, 2(1), 47–73.
- García Paredes, A. (2019). La enseñanza del español en Malasia [Spanish language teaching in Malaysia]. Unpublished master's thesis, University Pablo de Olavide.
- Göschlberger, B., & Bruck, P. A. (2017). Gamification in mobile and workplace integrated microlearning. In M. Indrawan-Santiago, M. Steinbauer, I. Luiz Salvadori, I. Khalil, & G. Anderst-Kotsis (Eds.), *Proceedings of the 19th International Conference on Information Integration and Web-based Applications & Services (iiWAS)* (pp. 545–552). ACM Press. <https://doi.org/10.1145/3151759.3151795>
- Gross, B., Rusin, L., Kiesewetter, J., Zottmann, J. M., Fischer, M. R., Prückner, S., & Zech, A. (2019). Microlearning for patient safety: Crew resource management training in 15-minutes. *PLoS ONE*, 14(3), e0213178.
- Hegerius, A., Caduff-Janosa, P., Savage, R., & Ellenius, J. (2020). E-Learning in pharmacovigilance: An evaluation of microlearning-based modules developed by Uppsala Monitoring Centre. *Drug Safety*, 43(11), 1171–1180. <https://doi.org/10.1007/s40264-020-00981-w>
- Hu, R. J. S. (2011). The relationship between demotivation and EFL learners' English language proficiency. *English Language Teaching*, 4(4), 88–96. <https://doi.org/10.5539/elt.v4n4p88>
- Huang, C. (2015). The common pronunciation errors made by Taiwanese second language learners. *Journal of Computers and Applied Science Education*, 2(2), 15–31.
- Hug, T., Lindner, M., & Bruck, P. A. (2006a). Microlearning: Emerging concepts, practices and technologies after e-Learning. In K. Habitzel, T. D. Märk, S. Prock, & B. Stehno (Eds.), *Proceedings of Microlearning 2005. Learning & Working in New Media*. Innsbruck University Press.
- Hug, T., Lindner, M., & Bruck, P. A. (2006b). Micromedia & E-Learning 2.0: Gaining the Big Picture. In K. Habitzel, T. D. Märk, S. Prock, & B. Stehno (Eds.), *Proceedings of Microlearning Conference 2006*. Innsbruck University Press.
- Inker, J., Jensen, C., Barsness, S., & Stewart, M. M. (2020). Implementing microlearning in nursing homes: Implications for policy and practice in person-centered dementia care. *Journal of Applied Gerontology*. <https://doi.org/10.1177/0733464820929832>
- Jahnke, I., Lee, Y.-M., Pham, M., He, H., & Austin, L. (2019). Unpacking the inherent design principles of mobile microlearning. *Technology, Knowledge and Learning*. Netherlands: Springer <https://doi.org/10.1007/s10758-019-09413-w>

- Jomah, O., Masoud, A. K., Kishore, X. P., & Aurelia, S. (2016). Micro learning: A modernized education system. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 7(1), 103–110. https://pdfs.semanticscholar.org/f831/1fe4c784518d99c41e383e859dacc8c3220c.pdf?_ga=2.192411049.281437148.1590423094-74049785.1561366762
- Kaur, N. (2013). The need for autonomous vocabulary learners in the Malaysian ESL classroom. *GEMA Online Journal of Language Studies*, 13(3), 7–16.
- Kee, C. E. (2021). The impact of COVID-19: Graduate students' emotional and psychological experiences. *Journal of Human Behavior in the Social Environment*, 31(1–4), 476–488. <https://doi.org/10.1080/10911359.2020.1855285>
- Khong, H. K., Hassan, N. H., & Ramli, N. (2017). Motivation and gender differences in learning Spanish as a foreign language in a Malaysian technical university. *Malaysian Journal of Learning and Instruction*, 14(2), 59–83.
- Khong, H. K., & Kabilan, M. K. (2020). A theoretical model of micro-learning for second language teaching and learning. *Computer Assisted Language Learning*, 0(0), 1–24. <https://doi.org/10.1080/09588221.2020.1818786>
- Klímová, B., & Pražák, P. (2019). Mobile blended learning and evaluation of its effectiveness on students' learning achievement. In S. Cheung, L. K. Lee, I. Simonova, T. Kozel, & L. F. Kwok (Eds.), *Blended Learning: Educational Innovation for Personalized Learning (ICBL)* (pp. 216–224). Springer.
- Kovacs, G. (2015). FeedLearn: Using Facebook feeds for microlearning. *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA)*, 1461–1466. <https://doi.org/10.1145/2702613.2732775>
- Koval, N. G. (2019). Testing the deficient processing account of the spacing effect in second language vocabulary learning: Evidence from eye tracking. *Applied Psycholinguistics*, 40(5), 1103–1139. <https://doi.org/10.1017/S0142716419000158>
- Laufer, B., Elder, C., Hill, K., & Congdon, P. (2004). Size and strength: Do we need both to measure vocabulary knowledge? *Language Testing*, 21(2), 202–226. <https://doi.org/10.1191/0265532204lt277oa>
- Leela, S., Chookaew, S., & Nilsook, P. (2019). An effective microlearning approach using living book to promote vocational students' computational thinking. *Proceedings of the 2019 The 3rd International Conference on Digital Technology in Education*, 25–29. <https://doi.org/10.1145/3369199.3369200>
- Lindner, M. (2007). What is microlearning? In M. Lindner, & P. A. Bruck (Eds.), *Micromedia and Corporate Learning Proceedings of the 3rd International Microlearning 2007 Conference* (pp. 52–62). Innsbruck University Press.
- Lindner, M., & Bruck, P. A. (2007). Micromedia and corporate learning. In K. Habitzel, T. D. Märk, S. Prock, & B. Stehno (Eds.), *Proceedings of the 3rd International Microlearning 2007 Conference*. Innsbruck University Press.
- Liu, M., McKelroy, E., Corliss, S. B., & Carrigan, J. (2017). Investigating the effect of an adaptive learning intervention on students' learning. *Educational Technology Research and Development*, 65(6), 1605–1625. <https://doi.org/10.1007/s11423-017-9542-1>
- Lozano, G., & Ruiz Campillo, J. P. (2009). Criterios para el diseño y la evaluación de materiales comunicativos. *MarcoELE*, 9, 127–155. https://marcoele.com/descargas/expolingua1996_lozano-ruiz.pdf

- Ma, Q., & Lee, H. Y. (2019). Measuring the vocabulary knowledge of Hong Kong primary school second language learners through word associations: Implications for reading literacy. In B. L. Reynolds, & M. F. Teng (Eds.), *English Literacy Instruction for Chinese Speakers* (pp. 35–56). Palgrave Macmillan. <https://doi.org/10.1007/978-981-13-6653-6>
- Mackey, A., & Gass, S. M. (2016). *Second Language Research: Methodology and Design* (2nd ed.). Routledge.
- Madden, M., & Govender, K. K. (2020). The effectiveness of micro-learning in retail banking. *South African Journal of Higher Education*, 34(2), 74–94. <https://doi.org/10.20853/34-2-3733>
- Mayer, R. E. (2014). Cognitive theory of multimedia learning. In R. E. Mayer (Ed.), *The Cambridge Handbook of Multimedia Learning* (2nd ed., pp. 43–71). Cambridge University Press. <https://doi.org/10.1017/CBO9781139547369.005>
- Misran, N., Zaki, W. M. D. W., Mansor, M. F., & Wahab, H. F. A. (2016). Time management skills in higher institutions: A case study of electrical, electronic & systems engineering undergraduate students. *Journal of Engineering Science and Technology*, 11(Special Issue, November), 61–68.
- Mohammed, G. S., Wakil, K., & Nawroly, S. S. (2018). The effectiveness of microlearning to improve students' learning ability. *International Journal of Educational Research Review*, 3(3), 32–38. <https://doi.org/10.24331/ijere.415824>
- Mohd Yusuf, B. N., & Ahmad, J. (2020). Are we prepared enough? A case study of challenges in online learning in a private higher learning institution during the Covid-19 outbreaks. *Advances in Social Sciences Research Journal*, 7(5), 205–212. <https://doi.org/10.14738/assrj.75.8211>
- Nakata, T., & Elgort, I. (2021). Effects of spacing on contextual vocabulary learning: Spacing facilitates the acquisition of explicit, but not tacit, vocabulary knowledge. *Second Language Research*, 37(2), 233–260. <https://doi.org/10.1177/0267658320927764>
- Nation, I. S. P. (2001). *Learning Vocabulary in Another Language*. Cambridge University Press.
- Nation, I. S. P. (2020). The different aspects of vocabulary knowledge. In S. A. Webb (Ed.), *The Routledge Handbook of Vocabulary Studies* (1st ed., pp. 15–29). Routledge. <https://doi.org/10.4324/9780429291586.2>
- Nation, I. S. P., & Hunston, S. (2013). *Learning Vocabulary in Another Language* (2nd ed.). Cambridge University Press. <https://doi.org/10.1017/CBO9781139858656>
- Nikou, S. A., & Economides, A. A. (2018). Mobile-based micro-learning and assessment: Impact on learning performance and motivation of high school students. *Journal of Computer Assisted Learning*, 34(3), 269–278. <https://doi.org/10.1111/jcal.12240>
- Ohkawa, Y., Kodama, M., Konno, Y., Zhao, X., & Mitsuishi, T. (2019). Development and evaluation of smartphone learning material for blended language learning. *Proceedings of the 4th International Conference on Information Technology (InCIT)*, 108–113. <https://doi.org/10.1109/INCIT.2019.8912023>
- Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report*, 12(2), 281–316.

- Poláková, P., Klímová, B., & Pražák, P. (2021). Vocabulary improvement by using smart mobile application – A pilot study. In M. Al-Emran, K. Shaalan, & A. E. Hassanien (Eds.), *Recent Advances in Intelligent Systems and Smart Applications* (pp. 197–208). Springer.
- Rahimi, M., & Allahyari, A. (2019). Effects of multimedia learning combined with strategy-based instruction on vocabulary learning and strategy use. *SAGE Open*, 9(2), 1–14. <https://doi.org/10.1177/2158244019844081>
- Romero, M., & Barberà, E. (2021). Quality of learners' time and learning performance beyond quantitative time-on-task. *International Review of Research in Open and Distributed Learning*, 12(5).
- Ryan, R. M., & Deci, E. L. (2017). *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*. Guilford Press.
- Salimi, N., Gere, B., Talley, W., & Iriogbe, B. (2021). College students mental health challenges: Concerns and considerations in the COVID-19 pandemic. *Journal of College Student Psychotherapy*, 00(00), 1–13. <https://doi.org/10.1080/87568225.2021.1890298>
- Sánchez Gutiérrez, C. H. (2021). Morphology and language teaching. In A. Fábregas, V. Acedo-Matellán, G. Armstrong, M. C. Cuervo, & I. Pujol Payet (Eds.), *The Routledge Handbook of Spanish Morphology* (1st ed.). Routledge. <https://doi.org/10.4324/9780429318191.42>
- Sato, M., & Loewen, S. (2019). Methodological strengths, challenges, and joys of classroom-based quasi-experimental research. In R. M. DeKeyser, & G. Prieto Botana (Eds.), *Doing SLA Research With Implications for the Classroom: Reconciling Methodological Demands and Pedagogical Applicability* (pp. 31–54). John Benjamins Publishing Company. <https://doi.org/10.1075/lllt.52.03sat>
- Schmitt, N. (2010). *Researching Vocabulary: A Vocabulary Research Manual*. Palgrave Macmillan.
- Sweller, J. (2020). Cognitive load theory and educational technology. *Educational Technology Research and Development*, 68, 1–16. <https://doi.org/10.1007/s11423-019-09701-3>
- Valamis. (2020). The definitive guide to microlearning. <https://www.valamis.com/blog/the-definitive-guide-to-microlearning#effectiveness-of-microlearning-videos>
- Wang, C., Bakhet, M., Roberts, D., Gnani, S., & El-Osta, A. (2020). The efficacy of microlearning in improving self-care capability: A systematic review of the literature. *Public Health*, 186, 286–296. <https://doi.org/10.1016/j.puhe.2020.07.007>
- Xue, J., Zhang, X., & Luo, H. (2017). Effects of mobile learning on academic performance and learning attitude in a college classroom. In J. G. Claudet, & G. L. Kyriakopoulos (Eds.), *Proceedings of the 4TH International Conference on Advanced Education and Management (ICAEM)* (pp. 307–311). DESTech publications, Inc. <https://doi.org/10.12783/dtssehs/icaem2017/19095>

Online Language Teaching and Learning: Current Trajectory and Future Potentials

Chuah Kee Man & Khong Hou Keat

Online Teaching and Learning, and Innovative Pedagogies

Our initial impetus for this book was to gather innovative pedagogies in relation to online language teaching and learning across different conditions, domains, and levels of instruction in times of COVID-19. The 16 chapters have provided insights into the efforts from diverse cultural contexts and offered practical innovations that helped alleviate problems and challenges in response to the emergency global crisis. Among other innovative pedagogies, gamification, breakout sessions, digital storytelling, and micro-learning stood out in this book.

The adoption of gamification (Chapter 13) is widely perceived to enhance motivation, engagement, and user experience not only in the language domain (e.g., de La Cruz et al., 2022; Tan et al., 2018), but also across other educational contexts (Bai et al., 2020; Zainuddin et al., 2020). It is believed that a principled way to gamify online teaching and learning (OTL), for instance, by adopting an established framework (Chapter 11), not only could elicit maximum interest and excitement from students towards language learning, but also may reduce possible anxiety (Chapter 4) and demotivation (Chapter 7) that continue to plague the online language classrooms. To improve interaction and

social presence in the virtual classrooms, it is observed that breakout sessions (Chapter 14) and digital storytelling (Chapter 16) could be innovatively integrated into the remote teaching and learning. While breakout sessions could serve as a viable synchronous collaboration tool that supports language educators in creating more interactions in the virtual classrooms, digital storytelling could promote active collaborative learning among students compensating therefore the limited opportunities for meaningful interactions during OTL. This phenomenon has redirected us to the prominence of teacher proactive agency which is very much needed during the emergency OTL (Ashton, 2022; Chen, 2022).

Subsequently, in our point of view, micro-learning (ML, Chapter 17), another rising education trend, has responded to the call for increased attention to “different dimensions of actual educational technology use” (Pynoo & van Braak, 2014, p. 315). It is acknowledged that ML supports modern information consuming behaviour (Taylor & Hung, 2022) and this attribute makes ML a promising approach in enhancing learning experiences among today’s learners. Under this paradigm, ML could be delivered through applications like Telegram Messenger (Chapter 15) to support formal or informal learning (Chapter 5). ML could also serve as another supportive learning environment (Chapter 2) to promote the desired learner-content interaction and online learning self-efficacy (Chapter 6). The association between ML and mobile technology has led some researchers to adopt ML in mobile massive online open courses (MOOCs, Chapter 12) across disciplines (e.g., Sun et al., 2018). In a nutshell, technology-mediated learning approaches like ML have begun to stimulate new concepts and strategies to support effective OTL of today’s learners in a more flexible manner. Nevertheless, these chapters have only provided an overall understanding of the nuanced dynamics of OTL from different perspectives of language learning, further exploration of the innovative pedagogies is encouraged to equip language educators to confront current and future OTL challenges.

Post-Pandemic Implications of Online Teaching and Learning

The innovative pedagogies highlighted in this book has provided a glimpse to the future of OTL in the context of language learning. The emerging trends in response to the growing population of Generation Z and Generation Alpha in the education system are centred on the need to be inclusive and equitable in devising any educational reform. The pandemic, despite all its disruptions, has indeed sparked a revival in the adoption of OTL regardless of its modes (e.g., blended, hybrid or fully distance). It has accelerated the influx of various

digital tools and learning resources in order to ensure that the teaching and learning process can continue even during closures of schools or learning institutions (Adams & Chuah, 2022). From the macro perspective, it has also prompted an increasing acceptance among education providers that online learning is no longer an alternative but a necessity (Dhawan, 2020). As such, the post-pandemic era of education is most likely to take greater advantage of OTL particularly in terms of technology-enhanced pedagogies, as showcased in the chapters of this book.

However, the zest for OTL adoption should not be done in haste as there are several recurring implications that are worthy of attention. The primary implication is with regards to the issue of accessibility. OTL can offer a great opportunity to level the playing field for flexible and personalised education only if learners in different locations (i.e., urban, rural, or remote) can have decent internet access and proper devices. Singh et al. (2021) elaborated on this challenge and suggested a hybrid OTL approach which is deemed more feasible to be implemented. Their idea is also echoed by Rapanta et al. (2021) in the sense that learners now realise the learning process can be more flexible via OTL and a hybrid model can resolve some issues pertaining to accessibility especially among the marginalised groups. It is commonly thought that once OTL becomes more mainstream and implemented within the core curriculum, the efforts in increasing accessibility will eventually be intensified.

The second implication of OTL in post-pandemic education is on the aspect of educators' and learners' readiness. There is a need for both educators and learners to increase their skills and knowledge related to OTL so that they could capitalise on its potentials. In the comparative analysis conducted by Tang et al. (2021), postgraduate students were found to be more ready in accepting online learning, signifying the lack of exposure to such approach of learning at lower levels especially in schools. On the other hand, Badiozaman (2021) stipulated that OTL readiness among the educators cover more than just technological competence. It includes course design, agentic competence, and communication competence. These components should be given sufficient attention apart from providing educators with trainings on tools and gadgets.

The third post-pandemic implication of OTL implementation is in terms of its alignment with second language learning (SLL) outcomes. As reiterated by Tagarelli et al. (2016), SLL outcomes are often influenced by different factors (e.g., individual differences, exposures, and linguistic complexity) that may not be easily addressed. In SLL contexts, most teaching methods were created with the intention of increasing face-to-face interactions in improving learners' proficiency. Nonetheless, several decades of development in the area of

technology-enhanced language learning have provided enough evidence that those methods can evolve with the inclusion of technology (Chapelle, 2007; Lai et al., 2018). Kabilan et al. (2021) further emphasised on expected changes in the teaching and learning of second language in the 21st century. Second language educators should accept technology as means to assist learners to achieve the intended learning outcomes. Clearly, the alignment of SLL outcomes and the use of pedagogies or methods through OTL is crucial and cannot be ignored. A mapping of language skills that learners are expected to achieve with appropriate OTL-based activities or tasks is necessary rather than merely using it out of novelty.

Therefore, it is our view that these implications will continue to shape the development of OTL in the next few years. As the first quarter of the 21st century draws to a close, much can still be done in elevating the experience of language learners while enhancing their competency in the target language through OTL. There are, however, some emerging trends that could address the concerns raised in this section and the chapters in this book.

The Future Potentials

It is realised that, from the current trajectory in the growth of OTL for SLL, more innovative ideas and tools would be introduced in the future. In particular, four potential areas of development that could pave the way for a more engaging and effective design of OTL in SLL contexts are proposed. These areas are illustrated in Figure 1.

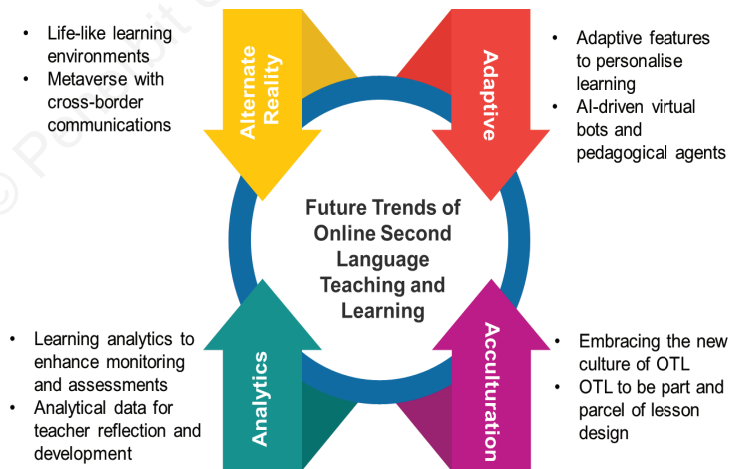


Figure 1 Future potentials of OTL in SLL

1. Alternate reality – The rapid development in virtual reality and augmented reality technologies is spearheading a creation of an alternative reality realm that could be used as a life-like learning environments for SLL. A metaverse with opportunity to engage in authentic interactions with people from across the globe can be beneficial for learners.
2. Analytics – One area that often cause problems in language teaching is constant monitoring of learner's progress. The future development of a more robust methods in managing big data would provide meaningful real-time learning analytics. These data could be used to formatively track learner's competency in language skills and at the same time offer valuable input to teachers for their own reflection and development (e.g., an analytical log of how fast they talk in a live online lesson, which could impede students' understanding).
3. Adaptive – Adaptive features within OTL implementation can assist the creation of personalised lessons or tasks for second language learners. As language learning is often affected by learner's diversity, such adaptive features would be able to address the issue. Virtual bots or pedagogical agents driven by artificial intelligence can serve as a teaching assistant in providing real-time feedback.
4. Acculturation – Regardless of technological advancement, embracing the 'new culture' of OTL is seen as pivotal for its success. OTL, be it hybrid, blended or fully online, should be accepted as part and parcel of any lesson design. Only by having such shift in mindset, the available technological advancement can be capitalised.

References

- Adams, D., & Chuah, K. M. (2022). E-learning and cross-border higher education: Post-pandemic potentials and challenges. In D. Adams, & K. M. Chuah (Eds.), *E-learning: Global Perspectives, Challenges and Educational implications* (pp. 1–12). Nova Science Publishers.
- Ashton, K. (2022). Language teacher agency in emergency online teaching. *System*, 105. <https://doi.org/10.1016/j.system.2021.102713>
- Radiozaman, I. F. A. (2021). Exploring online readiness in the context of the COVID 19 pandemic. *Teaching in Higher Education*, 1–19. <https://doi.org/10.1080/13562517.2021.1943654>
- Bai, S., Hew, K. F., & Huang, B. (2020). Does gamification improve student learning outcome? Evidence from a meta-analysis and synthesis of qualitative data in educational contexts. *Educational Research Review*, 30, 100322. <https://doi.org/10.1016/j.edurev.2020.100322>

- Chen, M. (2022). Digital affordances and teacher agency in the context of teaching Chinese as a second language during COVID-19. *System*, 105. <https://doi.org/10.1016/j.system.2021.102710>
- Chapelle, C. A. (2007). Technology and second language acquisition. *Annual Review of Applied Linguistics*, 27, 98–114. <https://doi.org/10.1017/S0267190508070050>
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/004723952093401>
- de La Cruz, D., Laura, K. M., Gebera, O. W. T., & Copaja, S. J. N. (2022). Application of gamification in higher education in the teaching of English as a foreign language. *Perspectives and Trends in Education and Technology* (pp. 323–341). Singapore: Springer. https://doi.org/10.1007/978-981-16-5063-5_27
- Kabilan, M. K., Tin, O. S., & How, K. Y. (2021). Teaching and learning English in the 21st century: Key ideas and concepts. In M. K. Kabilan, R. M. Raja Abdul Aziz, & J. Netto-Shek (Eds.), *Teaching and Learning of English in the 21st Century: Perspectives and Practices from South East Asia*. Pulau Pinang: Penerbit Universiti Sains Malaysia.
- Lai, C., Hu, X., & Lyu, B. (2018). Understanding the nature of learners' out-of-class language learning experience with technology. *Computer Assisted Language Learning*, 31(1–2), 114–143. <https://doi.org/10.1080/09588221.2017.1391293>
- Pynoo, B., & van Braak, J. (2014). Predicting teachers' generative and receptive use of an educational portal by intention, attitude and self-reported use. *Computers in Human Behavior*, 34, 315–322. <https://doi.org/10.1016/j.chb.2013.12.024>
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2021). Balancing technology, pedagogy and the new normal: Post-pandemic challenges for higher education. *Postdigital Science and Education*, 3(3), 715–742. <https://doi.org/10.1007/s42438-021-00249-1>
- Singh, J., Steele, K., & Singh, L. (2021). Combining the best of online and face-to-face learning: Hybrid and blended learning approach for COVID-19, post vaccine, & post-pandemic world. *Journal of Educational Technology Systems*, 50(2), 140–171. <https://doi.org/10.1177/00472395211047865>
- Sun, G., Cui, T., Yong, J., Shen, J., & Chen, S. (2018). MLaaS: A cloud-based system for delivering adaptative micro learning in mobile MOOC Learning. *IEEE Transactions on Services Computing*, 11(2), 292–305. <https://doi.org/10.1109/TSC.2015.2473854>
- Tagarelli, K. M., Ruiz, S., Vega, J. L. M., & Rebuschat, P. (2016). Variability in second language learning: The roles of individual differences, learning conditions, and linguistic complexity. *Studies in Second Language Acquisition*, 38(2), 293–316. <https://doi.org/10.1017/S0272263116000036>
- Tan, A. L. D., Ganapathy, M., & Kaur, M. (2018). Kahoot! It: Gamification in higher education. *Pertanika Journal of Social Sciences and Humanities*, 26(1), 565–582.
- Tang, Y. M., Chen, P. C., Law, K. M., Wu, C. H., Lau, Y. Y., Guan, J., Lau, Y. Y., Guan, J., He, D., & Ho, G. T. (2021). Comparative analysis of student's live online learning readiness during the coronavirus (COVID-19) pandemic in the higher education sector. *Computers & Education*, 168, 1–17. <https://doi.org/10.1016/j.compedu.2021.104211>

- Taylor, A. dung, & Hung, W. (2022). The effects of microlearning: A scoping review. *Educational Technology Research and Development*, 1–33. <https://doi.org/10.1007/s11423-022-10084-1>
- Zainuddin, Z., Chu, S. K. W., Shujahat, M., & Perera, C. J. (2020). The impact of gamification on learning and instruction: A systematic review of empirical evidence. *Educational Research Review*, 30, 100326. <https://doi.org/10.1016/j.edurev.2020.100326>

© Penerbit Universiti Sains Malaysia, 2025

Contributors

Agelyia Murugan is an English language lecturer at AIMST University. She graduated from Universiti Putra Malaysia with a BA Ed. (TESL) in 2006. She completed her MA in English Language Studies and Linguistics at Universiti Sains Malaysia (USM) in 2009. She is currently pursuing her Ph.D. in TESL at USM.

Amelia Abdullah is a senior lecturer at the School of Educational Studies, USM. Her areas of research interests are teaching English to speaker of other language, online collaborative learning, social networking tools, and networked learning.

Chuah Kee Man is a senior lecturer at the Faculty of Language and Communication, Universiti Malaysia Sarawak, majoring in educational technology, computational linguistics, learning analytics, and instructional design. He has won several awards at national and international levels for various innovations in teaching and learning as well as assistive technology.

Debbita Tan Ai Lin serves as senior lecturer in the School of Languages, Literacies and Translation, USM. She is keen on interdisciplinary research and has published in areas relating to language acquisition, testing, educational technology, and psycholinguistics.

Elih Sutisna Yanto earned his MA in English Education at Universitas Profesor DR. Hamka, Jakarta, Indonesia, in 2012. He is a lecturer at Universitas Singaperbangsa Karawang, West Java, Indonesia. His professional interests include language teaching methodology, systemic functional linguistics in language education and the use of corpus in teaching grammar.

Ezleena Mustafa Kamal serves as English language teacher at the School of Languages, Literacies and Translation, USM. Her research interests include language and literacy studies, and English as a second language (ESL) education for learners with different needs (with special emphasis on dyslexic children).

Contributors

Hikmah Pravitasari received her Master of Education at Universitas Muhammadiyah Surakarta, Indonesia in 2017. She is a lecturer at STKIP La Tansa Mashiro Rangkasbitung, Lebak Banten, Indonesia. Her professional concerns are instructional design material evaluation and development, digital literacy, and discourse analysis.

Intan Syahida Zulkafa is currently a postgraduate student doing her Ph.D. at Centre for Modern Languages, Universiti Malaysia Pahang (UMP). Previously she worked as a full-time lecturer at DRB-Hicom Universiti in Pekan, Pahang. Nevertheless, she is writing about employability and English for Professional Communication as a topic for her thesis.

Junjun Muhamad Ramdani is currently a Ph.D. candidate at the School of Education, University of New South Wales, Australia. He is a member of the English Education Department of Universitas Siliwangi, Indonesia. His research interests are language teacher professional development, teaching English speaking, technology-enhanced task-based language teaching, and qualitative research in English language teaching (ELT).

Khong Hou Keat is a Spanish Language lecturer in the Universiti Kuala Lumpur Malaysian Spanish Institute. His research interests focus on instructed second language acquisition (ISLA) including computer-assisted language learning including pedagogical innovations, pragmatics, and cognitive processes in ISLA.

Mohammad Jafre Zainol Abidin is an associate professor at the School of Educational Studies, USM. His expertise includes teaching English to speakers of other languages (TESOL), education, information technology materials development, and English for specific purposes (ESP). He has supervised many national and international students in masters and Ph.D. programmes, having many indexed publications.

Muhammad Kamarul Kabilan is a professor at the School of Educational Studies, USM. His research interests include information and communication technology and English language education, and professional development and critical practices of teachers. He has published widely in his area of research in reputable journals both locally and internationally.

Muhammad Usman Thaheem is a researcher and works as lecturer in ZABIST University Hyderabad, Sindh Pakistan. He earned his MS in applied linguistics, having various national and international indexed publications. His area of interest includes ELT, TESOL, computer-assisted language learning, e-learning, and educational psychology, and pragmatics.

Muhanniz Mesri graduated from USM in 2018 with a bachelor's degree in fine arts. Majoring in drama and theatre, she realises that theatre is a great platform to help children gain greater self-esteem while improving social skills. She is also a Special Needs Educator in Oaktree Care Centre, Penang.

Nazirah Md Yusof is a full-time Ph.D. student at the School of Education, USM. She holds a Master in Linguistics and English Language Studies and currently teaching at a private higher institution in Malaysia.

Nik Aloesnita Nik Mohd Alwi teaches English language and communication courses at the Centre for Modern Languages, UMP. Her research interests include second language acquisition, task-based language learning and teaching, and technology-enhanced language learning and teaching.

Nooraida Yakob is a lecturer at School of Educational Studies, USM. She teaches curriculum and science education.

Nor Asniza Ishak is a lecturer at School of Educational Studies, USM. Her expertise is in curriculum and biology education.

Nor Azikin Mohd Omar is a senior lecturer at the Faculty of Languages and Communication, Universiti Sultan Zainal Abidin (UniSZA). She has been teaching ESL learners for more than seven years. She received her Ph.D. in Applied Linguistics from the University of Warwick, and her research interests include Teaching of English as a Second Language (TESL), sociolinguistics and workplace communication.

Nur Farhana Abdul Aziz is Ed.D. student at USM and lecturer at Kolej Islam Teknologi Antarabangsa, Malaysia. She teaches Arabic as second language.

Nur Hilyati Ramli is a lecturer at School of the Arts, USM under Drama and Theatre Department. Graduated from USM with degree and master's degree in fine arts, she has been involved in several aspects of performance, such as acting, directing, and dancing since 2004.

Contributors

Nur Yasmin Khairani Zakaria is a lecturer at the Faculty of Education, Universiti Kebangsaan Malaysia. She is currently pursuing her Ph.D. in TESOL at the School of Educational Studies, USM. Her research interests mainly revolve around technology-enhanced language learning particularly in academic writing skills and gamification.

Paren Chandra Barman is an assistant professor of the Department of English Studies, State University of Bangladesh. He has authored and co-authored various publications in recognised journals. His research concentration includes English language learning/acquisition in Bangladesh, relation between language testing and language teaching and learning, language and thought, among others.

Reuben Benson is a lecturer at Adamawa State College of Education Hong, Nigeria. He holds a master's degree in educational technology and a bachelor's degree in educational management. He has attended workshops, conferences, and seminars. He is a facilitator with the Nigerian Society of Engineers Adamawa State Chapter.

Safia Najwa Suhaimi is based at the School of Arts, USM. She received her Ph.D. from Swinburne University of Technology, Melbourne, Australia in the field of experimental aesthetics. She looked at cognitive theories of aesthetic preference and explored why humans prefer certain aesthetics over others.

Sahib Khatoon is an assistant professor at Mehran University of Engineering and Technology, Jamshoro, Sindh Pakistan. She is a Ph.D. scholar at USM, having various national and international indexed publications. Her area of interest includes ELT, TESOL, computer-assisted language learning, e-learning, and educational psychology and pragmatics.

Sayeedur Rahman is a professor at the Institute of Modern Languages, University of Dhaka, Bangladesh. He received his Ph.D. in ELT from Jawaharlal Nehru University, India, as an ICCR Scholar. He has extensively worked as an ESL/EFL teacher, researcher, and consultant for more than 20 years.

Selvakumar Selvarajan is currently an English Language teacher at Sekolah Menengah Kebangsaan Mengkuang, Penang. He completed his Diploma in Teaching at Institut Perguruan Darulaman, Kedah in Pengajian Inggeris dan Pendidikan Jasmani dan Kesihatan. He obtained his BA Ed. (TESL) from Universiti Pendidikan Sultan Idris.

Contributors

Selvamalar Selvarajan is currently a lecturer at General Studies Department, Politeknik Tuanku Sultanah Bahiyah, Kedah. She completed her BA Ed. (English Language Studies) at USM. She obtained her MA in Applied Linguistics and TESOL from Newcastle University, United Kingdom.

Shaidatul Akma Adi Kasuma is a senior lecturer at the School of Languages, Literacies and Translation, USM. She is interested in the fields of TESL, technology in language learning, applied linguistics, and English language studies; and has a growing number of research projects and publications.

Siti Nazleen Abdul Rabu is a senior lecturer and currently attached to the Centre for Instructional Technology and Multimedia, USM. Her areas of research interests are mainly on educational technology and gamified learning.

Touhida Easmin is a senior lecturer in English at the State University of Bangladesh, Bangladesh. She obtained her master's degree in English literature from Jahangirnagar University, Bangladesh. Her areas of interest include language teaching and learning, critical theories, gender studies, and technology in education, among others.

Umi Kalsom Masrom is currently teaching in UMP. She is an enthusiastic educator cum researcher who shares her interests in the areas of educational technology, e-learning, and individual differences in second language acquisition.

Xijing Wang is a lecturer at the College of Foreign Language Education, China West Normal University, China. Her key areas of interest are educational technology and curriculum development. She has extensive experience in designing and managing of massive online open courses (MOOCs) and is responsible for the management of courses on the Chinese MOOC platform.

Zahid H. Pathan is an assistant professor at the University of Balochistan, Quetta, Pakistan. He has published in various national and international indexed journals. His areas of research interest include foreign language learning and teaching, pragmatics, educational psychology, second language acquisition, and discourse analysis.

Contributors

Zailani Jusoh is a senior lecturer at the Faculty of Languages and Communication, UniSZA. She has been teaching ESL for more than two decades. She holds a doctoral degree in Education from International Islamic University Malaysia. Among her research interests include teacher education and development, and language testing.

Zuraina Ali is a senior English language lecturer at the Centre for Modern Languages and Human Sciences, UMP. Her research interests include technology-related issues on language teaching, the use of new web-based learning environments to support learning and vocabulary learning among language learners.

© Penerbit Universiti Sains Malaysia, 2025

Index

A

academic writing, 49
affordances
 educational, 19, 200
 of different modes, 35
 of mobile technology, 198–203
 synchronous, 53
 technologies, 61
approaches
 creative, 224
 design, 12
 digital, 272
 in delivering the courses, 2
 language pedagogy, 21–22
 student-centred learning, 294
 teaching, 54
 technology-mediated learning, 308, 335
Arabic
 learning, 140, 147, 154, 156
 teaching, 140, 150
 second language, 140
ARCS model of motivation, 279–281
asynchronous
 applications, 69
 assessment, 52
 communication, 117
 e-learning, 24
 interview sessions, 239
 online instruction, 23
 See also synchronous

B

Bangladesh, 175–177, 190–191
Blackboard, 278

blended learning, 69, 93, 178, 239, 286
breakout sessions
 designing effective materials and tasks for, 263–270
 feature, 257–263
 for language teaching and learning, 256–257
 planning and implementation of, 270
 the use of, 255

C

Canvas, 7
China MOOC, 222–223
classroom learning
 online, 27, 42, 236–237, 243
 usual, 322–323, 327
 See also Spanish classroom learning
co-creativity, 294
collaborative learning, 254, 264, 296–298.
 See also experiential learning; online collaborative learning
communicative skills, 297
connected learning model, 201–203
constructivism, 199, 202, 314, 318
course management system (CMS), 93
creativity
 development of, 83–84
 in using platforms, 7, 9, 12
 See also co-creativity
critical thinking, 28–30, 42, 226
Cronbach's alpha reliability test, 121

D

demotivation

- learner's, 119–120
- reason of, 127
- digital learning, 23–25
 - environment, 171, 230
 - process, 35–38
 - See also* virtual digital learning; OTL
- digital storytelling. *See* DST
- DST, 293–294, 298. *See also* collaborative learning; experiential learning

E

- Edmodo, 24, 26, 28–30, 37, 118
- effect sizes, 315, 323, 324, 325
- effective
 - learning, 20, 234, 236, 295
 - teaching, 139, 164, 165, 235, 247
- EFL
 - Bangladeshi, 181
 - China, 223
 - Classroom, 38, 181, 196
 - in an English MOOC, 216
 - in Vietnam, 23
 - Japanese, 56
 - readers, 24
- ELT
 - Bangladeshi, 181
 - pedagogy, 195, 206
 - teachers, 179, 215
- English as a foreign language. *See* EFL
- English as a second language. *See* ESL
- English language education, 69, 162, 278
- English language teaching. *See* ELT
- ESL
 - classrooms, 278
 - context, 114, 117, 119
 - instructors, 248
 - learning's motivation, 113
 - student's behaviour, 118
 - teaching and learning, 114, 195, 196, 198
 - undergraduate students, 238–239
 - writing class, 118
- experiential learning, 295–296, 298, 305. *See also* collaborative learning

F

- Facebook, 75–78, 199
- face-to-face
 - classes, 112–113, 114–115, 123–124, 125
 - classroom, 31, 33, 177, 188
 - interaction, 23, 52
 - learning, 160, 235, 275, 281
 - meetings, 49
 - teaching and learning, 95, 254
- flipped classrooms, 256
- flipped learning, 49, 52
- formal learning, 309, 310, 326

G

- game-based learning, 235, 236, 238, 244–248
- gamification, 236–237
- Google Classroom, 94, 180, 242
- Google Meet, 142, 144, 152
- grammar, 151–152

I

- Indonesia, 17, 42, 54, 115
- informal learning, 335
- Instagram, 317, 318–319, 320
- instructional
 - design, 203, 215
 - interaction, 228–229
 - materials, 170, 238, 282
- integrated mobile-assisted learning, 195, 203
- interactive
 - discussions, 170
 - elements, 247
 - learning, 69, 245
 - promoting, 235
 - speaking activities, 53
 - whiteboards, 18
- interview
 - accuracy of the, 144
 - asynchronous, 239
 - data, 183, 303
 - focus-group, 207
 - semi-structured, 120, 182, 327

L

learner autonomy, 20, 36

learning

attitude, 9, 169

needs, 310, 316

learning management system. *See* LMS

lifelong learning, 17, 20, 139, 313

LMS, 7–8, 18, 23

M

Malaysia MOOC, 221–222

MALL, 197–198, 199–200, 206, 208

massive open online courses. *See* MOOCs

meaningful learning, 85, 204, 224, 296

micro-learning. *See* ML

Microsoft Teams, 270, 300, 318, 320

mixed methods, 24, 120, 122, 198

ML

introduction, 308–310, 314

retention effect of, 327

theoretical model of, 317

mobile applications

in language learning, 194–195, 200

to assess learners, 201

various features of, 205

mobile learning

benefits of, 195

during COVID-19 pandemic,
196–197

effects of, 198

implementing, 195

mobile-assisted language learning. *See*

MALL

MOOCs

delivery, 216–218

for various subjects, 214–216

online learning environment of,
220–221

pedagogical elements in, 218–220

success factors of, 224–229

the rise of, 212–214

See also China MOOC; Malaysia

MOOC

Moodle, 7–8, 119

motivation

FETs', 31, 33–35

learner's, 116–119, 123–124

learning, 280–282

of teachers, 178–179

to learn, 12–13

See also ARCS model of motivation

multimedia

environment, 168

in a physical classroom, 177

multimodal

literacy, 19, 21–22, 23–24

reading, 19, 24–26, 28, 38–40

N

Nigeria, 162–167

O

OCL

challenge in, 81

environment, 72–73, 75, 78, 83

learning experience in, 86–87

methods, 75, 76

projects, 73–75

theory of, 72

online collaborative learning. *See* OCL

online education

access to, 94

challenges of, 169

effects of, 115

emergency, 253–254

impact of, 188–190

intrusion of, 181, 183, 184

planned, 114

programmes, 92

quality of, 145–146

system, 178–179

online survey, 93, 97

online tools

identification of suitable, 7–8, 11

synchronous, 52

P

Pakistan, 93–94, 113, 117–119, 124

pedagogical approach, 22, 33, 245, 255

pedagogy

genre-based literacy, 22

language, 21–22

- MOOC, 219, 224–225
- multimodal, 21
- online, 52, 65, 195
- traditional, 160
- peer collaboration, 255, 263–264
- perceived learning, 92, 95–97, 98, 105–107
- personalisation, 51, 161, 199, 277
- phenomenological study, 75
- post-COVID-19, 191
- pre-service teachers, 23, 264
- problem-solving, 81–82, 254, 264
- professional development, 141, 164–165, 276
- pronunciation, 9, 53, 199
- Q**
- quasi-experimental study, 280, 282, 315, 327
- questionnaire, 49, 57, 97, 120–121, 287
- R**
- reflective journals, 19, 20, 27, 30, 35
- reliability
 - internal consistency, 99
 - validity and, 97, 99, 100–101, 121, 227
- S**
- SCL, 317–319, 320, 327
- second language
 - acquisition, 314
 - Arabic as a, 138–139
 - classrooms, 106
 - English as a. *See* ESL; EFL
 - learning, 105, 116, 204, 224
 - MOOCs for, 215–216, 208
 - teaching English as a. *See* TESOL
 - theories, 294
- self-directed learning, 212, 276, 318
- self-efficacy, online learning, 74, 93, 96, 99, 100, 103, 106
- self-reflection, 20–21
- self-regulated learning, 217, 281
- SEM-PLS, 92, 108
- social media, 51, 117, 184, 202, 277–278
- Spanish classroom learning. *See* SCL
- Spanish language, 308–309, 323
- speaking
 - anxiety, 51, 56, 60, 61
 - assessments, 49, 51, 52–57
- student satisfaction, 91–92, 93–94, 98, 101, 103, 107–108
- synchronous
 - classes, 13
 - collaborative language education, 253
 - communication, 117
 - connection, 200
 - online learning, 11, 64, 161
 - online tools, 52
 - teaching methods, 23
 - See also* asynchronous
- systematic literature review, 4
- T**
- task-based language learning, 194, 198, 199–200
- teaching English as a second language. *See* TESOL
- technological tools, 13, 116, 171
- technology-integrated pedagogies, 298
- technology-mediated learning, 191, 203, 308, 335
- Telegram Messenger, 276, 278–279, 282–283, 286–287
- TESOL, 70–72, 75, 78–79, 84, 86
- textual analysis, 223
- thematic analysis, 24, 30, 77, 120–121, 123, 225, 303
- theoretical
 - framework, 165, 179
 - implications, 108
 - model of ML, 314, 317, 326
- theory
 - cognitive load theory, 314
 - cognitive theory of multimedia learning, 314
 - critical literacy theory, 21
 - self-determination theory, 314
 - social theory of language, 22
 - theory of knowledge-building, 72
- timely feedback, 54, 60, 170, 199, 277

Index

V

validity
 and reliability, 97, 100–101, 319, 327
 discriminant, 100, 101
virtual digital learning platform, 17, 28
virtual learning platforms, 253
Virtual Reality (VR), 236
visual
 communication, 18
 meaningful, 34
 organisers, 38
vocabulary
 acquisition, 308, 310, 318, 322–324, 327
 knowledge, 310–311, 312, 318, 324–326, 327

W

web-based learning, 11, 23, 95
Webex, 270
WhatsApp, 8, 26, 52
word-focused
 learning, 310
 Spanish vocabulary instruction, 327

Y

YouTube, 26, 28, 56

Z

Zoom, 26–27, 28–29, 270