

A Critical Review of Enhancing English Language Teaching Using ICT Implementation

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v13-i6/14364> DOI:10.6007/IJARBSS/v13-i6/14364

Published Date: 12 June 2023

Abstract

A critical review of the literature was conducted to analyse the current body of knowledge on using an Information and Communication Technology implementation to enhance English Language Teaching. The topical and critical review approaches are the two main approaches in conducting a literature review. The authors of this article discuss the critical review that was conducted using a five-step method. First, defining a research objective and a research question. Second, identifying a significant sample of sources in the literature. Third, collecting data after applying excluding filters from these sources. Fourth, reporting the results from critical analysis and findings using descriptive statistics. Finally, discussing the implications from the results that were identified. The authors were able to identify four themes based on

the critical review's findings which were then expressed in a conceptual framework. In addition, the review of the literature revealed a knowledge gap. Additional research on implementing "Information and Communication Technology" to enhance ELT with the integration of the TPACK framework is needed to fill this gap.

Keywords: Information and Communication Technology, English Language Teaching

Introduction

The advent of Information and Communication Technology (ICT) and its ease of access has become mainstream in today's education. This advance has brought paradigm shifts in teaching practices. Malaysia was one of the world's first countries to implement a strategic ICT plan for its educational system (UNESCO, 2013). Since then, the importance of ICT in education has been acknowledged as one of the critical components as outlined by the Malaysia Education Blueprint 2013-2025 (Preschool to Post-Secondary Education). It is reported that RM6 billion (\$1.42 billion) was allocated for ICT in teaching and learning in schools (Ministry of Education, 2013). Therefore, English teachers must implement ICT to deliver competent teaching in parallel with the national education policy. Effective ICT implementation in English Language Teaching (ELT) is required to produce quality teachers that fit 21st-century teaching as technology is at the heart of today's education system (Yunus, 2018).

However, in the current state of teaching, numerous English teachers still use the traditional teacher-talking and student-listening approach rather than incorporating ICT in their classrooms (Balchin & Wild, 2020). Due to the low English literacy attainment among Malaysian students, there is a need for a supportive and conducive learning environment, as well as an adequate, meaningful language experience in learning a second language (Musa et al., 2012). Hence, there is a need to change how English language literacy is taught to Malaysian students. To meet the needs of 21st-century literacy, English teachers must combine the knowledge in ICTs with practice and professional development to bring innovations into the class-rooms, produce new ideas and think out of the box. ICT use in education helps create knowledge and skills through active, cooperative, and collaborative teaching methods (Singh & Jabeen, 2018). The use of ICT tools in ELT, such as Zoom, Google Meet, WhatsApp, emails, and YouTube provide a platform for students to present their learning materials in different ways and with varying purposes (Utami, 2021).

Digital technologies can improve students' learning and support them by making schools more engaging and relevant. Moreover, these technologies can provide equal opportunities for disadvantaged students and support teacher professional development (Ersanli, 2016). As new advanced technologies arrive in the 21st-century classroom, English teachers need to acquire the necessary knowledge and skills to integrate them into ELT. The Technological Pedagogical Content Knowledge (TPACK) theoretical framework can be integrated into ELT to provide the knowledge needed by English teachers to teach with such technologies in their classroom settings (Koehler et al., 2013). TPACK plays an essential role in determining the role of technology in education to produce quality teachers who are 21st-century technology experts (Kurt et al., 2014).

The implementation of ICT and numerous current technologies enables teachers to become more creative while designing their lessons (Hussin, 2018). Most Malaysian teachers see ICT as an effective tool to teach English in the classroom as it can encourage them to explore new ideas and approaches (Kee, Hashim & Sulaiman). Furthermore, using ICT in the English language classroom as a teaching aid can enhance the students' attention and make the lesson

more engaging. Today's teachers are more motivated and interested in technology integration as it is more flexible and autonomous (Nabahan et al., 2020). In the same vein, using ICT in ELT can help teachers and students create and adapt to the new dimensions of 21st-century teaching and learning, allowing English teachers to use various methods and approaches in their teaching (Akpabio & Ogiriki, 2017).

In this article, the authors explore and focus on the discussion of enhancing ELT with the implementation of ICT. This case was attained through a critical review of the recent literature dealing with the themes of this article. In accordance with standard research practices, the formulation of the problem is first addressed before a method of collecting and analysing data is described. The results of this analysis are then presented with their implications.

Critical Review

A literature review is a piece of academic writing which illustrates the authors' knowledge and understanding of the academic literature on a certain topic in a specific context. As such, a critical evaluation of the material should be demonstrated. Commonly, a literature review forms part of a dissertation or research project where it situates the investigation within the body of previous and current studies. The two main types of literature reviews are narrative reviews and systematic reviews. In the former, the researcher's prejudice may affect the narrative review of the literature as article selection is always a personal interpretation of relevance (Guzzo et al., 1987). To avoid this issue, a systematic review can be conducted to categorize the current state of knowledge on a particular topic. Systematic reviews of the literature are divided into two categories: (1) critical reviews and (2) meta-analyses. Critical reviews provide indisputable advantages as they grant social science researchers evidence of all research findings in their area based on certain criteria (Rosenthal & DiMatteo, 2001). In addition, opting for this approach encourages researchers to adopt a thorough survey and review of all available documents. Critical reviews provide a richer picture of the issues under investigation by synthesising research findings from diverse paradigms and approaches. These also enable authors to provide strong descriptions, analyses and interpretations of information on a certain topic allowing readers to see the reviews' value and credibility.

Meta-analyses, on the other hand, include the effect size of each reviewed study. It is essential for researchers that the sample size of their study impacts the validity of the results. Clinical trials are excellent examples of such meta-analyses. However, meta-analyses do not include qualitative studies, which use significantly smaller samples than quantitative studies. In the present study, including the effect size was not required to investigate the extent of the current knowledge on the implementation of ICT to enhance ELT. Moreover, excluding the review of qualitative studies would not have given a complete perspective on how ICT is implemented. Thus, these two main differences set apart these two systematic reviews. For these reasons, the authors opted for a critical review over a meta-analysis. Following the approach advocated by Gabarre et al (2021), the authors organised the literature review by conducting a critical review of studies on the implementation of ICT to enhance ELT".

Guzzo et al (1987) suggested approaching the task of conducting a critical review in the same fashion as a quantitative study. The three steps of conducting a study according to Egger et al. are: (1) formulation of the problem to be addressed; (2) collection and analysis of the data and (3) reporting the results (Egger et al., 1997). Continuing this analogy, while conducting a critical review, researchers should explicitly state the objective, methodologies and criteria employed (Egger et al., 1997). For this reason, the authors used this approach to conduct the present literature review, starting with the formulation of research questions.

Formulation of the Problem to be Addressed

The fundamental basis for conducting the present critical review is to investigate the extent of current knowledge on implementing ICT to enhance ELT. The problem that is addressed may be constructed with Egger et al (1997) analogy with the following question: to what extent do recent and respected publications deal with the theme of implementing ICT to enhance ELT? The implementation of ICT to enhance ELT is divided into four themes: (i) ICT as an educational technological tool; (ii) ICT assists in ELT; (iii) the effectiveness of ELT and (iv) the integration of the TPACK framework in ELT. The authors used these four themes to categorise the selected articles in the critical review

Data Collection and Analysis

All literature reviews should be comprehensive while also “deal with a bounded domain of studies” (Guzzo et al., 1987). Therefore, the authors rigorously searched all potential articles before selecting relevancy. The two online services that were considered as respected to find the articles were the Scopus database and the ERIC database. Keywords related to the theme of the implementation of ICT, ELT and the TPACK framework were used in this process. The keywords used were ‘Implementation of ICT in ELT’, ‘Using ICT and TPACK in ELT’, ‘Effectiveness of ELT using ICT’ and ‘Integration of TPACK framework in ELT’. At first, six articles were identified in Scopus and seven in the ERIC database, for a total of 13 articles. When a relevant article was found in a journal, the authors systematically searched all archival issues to find more. Older articles were identified when cited in the reference sections. Cited references represent more than a part of the article as they indicate well-structured connections with other scholarly articles. As a result, the reference sections were skimmed for cited articles. The use of online hyperlinks to citing articles provided more relevant references. To conduct a rigorous critical review, only articles of a good quality were included (Slavin, 1984). Good quality articles refer to peer-reviewed publications reporting empirical research. Slavin further stated that including studies of lesser quality will reduce the critical review’s worthiness due to a “garbage in-garbage out” process (Slavin, 1984). Hence, the authors applied five excluding filters to select more relevant articles. These inclusions and exclusions were adapted from Wu et al.’s study [30]. The results of the information search are summarized in Table 1.

Table 1
The Total Number of Articles Classified by Databases

Databases	Keywords			
	Implementation of ICT in ELT	Using ICT and TPACK in ELT	Effectiveness of ELT using ICT	Integration of the TPACK framework in ELT
Scopus	4	4	6	3
ERIC	5	2	7	2
Total	9	6	13	5

First, studies before the year 2016 were excluded from the selection as the timeframe utilised to evaluate new scientific material should reflect the field's scientific stability (Klavans & Boyack, 2009). A long period indicates that science is stable, whereas a short period indicates

that the field is rapidly evolving. Because of the dynamic changes in ICT, the authors decided to filter out articles that dealt with earlier technologies. The growth rate of technology follows an exponential trend, which led to this choice.

Second, studies that did not explicitly describe a peer review process were omitted from the selection. Scientific knowledge is only considered when peer authors have reviewed it (Jefferson et al., 2001). As a result, all conference proceedings and book chapters were excluded. Frequently, conference proceedings present current findings and thus may be considered as prologues to journal articles (González-Albo & Bordons, 2011). However, because these are not subjected to the same level of review as journal articles, they may not provide the same level of rigour. Consequently, the authors only included articles that had undergone thorough peer review.

Third, studies unrelated to teaching were excluded from the selection. This criterion was used to eliminate all publications that assessed ICT implementation in teaching without considering ELT elements. The authors focussed the analysis solely on ELT without diverting from the present study's focal point by applying this criterion. On the other hand, articles that reported on studies conducted in primary and higher education were included as they could potentially reveal findings that could be applied to teaching in high schools.

Fourth, studies that only featured ELT without investigating ICT implementation or TPACK integration were omitted from the selection. The TPACK framework's impact on education has been extensively researched in connecting teachers' understanding of technology, pedagogy, and content to produce effective teaching (Koehler et al., 2013). Although several articles could have been relevant to the setting of the current study, they were removed from the critical review due to the focus on the implementation of ICT in ELT. However, this did not mean that all articles that had not reported the TPACK framework were rejected, as articles that featured an ICT implementation were included.

Fifth, studies that did not include one of the three research approaches were excluded from the selection. The three approaches were: (1) quantitative studies, (2) qualitative studies and (3) mixed-methods studies. This ensured that the topic discussed had been successfully analysed by previous researchers using various empirical approaches to obtain valid and strong results for implementing ICT to enhance ELT. This exclusion made no assumptions on the quality of these investigations; instead, it enabled the analysis to draw attention to valid ICT implementation applied to teaching situations.

Reporting of the Results

Applying these five filters reduced the number of articles to seven from a total of 13. These five filters were: (1) studies conducted before the year 2016 were excluded from the selection; (2) studies that did not explicitly describe a peer review process were removed from the selection; (3) studies unrelated to teaching were excluded from the selection; (4) studies that only featured ELT without investigating ICT implementation or TPACK integration were omitted from the selection and, (5) studies which did not include the three research approaches were excluded from the selection. The remaining articles were then categorised according to their specific domains as can be seen in Table 2.

Table 2

Report of the Critical Analysis of Literature

Authors	Year	Journal	SC	ER	ICT-tool	ICT-ELT	Effective-ELT	TPACK	Country	Methods
Paudel	2021	International Journal of Technology in Education and Science		/	/	/	/		Nepal	Questionnaire , Interview & Observation
Ahmed et al	2020	International Journal of Language Education		/	/	/	/		Yemen	Questionnaire
Hafifah et al	2020	Turkish Online Journal of Distance Education		/	/	/	/		Indonesia	Questionnaire
Khan & Kuddus	2020	Rupkatha Journal on Interdisciplinary Studies in Humanities	/		/	/	/		Bangladesh	Questionnaire
Obillos & Rosa	2016	International Journal of Education and Development using Information and Communication Technology		/	/	/	/		Philippines	Questionnaire & Interview
Zyad	2016	International Journal of Education and Development using Information and Communication Technology		/	/	/	/	/	Morocco	Questionnaire
Paneru	2018	Center for Educational Policy Studies Journal		/	/	/	/	/	Europe	Interview & Observation

*Note: SC=Scopus | ER=ERIC | ICT-tool=ICT as an educational technological tool | ICT-ELT=ICT assists in ELT | Effective-ELT=Effectiveness of ELT | TPACK=Integration of the TPACK framework

As highlighted in Table 2, in all articles the implementation of ICT contributes to the effectiveness of ELT as it assists teachers in the teaching process. However, the critical review revealed a gap in the literature concerning the integration of the TPACK framework in ELT. This suggests that the TPACK framework is not commonly employed to report on the implementation of ICT in ELT. Currently, English teachers need to understand and master ICT skills to develop digital-based content. This requires teachers to be aware of their students'

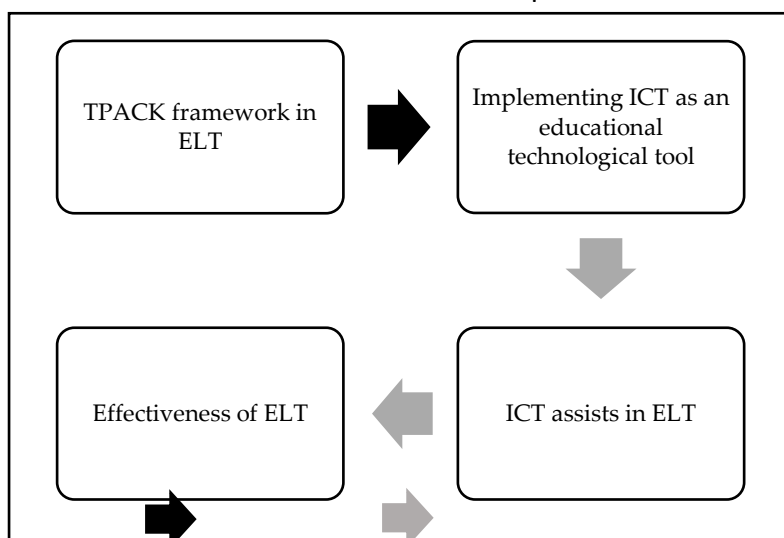
technological demands. Implementing ICT in ELT helps English teachers adapt to the new dimensions of teaching and learning in the 21st century which are in line with the current global benefits of modernization. Therefore, English teachers should integrate the TPACK framework to enhance ELT; thus, making learning more meaningful for the students.

ICT exposes English as a Foreign Language (EFL) teachers to new and sufficient knowledge, allowing them to be well equipped in both subject matter and presentation techniques (Paudel, 2021). In addition, ICT implementation makes teaching more effective, engaging, lively, motivating, and successful due to improvements in the teaching process through innovative methods and techniques (Paudel, 2021). In the same vein, implementing ICT in EFL is beneficial, effective, facilitates English teaching and learning, saves time and effort, helps bring authentic English into the classroom, and improves students' autonomy and self-learning (Ahmed et al., 2020). Furthermore, ICT creates a motivating learning atmosphere and assists teachers in customising their lessons to meet the students' requirements and interests. ICT implementation provides numerous advantages to ELT (Hafifah & Sulisty, 2020). It gives English teachers tremendous access to collect, download, and use materials from the Internet when preparing for their teaching. Using online learning platforms, educational games, applications and social media for educational purposes in the teaching process benefit ELT. Furthermore, ICT makes English lessons exciting, interactive, autonomous, and flexible (Khan & Kuddus, 2020). Also, ICT promotes teacher-student and student-student interactions, thus helping English teachers develop students' proficiency in English. In addition, ICT facilitates teaching language components such as listening, speaking, reading, and reading skills in a more captivating way than traditional teaching methods.

ICT has the potential to improve teaching by augmenting current knowledge and providing new teaching and learning methods (Obillos & Rossa, 2016). Internet-based lesson preparation, multimedia presentations, video screening for literary classes and interactive games are all instances of ICT implementation in the language class. The use of ICT has a positive impact on teaching and learning modes, resulting in a shift from a teacher-centred approach to a more student-centred one (Zyad, 2016). To this end, the TPACK framework provides English teachers with a guide that emphasises the need for a research-based approach to ICT implementation in ELT. Furthermore, ICT promotes the use of English with online media for presentations, interactive assessments, and project learning practices in class, thus developing a mechanistic TPACK approach (Paneru, 2018).

Figure 1 shows a proposed conceptual framework with the implementation of ICT to enhance ELT using the integration of the TPACK framework. It is significant to highlight the relationship between ICT implementation and the TPACK framework integration as both elements are interrelated. This is because the TPACK framework promotes English teachers' appropriate and effective use of ICT tools in their teaching with the association of technology, pedagogy, and content knowledge. Therefore, English teachers can benefit from integrating the TPACK framework when implementing ICT to enhance ELT. As noted in Table 1, ICT offers a wide range of advantages to help teachers in ELT, such as making the teaching process more engaging, lively, motivating, and successful. Moreover, ICT can transform pedagogy from a teacher-centered approach to a more student-centred one. Therefore, implementing ICT as an educational technological tool in ELT can assist English teachers during the teaching process. This should result in ELT effectively meeting the needs of 21st-century students who demand the use of technology. With the effort of incorporating TPACK and ICT in their classrooms, English teachers can continuously improve the learning process (Malik, Rohendi

& Isma, 2018). The critical review of the literature highlighted the various benefits provided by the integration of ICT with the TPACK framework to promote effective ELT.



*Note: Integrated into teaching process | Results in

Figure 1. Proposed Conceptual Framework Showing the Process of TPACK Integration of Implementing ICT to Enhance ELT

Conclusions

In light of recent technological developments, the implementation of ICT in ELT should no longer be considered optional. However, as can be seen in Table 1 with the grey shaded columns, the critical review revealed a gap in the literature with the absence of sufficient TPACK related studies in implementing ICT to enhance ELT. As such, future work should include the development of ICT in ELT for Use and Acceptance Models studies. Potential variables predicting behavioural intention to use ICT within the TPACK framework among primary, high school and higher education students should be further studied. As shown in Table 2, there is currently a limited number of studies in respected publications in the Scopus database exploring the integration of ICT with the TPACK framework. Further research is necessary, particularly in the implementation of ICT to enhance the ELT field. Identifying this gap paved the way for additional research on this topic as the integration of the TPACK framework is crucial to provide excellent ICT implementations in ELT.

Acknowledgments

We would like to convey our utmost appreciation to the Learning & Teaching Innovation Research Centre, Faculty of Education, Universiti Kebangsaan Malaysia for grants Dana Pecutan, and STEM & Minda (GG-2022-006) and support to publish this journal publication. Special thanks to all researchers under the Personalized Education Research Group for their financial, intellectual, spiritual, and moral support.

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