



The Role of Technology in the Process of Education: A Systematic Review Study

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Abstract

The use of technology marks a significant advancement in teaching English at present. The majority of current English language instructors actively utilize various technology tools meant to enhance the delivery of optimal instruction. The current study aims to give a literature review of several studies conducted to explore the role of technology in teaching English to EFL students. The study selects a number of published articles between 2013 and 2023 for this aim. Each article was summarized after a rigorous and comprehensive perusal. The majority of the research found that employing technology in the ELT/ELL substantially impacted students' ability to learn the language. In addition, it will improve students' ability to speak as well. As a result, recommendations are suggested to utilize various technological devices in learning because their incorporation has improved EFL learners' four skills.

Keywords: Technology, teaching, learning, EFL classrooms

Eğitim Sürecinde Teknolojinin Rolü: Sistematik Bir İnceleme Çalışması

Özet

Teknolojinin kullanımı, şu anda İngilizce öğretiminde önemli bir ilerlemeye işaret ediyor. Mevcut İngilizce öğretmenlerinin çoğu, en uygun öğretimin sunumunu geliştirmek için çeşitli teknoloji araçlarını aktif olarak kullanır. Bu çalışma, EFL öğrencilerine İngilizce öğretiminde teknolojinin rolünü keşfetmek için yürütülen çeşitli çalışmaların alanyazın taramasını vermeyi amaçlamaktadır. Çalışma, bu amaçla 2013 ile 2023 yılları arasında yayınlanmış bir dizi makaleyi seçmektedir. Her makale titiz ve kapsamlı bir incelemeden sonra özetlendi. Araştırmanın çoğu, ELT/ELL'de teknoloji kullanmanın öğrencilerin dili öğrenme becerilerini önemli ölçüde etkilediğini buldu. Ayrıca öğrencilerin konuşma becerilerini de geliştirecektir. Sonuç olarak, öğrenmede çeşitli teknolojik cihazların kullanılması tavsiye edilir çünkü bunların birleştirilmesi İngilizce öğrenenlerin dört becerisini geliştirmiştir.

Anahtar Sözcükler: Teknoloji, öğretme, öğrenme, EFL sınıfları

1. Introduction

Due to the fast advancements in Information and Communication Technologies (ICT) worldwide, an increased interest is apparent in classroom technology in order to equip students to fulfil the requirements of a more technologically reliant society. The existence of technology and its ongoing advancements have been shown in society via a change in how individuals interact with technology (Hollands & Escueta, 2020; Gonzalez-Acevedo, 2016). Ahmadi (2018) claims that instructors favor electronic teaching programs because they undoubtedly increase students' involvement with their professors and motivate overall ELL. Technology enables learners to concentrate freely and collaboratively (Warni, Aziz, and Febriawan, 2018); this is achievable because technology encourages learners to examine their current levels of these two

capacities, which are critical for gaining autonomy. Since the last few decades, specialized technologists have attempted to make this vision a reality by developing drill-and-test systems based on computer-assisted instruction (CAI) (Andone & Frydenberg, 2019). Numerous educational scholars predict that Computer Assisted Language Learning (CALL) will be beneficial on the long term because it will reduce educational expenditures while improving learning outcomes (Atabek, 2020; Oz, Demirezen, & Pourfeiz, 2015).

However, several organizations and educational institutes have been established to ensure the correct use of educational technology and develop more comprehensive methods and procedures.

Findings of Previous Studies

This section of the latest research will present a historical account of the studies conducted to analyze the technological influence in the field of education in general and learning English in EFL classrooms in particular, obtained from a sample, data collection techniques, analytical techniques, key findings, and constraints.

Gorra and Bhati (2016) conducted a quantitative study on the use of technology. The participants were 221 students from various state colleges and universities in the Caraga region of the Philippines. Their ages were between 19 and 23 years old. About half of them were males while the rest were females. Using a ranking and frequency analysis method, the authors collected data through a questionnaire and then calculated the observed consequences. The study's overarching objective was to determine the unintended repercussions of employing technology in the classroom in the Philippines. The study's significant findings were that most students enrolled in-state colleges and universities in the Caraga region of the Philippines are likely to use classroom technological devices to achieve positive output, corroborating the view that the technology use contribute enhancing the activities of classroom-based learning. This research fills a critical need in the literature by being the first to examine the unintended implications of using the modern technological devices in the educational field of the Philippines.

Lie et al. (2020) conducted a qualitative study on online learning. Eighteen instructors from four areas in Indonesia participated in this study. The authors collected data using a survey and interviews. A hybrid model of TPACK and SAMR was utilized in this study. This research aimed to examine language instructors' internet activity during Indonesia's Covid-19 outbreak. This research discovered an interaction between five parameters affecting online learning processes and five degrees of involvement. These five aspects are learners, past exposure of instructors to online learning, technical competence, pedagogical understanding, and the support system. In this survey, teachers were still battling to improve the quality of online learning engagement.

Nonetheless, taking into account their growing knowledge in the insufficiency of their online learning delivery and a fresh feeling of dedication, these instructors had high aspirations of improving their competency and professional practices. Understanding the characteristics that influence online learning engagement may assist in addressing challenges and ensuring equal opportunity for all students. This research demonstrated that instructors in rural places would benefit from more top-down engagement from educational institutions and made 2 suggestions to the authorities for bridging any growing technological gap, which the current school suspension has exacerbated. This research delivers novel findings on online learning engagement in Indonesia during the Covid-19 pandemic. This research will help better understand the difficulties and issues encountered by students and educators worldwide when participating in online learning.

Batane and Ngwako (2016) conducted a qualitative study on technology in language teaching. The authors collected data through observations, interviews, and document analysis. Using the unified theory of acceptance and use of technology (UTAUT), the authors determined whether teachers actually apply these skills when they first enter the field and, if not, what could be done. The findings of this study are essential for stakeholders because they will assist them in identifying discordant behaviors that limit pre-service teachers' use of technology; this would encourage policymakers to establish favorable conditions that would allow the deployment of pre-service teachers' acquired skills and knowledge throughout their training. This study may also serve as a wake-up call for training institutions to make a concerted effort to include technology in their teaching and assessment frameworks, ensuring that its use is not random but is integrated into a holistic strategy that supports successful teaching. The findings of this study are essential for

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Naima (2017) conducted a quantitative study to ascertain the level of technology integration in EFL classes and instructors' impressions. Ten EFL teachers from Algeria participated in this study. The author used a questionnaire to collect data. This study aimed to capture the various perceptions of EFL teachers from Algeria regarding the use and integration of technology in their teaching practice. The results indicate that although all participants have a favorable attitude toward technology, they all encounter unique challenges to integration. We may make the following suggestions based on the study's findings:

- To ensure the effective use of technology in the classroom, EFL teachers must have enough training and ongoing support. It is worth noting that teachers will get training on material management and integrating resources into classroom activities effectively.
- To expand education beyond traditional boundaries, educators should regularly include digital resources in their lessons. Overhead projectors, for example, may be used to teach literature, history, and language, among other disciplines. Additionally, power-point presentations may incorporate rich text, graphics, drawings, and tables, all of which can contribute to making learning more motivating, engaging, and enjoyable.
- Additionally, instructors should be persuaded that 1) they are no longer the primary source of information in the language classroom and 2) the twenty-first-century classroom is a mandate forcing them to elevate their teaching to the next level. • Additionally, collaborative culture in which instructors interact, exchange, and enhance their expertise with technological equipment and resources might exist.
- Additionally, EFL students at Chadli Bendjedid University may be encouraged to utilize technology to boost their learning ability both within and outside the language classroom.

Ulla, Perales, and Tarrayo (2020) did a qualitative study on the topic of Integrating Internet-based apps into English language instruction. The research included 27 English language instructors who were currently teaching at Walailak University's language institute, with seven teachers (3 females and 4 males) consenting to participate. The authors gathered data by observing classes and doing individual follow-up interviews. Instructors used Kahoot, Socrative, Google Forms, QR codes, Facebook, YouTube, Quizizz, and Quizlet in their classroom teaching, the research revealed. Integrating Internet-based applications into the classroom benefits teachers boosts students' active involvement in learning and passion for language acquisition, and promotes learner independence and autonomy.

Maqbulin (2020) conducted a qualitative study on the use of information and communication technology (ICT) in English teaching. The participants were English teachers who were members of MGMP, an English teachers' organization dedicated to the professional development of English teachers in Nganjuk. Half of the participants were females while the rest were males. The author collected data through a questionnaire. The study's objective was to determine the extent to which English teachers at Islamic senior high schools in Nganjuk have used ICT. The findings of this study indicated that the majority of English instructors utilized ICT in their classrooms, although inefficiently owing to various issues; 43% of participants used ICT, 39% used it sometimes, and 18% did not use it at all. The organization of English instructors via MGMP should be adjusted in order to increase teachers' competence in using ICT in their classrooms.

Warni, Aziz, and Febriawan (2018) conducted a quantitative and qualitative study on the use of technology in language learning. Forty-two students from a private senior high school class in South Tangerang participated in this study. Only ten of them were females while the rest were males. The authors collected data through questionnaires and interviews. The study's objective was to examine Indonesian students' experiences with using technology in outside-the-classroom English learning with regard to learners. This study demonstrates that using technology to learn English outside of the classroom has facilitated the development of learner autonomy, which encompasses components of motivation, metacognition, self-

confidence, and social skills. This project aims to assist English instructors in improving their students' English proficiency while promoting learner autonomy via different information and communication technologies.

Ramorola (2013) conducted qualitative study on the challenge of effective technology in teaching and learning, including curriculum professionals, instructors, and students as participants. The author collected data in this study through interviews, focus group discussions, observations, and document review. The results indicated that an absence of a technology policy, inadequate technology equipment, a shortage of instructors skilled in technology integration, and maintenance and technical issues represent significant barriers to successful technology integration at the school level. It is critical to identify such barriers to technology integration in teaching and learning in order to develop a strategy that would aid instructors in successfully incorporating technology into their instructional activities.

Abukhattala (2016) conducted a qualitative study on the use of technology in language classrooms, with twelve in-service English language teachers as participants. The author collected data through structured and semi-structured interviews to determine English language teachers' readiness and willingness to integrate technology in some high and secondary schools in Misurata, Libya. The study's preliminary conclusion is that all participants were open to using technology to teach English as a foreign language. This research demonstrates that supplying instructors with equipment is insufficient; instead, they must be convinced of its merits when used in the classroom. For example, consider the instructor who had complete access to a computer lab inside her own department but never entered.

On the other hand, several instructors had little or no assistance in adopting technology but took the effort to learn about it because they recognized its value to their kids. Additionally, training cannot be confined to a mere 'how-to' of technology; numerous instructors stated a wish to understand how the equipment operates and how it may be incorporated successfully into the curriculum. One strategy for convincing teachers of the value of technology in language instruction is to engage them in the implementation process. As long as instructors see technology as foreign, they will fail to recognize its advantages for language instruction. Understanding the variables that impact instructors' technology usage is critical for ensuring that institutions do not waste scarce resources on equipment never used.

Lawrence, Ahmed, Cole, and Johnston (2020) conducted qualitative and quantitative research on not more technology but more effective technology; examining the state of technology integration in EAP programs. The authors collected data through classroom observations, interviews, focus groups, and surveys. The study's objective was to discuss government-funded research documenting the largely undefinable use of technology. The findings indicated universal excitement for new technologies' potential to engage learners, foster independent learning, and facilitate the development of transferrable 21st-century skills. Despite this excitement, many teachers, administrators, and students raised reservations about technological inclusion. Instructors discussed how time constraints, shortage of pedagogical leadership and vision, and insufficient support and training had impacted their real and imagined technology usage. The paper concludes with some implications for the domain of teacher educational training and development, more research, and EAP teaching and curriculum design in today's digital environment.

Mallick, Maniruzzaman, and Das (2020) conducted a qualitative study on the impact of technology on English language teaching. The authors collected data from twenty-five randomly selected secondary schools in Khulna and Dhaka, Bangladesh, using classroom observation, questionnaires, FGD, SGD, and PA. The study's objective was to determine the effectiveness, adaptation, and contribution of technology-based ELT in various domains of the ELT. The findings indicated that technology-integrated ELT significantly contributed to enhancing the teaching-learning environment by fostering an interactive setting and capturing and holding students' attention throughout the class. Compared to older groups (56 or older), younger instructors (36-45 years) expressed a greater interest in adopting these current technologies in ELT lessons. Students were highly encouraged to attend ELT sessions that used multimedia technologies to help them picture the subject matter as they read.

Aysu (2020) conducted a qualitative study about using technology and its impact on the motivation of language learning process. The study utilized students enrolled in tourism and hotel management programs as participant. The author collected data through interviews and a questionnaire. The study's objective was to determine the impact of using technology on the level of motivation at students of foreign language in their learning classrooms. While there were no significant differences between the two groups due to the

pre-test, the experimental group had a high level of motivation after a four-week therapy. On the other hand, there was no significant change in the control group's degree of motivation. The present study's results indicate that pupils' language abilities will improve due to their use of technology.

Merç (2015) investigated student instructors' classroom technology usage through quantitative and qualitative investigation. The participants were pre-service EFL teachers from Turkey. The author gathered data through semi-structured interviews and a survey. This study aimed to examine how student teachers used technology in their classrooms throughout their practicum experience. The study's general finding is that student teachers did not fully use available technology in the teaching process. Inadequate training, a lack of necessary equipment in practicum institutions, and student/teachers' own orientations and preferences were the key reasons behind utilizing technology in the teaching process by both teachers and students. These findings can be used to make recommendations to student teachers, cooperating teachers, and university supervisors about how to integrate technology into EFL teaching and implications for teacher training programs and practicum schools about how to improve practicum placements for student teachers and student learning.

Champa, Rochsantiningasih, and Kristiana (2019) conducted a qualitative study on teachers' challenges in integrating ICT into EFL teaching and learning activities. The authors collected data via observation and in-depth interviews with three English teachers at a particular Senior High School. The data analysis found that the challenges to English instructors incorporating ICT include a lack of training, competency, equipment, and proper software and resources. This study should be seen as a snapshot of existing instructional ICT practices, which may be utilized to prioritize teacher training initiatives based on reporting requirements. It has been discovered that instructors confront several difficulties in incorporating ICT into their classroom instruction. Additionally, in light of the government law requiring ICT integration as a method of instruction and learning, it is critical to educate instructors to appropriately understand current ICT integration practices.

Adopting Michel Foucault's theoretical tools; Lee and Lee (2023) conducted a study by which that explored how the adoption of technology-driven education reform policy impacts the subjectivity of smart teachers. It also shed some light on how specialists utilized power in discursive formation of teacher subjectivity in significant but subtle way. The study was conducted within the South Korean context. The authors used three sets of textual data. The first was a comprehensive policy document. The second was three research reports focusing on teachers' roles in enacting SMART education. The third was 18 semi-structured interviews with one regional supervisor, five teacher educators, two school managers and ten in service teachers practicing SMART education in Sejong city. The critical discourse analysis was utilized to analyze the collected data.

The results noted that SMART education conceptualized as 'panacea' which may practically tackle all types of problems in the educational sector, in a way that enable teachers to do their best in teaching process. The study concluded that a few dangers in the discursive formation of teacher subjectivity were illuminated as an outcome of SMART education discourses

Future Studies

Mark, William, and Veronico (2020) recommend that future studies include EFL instructors from other parts of Thailand to provide complete results. Conducting a study in other ASEAN countries, concentrating on how instructors incorporate various Internet-based apps in the instruction inside the classroom, would be a great addition to the field of research too.

Maqbulin (2020) suggests that follow-up research on enhancing teachers' use of ICT in the classroom may be done. Additionally, this research shows that school stakeholders and policymakers should reconsider their policies. The capability of technology has to be enhanced so that instructors can effectively utilize it.

Abukhattala (2016) suggests that further research examining the efficacy of technology in language acquisition would be beneficial. The researcher's first proposal is that all schools in the Misurata area be equipped with current technology. The researcher's second proposal is that in-service teachers get enough training in employing technology in language learning. Libyan universities should provide a bachelor's

degree in education, emphasizing using technology in the classroom. The researcher's final proposal is to redesign the English language curriculum at the elementary school level. In which each of the four talents should be given equal weight. Additionally, particular emphasis should be made on active talents. Appropriate software and computer programs should be developed to facilitate the teaching of these abilities. According to Lie et al. (2020), future research should incorporate non-language instructors to acquire more definitive conclusions.

The authors (Lawrence et al., 2020) argue that further research is required to understand the employment and potential of theoretically better and pedagogically informed strategies in EAP education, emphasizing the effect of learning and stakeholder perceptions in contextual situations. Such assessments may result in a more in-depth comprehending toward the technological role in EAP post-secondary teaching and learning, which is beneficial. In the words of one EAP instructor, 'not more technology, but more impactful and relevant [uses of] technology' are needed.

Conclusion

To conclude, it should be noted that, in spite of the previous sincere efforts to develop and modernize English educational tools, remnants of older technology, including computers, smart devices, displays, audio-visual materials, and electronic approaches, should be phased out as soon as possible and replaced with more modernized technologies that enable both teachers and educators to be up-to-date with the last cutting-edge advancements. The modern technologies that should be phased in include artificial intelligence applications that started occupy a significant role in the educational field recently and remotely-controlled machines computers and other smart devices. However, while this study emphasizes the critical educational potential and numerous benefits of technology in the language classroom for improving learning outcomes in the language classroom and throughout the world. It also emphasizes the financial costs associated with establishing the infrastructure and encouraging teachers to overcome their fears of using teaching technologies in their respective fields of expertise.

Both old and new technologies are intended to assist students in improving their English language skills while also providing a favorable learning environment. Students' motivation to participate actively in their studies while obtaining practical and realistic English language skills is one of the ultimate goals when new technology is implemented into language instruction. An open learning environment that supports transparency and accessibility to subjects and information via current technology and a collaborative setting in which students are encouraged and trained to participate should be introduced to accomplish this. With a forward-looking eye toward the future, it is clear that multimedia will be a vital component of teaching English to current standards in a student-centered setting in the foreseeable future. Therefore, a comprehensive test of English language skills to improve general communication capacity would improve students' quality of teaching and the usage of present educational foundations due to the examination.

We feel that this technique can potentially increase students' critical thinking and practical language skills while simultaneously boosting the overall efficacy of teaching and learning. The use of efficient technology integration and appropriately trained instructors can alleviate many of the concerns associated with everyday learning. In contrast, ministerial planning and developing an infrastructure that prioritizes successful learning can alleviate the concerns associated with budgetary constraints

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Note on Ethical Issues

The authors confirm that the study does not need ethics committee approval according to the research integrity rules in their country (Date of Confirmation: 6/5/2023).