

A Systematic Review of Using Technology in Learning English Language

Wee Shin Ang, Melor Md Yunus

Faculty of Education, Universiti Kebangsaan Malaysia, 43650 Selangor, MALAYSIA

Email: weeshinang@gmail.com, melor@ukm.edu.my

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Abstract

In the era of 21st century, technology has replaced the old-style teaching tools like textbooks and blackboard. The digital classroom is now promoted as a new trend in current educational policies. This paper takes a systematic approach to access the students' perceptions on the use of technology in learning English and factors influencing "e-learning". This paper was analysed and synthesised thoroughly with 21 articles chosen from the year 2016 until 2020 from the databases Eric and Google Scholar. Most of the studies used quantitative and mixed method in exploring the students' perception on the use of technology in learning English and factors influencing "e-learning". In general, most of the users established the same perception as the technology does help the learning of English language.

Keywords: E-learning, English Language, Education, Systematic Approach, Students' Perception, Influencing Factors

Introduction

The growing access to the Internet and technology has led the transformation from traditional classroom to e-learning. E-learning includes online teaching and learning which engage the learners in the learning process through Internet and digital media (Stephenson, 2018). E-learning is mobile learning through mobile computational devices. Learning could happen anywhere and anytime with the advance of technology as long as the electronic devices are by your side. Mobile equipment like smart phones, laptops and tablets are the living necessities and the process of learning has changed by these electronic devices. Technology-based learning is believed to be an innovative learning technique for primary and secondary schools. However, it is more common in the higher-level education. Teaching and learning using technology make the process more interactive and collaborative. The use of ICT in education now is to help teachers to do administrative tasks more competently and students to learn more efficiently (Selwyn, 2003). Learners learn by doing rather than memorizing facts. They could join in tech-enabled group discussion, take an interactive quiz, play educational games, use virtual lab to perform science experiments or take a virtual field trip.

Due to increasing competition among nations in the world and globalization, English as the international language becoming more significant each day. Hence, there is a need for the relevant authorities to enhance the standard of the language in the country (Faradila,

2010). The English language considers to be the leading languages over the world because of its usage in all sectors like Medical, Business, Media, Education and so on. It is also the most commonly spoken language in the world. Learners need to have the opportunities to interact in English in order to enhance their learning, so that using technology will be good in assisting the learners especially for the second and foreign language learners. Technology gives an environment which helps the learners to increase their knowledge and creativity.

There are new challenges and duties to the teachers in the current era as the teaching methods have changed over the years. The entry of the innovative technologies has changed the style of English language instruction nowadays. Technology provides the opportunities for teachers to be more creative and thought-provoking in terms of constructive changes. The current teaching method focuses more on learner-centered which means less focus on the teachers. Heflin, Shewmaker & Nguyen (2017) stated that teachers get the chances to re-imagine teaching and learning with the application of mobile technology. Learners need to be active in learning as they are responsible to their own learning and knowledge. The integration of information and communication technologies (ICT) can help revitalize teachers and students (Lin & Yunus, 2012). With the help of technology, it supports learning by motivating students in learning, increasing access to information, helping in deeper understanding and improving problem solving abilities. Teachers act as the facilitator to give students tools to acquire knowledge and recognize the value of what they learn in books or Internet (Bancheri, 2006). In addition, Jeong (2006) highlighted the important role of teachers to motivate students in creating meaningful, nonthreatening and affectively supportive language learning environments by using Web technology. Therefore, teachers must require collaborative projects and development of intervention change strategies which incorporates teaching with technology to expand their teaching skills.

The growth of new technologies and digital media affect the new generations intensely. Their lives intermingled with the information technology and Internet as 'Digital natives' (Prensky, 2001), since they are born. According to (Liton, 2014), students in the present day engrained in multimedia and have acquired "*hyperlinked minds*". As a result, integrating technology in the learning process is essential in developing students' educational effectiveness. There are numbers of reports recounted the benefits of using technology in the classroom which include mastery of basic skill, more student-centered learning, increase task engagement and motivation, developing higher-order thinking skills, improvement in self-concept and active processing (Stepp-Greany, 2002). On the other hand, students appear to gain self-confidence to direct their own learning by using technology in the learning process. To make sure does the technology really facilitate the students in learning, it is important to know the perception of students on this approach.

Despite of the advantages of technology in teaching and learning, there are many problems to overcome before it could be integrated into the curriculum. Some might find that the process of integration is time consuming and frustrating. The factors that affect e-learning might fall on teachers, students or any external factors while learning using technology. Through a descriptive survey, Makokha & Mutisya (2016) found that low interactivity and unsuccessful implementation of e-learning in public universities are because of the poorly designed courses. The challenges that might hinder the students from accepting the new technology in learning should also be taken into consideration (Mahmod, 2005). Thus, this paper is to identify a) What are the students' perceptions on the use of technology in learning English? and b) What are the factors influencing "e-learning"?

E-learning

Due to globalization, E-learning has turned into an alternative method to traditional face-to-face education and teaching is no longer restricted to classrooms (Devisakti & Ramayah, 2019). With the Internet access, it transformed education to a new era technology mediated tools were used to substitute the traditional teaching and learning process that refers to as electronic learning (e-learning) (Yakubu & Dasuki, 2018). E-learning is currently emerged as the new paradigm in education where it formed a trend in the world. Chalk and talk teaching method is no more a perfect method for teaching and learning whereas e-learning has shift this phenomenon from teacher-centered to learner-centered (Oye et al., 2014). There are few past studies stated that learners are able to access to information and communication through e-learning which facilitates them in learning (Peña-Ayala et al., 2014; Nurakun et al., 2018; Yakubu & Dasuki, 2018).

E-learning is defined as a course that is delivered via Internet to the learners outside the classroom where the teacher is teaching. It is also interactive that the learners will be able to communicate with the teachers in the virtual class. The applications like ZOOM and Google Meet enable the lesson to be delivered live, where the learners could interact with each other in real time. The teachers could easily grade and comment the learners' assignments or tests online to keep track on the learners' progression. E-learning would also transfer skills and knowledge to a large number of recipients at the same time which is impossible for the traditional classroom practice. The learners could easily access to the knowledge with just a click anytime and anywhere. As long as you have a stable Internet connection and usable electronic device, e-learning would not be a problem for the users.

According to Iftakhar (2016), Google Classroom as one of the online learning platforms which helps teachers to save time, enhance the interpersonal communication among students and keeps the class in control. Besides, online learning session would be fun if it could be embedded with the game-based learning tools like Quizlet, Kahoot, Plickers and Quizizz which helps the teachers in assessing the students meanwhile attract students' attention with a fun learning environment. These online game-based learning tools have been proved to improve the effectiveness of students' learning process (Chaiyo & Nokham, 2017; Charalampos, 2019; Zarzycka-Piskorz, 2016).

Method

According to Hart (1998) as stated in (Al-Emran, Mezhuayev, & Kamaludin, 2018), information from books and online were both accepted when writing a literature review. This systematic analysis has chosen articles from Eric and Google Scholar from year 2016 to 2020. The intention of the systematic literature review focused on the area of students' perceptions on the use of technology in learning English and factors influencing e-learning. The researcher applied the five phases proposed by Khan, Kunz, Kleijnen & Antes (2003) to conduct a systematic review. This method was used in original research and could help researchers to do analysis, evaluation and synthesis of complex ideas (Khan, Kunz, Kleijnen, & Antes, 2003). Figure 1. shows the phases of Systematic Literature Review:

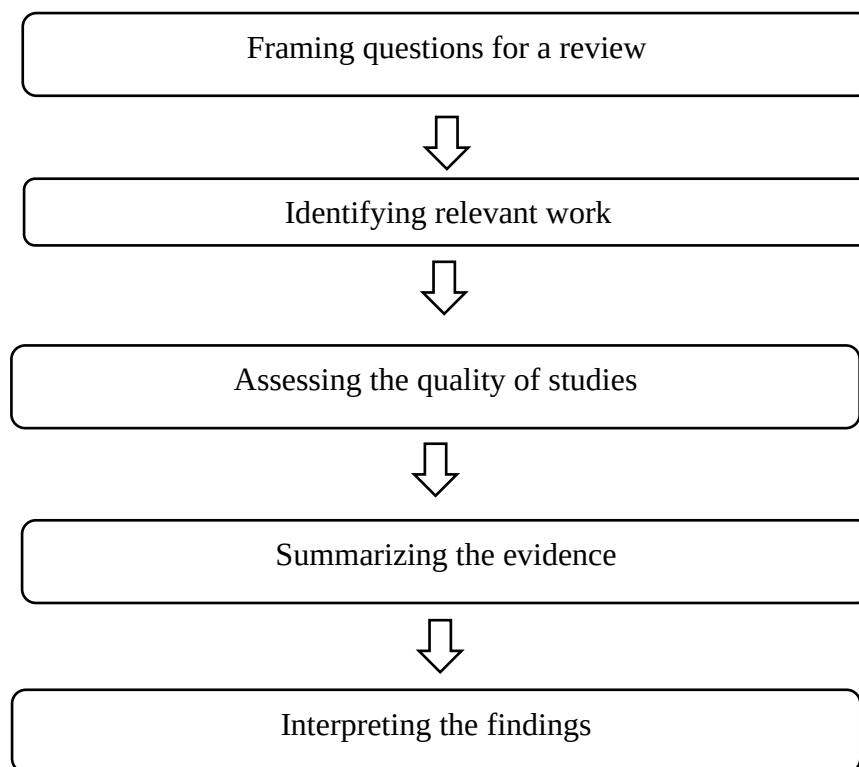


Figure 1. Phase of Systematic Literature Review

Phase 1: Framing questions for a view

New technology has expanded learning from traditional classroom to virtual space learning. Thus, this paper is going to examine the students' perceptions and the challenges on the use of technology in learning, published from 2016 to 2020. The research questions are: a) What are the students' perceptions on the use of technology in learning English? b) What are the factors influencing "e-learning"?

Phase 2: Identifying relevant work

Identifying relevant works consists of two processes for the second phase of systematic review. First, the researcher needs to collect the relevant articles based on the focused topic. Second, the articles need to fit the inclusion and exclusion criteria to be selected. The search was restrained to full-text articles and journal articles to better evaluate between sources (Baran, 2014). The databases used by researcher as comprehensive data collection method in this paper were Google Scholar and Eric. They were used to search for the articles published from 2016 to 2020. The keywords used to search the related articles were "students' perceptions on the use of technology in learning English" and "factors influencing e-learning".

Phase 3: Assessing the quality of studies

The researcher must be precise in the selection of articles to make sure the validity of this systematic review. The inclusion and exclusion criteria act as a guideline for the researchers when they are searching for the suitable articles. Table 1 below shows the inclusion and exclusion criteria:

Table 1:

Inclusion and Exclusion criteria

Inclusion criteria	Exclusion criteria
Learning English by using technology	Learning English not using technology
Research methodologies: quantitative, qualitative and mixed method	No findings could be found
Sample or respondents from various countries and levels	Sample or respondents from the same countries and levels
The studies perceive learning using technology	The studies perceive learning not using technology
Factors influencing e-learning	No challenges of e-learning
Published between 2016 till 2020	The articles were not published between 2016 till 2020

A good research protocol must include both inclusion and exclusion criteria. There are total of 6 criteria for both inclusion and exclusion criteria labelled as the important characteristics to look for the relevant articles that could answer the research questions.

Phase 4: Summarising the evidence

All of the relevant articles are found in Google Scholar and Eric database. There are total of 200 articles found in Google Scholar and Eric with the search using keywords “students' perceptions on the use of technology in learning English” and “factors influencing e-learning”. After the researcher chose and sorted the articles with 104 non-English texts (96 remained), 83 articles which were removed based on the inclusion and exclusion criteria, finally 21 articles were selected to be included in this paper.

Phase 5: Interpreting the findings

Lastly, the findings were interpreted and analysed. The data was categorised by using content analysis which are qualitative, quantitative and mixed method. A total of 21 articles on students' perceptions on the use of technology in learning English and factors influencing e-learning were selected after the selection process. Table 2 shows the analysis method used by the 21 selected articles from year 2016 to 2020. From the table, qualitative method was the least used method whereas quantitative was the most used method and followed by mixed method.

Table 2:

Numbers of Study Based on Methods

Methods: Google Scholar and Eric

Quantitative	13
Mixed method	5
Qualitative	3

Results

Twenty-one studies reported on the students' perceptions on the use of technology in learning English and factors influencing e-learning from the year 2016 to 2020 had been identified (see Table 3).

Table 3

Overview of selected studies

	Authors	Country	Primary data sources	Respondents
1	Sharma (2019)	Saudi Arabia	Questionnaire	60 Saudi EFL learners
2	Shouma (2019)	Canada	Questionnaire and Interview	45 young adult ESL learners and their 11 teachers
3	Istifci (2017)	Turkey	Questionnaire and Interview	167 students
4	Zinan& Sai (2017)	China	Questionnaire	200 students
5	Gyamfi& Sukseemuang (2017)	Thailand	Questionnaire and semi-structured focus group interview	340 EFL learners
6	Mutambik (2018)	Saudi Arabia	group interviews	16 students and 8 teachers
7	Rivera Barreto (2018)	Colombia	field diary, an online forum, a survey, and students' artifacts	16 students
8	Ngo& Eichelberger (2019)	USA	Questionnaire	928 students
9	Chou, Shen, Hsiao, Shen& Shen (2019)	Taiwan	Questionnaire	702 students
10	Nilayon& Brahmakasikara (2018)	Thailand	social media sites, self-reflection reports, observation, interview	81 students
11	Abu-Ayfah (2020)	Saudi Arabia	Questionnaire	300 students
12	Klimova& Polakova (2020)	Czechia	Questionnaire	28 students
13	Al-Azawei, Parslow& Lundqvist (2016)	Iraq	Questionnaire, semi-structured interviews, and focus groups	108 respondents
14	Naveed, Muhammad, Sanober, Qureshi& Shah (2017)	Saudi Arabia	Questionnaire	247 participants
15	Malufu, Muchemwa& Malufu (2016)	Zimbabwe	Questionnaire	65 respondents
16	Xhaferi, Bahiti& Farizi (2018)	Macedonia	Questionnaire	314 students

17	Chen& Yao (2016)	Malaysia	Questionnaire	100 students
18	Al-Juda (2017)	Saudi Arabia	Questionnaire	500 students
19	Ahmed, Hussain& Farid (2018)	Pakistan	Questionnaire	400 students
20	Taat& Francis (2020)	Malaysia	Questionnaire	230 students
21	Sriwichai (2020)	Thailand	Questionnaire and focus group interview	364 students

Students' Perceptions on the Use of Technology in Learning English

Majority of the results showed that the students' perceptions on the use of technology in learning English in the scope of learnability, usability, motivation, and willingness (Shouma, 2019).

Table 4:

Students' Perceptions on the Use of Technology in Learning English

No.	Authors	Discussion
1	Sharma (2019)	Learners used the social media for social communication, fun and educational learning which have shown a tremendous interest towards the online learning.
2	Shouma (2019)	Both students and teachers show positive view on the use of target technology across the four themes: learnability, usability, motivation, and willingness.
3	Istifci (2017)	Instant feedback and independent study technique provided by online learning were favored by most of the participants.
4	Zinan& Sai (2017)	The EFL students stated that ICT was well-integrated into the College English Course.
5	Gyamfi& Sukseemuang (2017)	The learners agreed to the usefulness of online learning program <i>Tell Me More</i> for practicing and improving their listening skills.
6	Mutambik (2018)	E-learning in studying EFL provides chances to develop speaking and listening skills of students.
7	Rivera Barreto (2018)	Students foster the language and raising interest in developing other skills by using ICT.
8	Ngo& Eichelberger (2019)	Most of the learners feel that EFL learning with ICT is good for their receptive English skills rather than that of their expressive skills.
9	Chou, Shen, Hsiao, Shen& Shen (2019)	The "perceived enjoyment" and "perceived usefulness" are positively established in the study.
10	Nilayon& Brahmakasikara (2018)	Participants believed the use of technology in improving speaking skills and confidence.
11	Abu-Ayfah (2020)	Majority of the students favor in using telegram to improve language skill especially vocabulary.

12	Klimova& Polakova (2020)	Students perceive the mobile app as facilitative for learning actions.
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Factors Influencing E-Learning

Positive reviews on the implementation of technology in learning English have reported in most of the studies. However, there are also factors that influencing E-learning. (see Table 5)

Table 5:

Factors Influencing E-Learning

No.	Authors	Discussion
1	Al-Azawei, Parslow& Lundqvist (2016)	Inadequate training programs and insufficient ICT infrastructure are the key issues distinguished by most of the participants.
2	Naveed, Muhammad, Sanobar, Qureshi& Shah (2017)	Student, Instructor, Design and Contents, System and Technological dimensions, and Institutional Management Service are the most significant factors that affect E-Learning.
3	Malufu, Muchemwa& Malufu (2016)	The lecturer's competence, lecturer's attitude towards learning and nature of the subject are the factors that hinder the adoption of e-learning.
4	Xhaferi, Bahiti& Farizi (2018)	The variables of Attitudes, Perception about ICT and ICT Competence from TAM model are identified as the factors effect on Prediction of the E-Learning.
5	Chen& Yao (2016)	The main factors that affect e-learning are perceive of usefulness and ease of use.
6	Al-Juda (2017)	Instructions, guidelines and manual at the web which related to ease of the e-learning system and easy access to lecturers are the factors that influence students' perception on e-learning.
7	Ahmed, Hussain& Farid (2018)	Challenges of e-learning in Pakistan are non-availability of specialized contents, electricity shortfall, English language competency, and dependency on teacher.
8	Taat& Francis (2020)	The technical support like Internet and broadband services are the main concern of the students.
9	Sriwichai (2020)	Factors that identified in the study are lack of skills, limited accessibility, large class size, difficulty of online interaction, Internet problem and time management of the students

Discussion

Previous studies have highlighted discussion on learners' perceptions with the use of technology in learning English and factors influencing e-learning. The result from the systematic review shows that most of the users agreed with the use of technology does help in learning English (Sharma, 2019; Istifci, 2017; Chou et al., 2019; Abu-Ayfah, 2020). E-learning provided a new platform for learners to enjoy face-to-face education anywhere and at any time which the learners can get the immediate response and enjoy their independent study (Istifci, 2017). ESL and EFL learners could be effortlessly obtain authentic visual and audio interactive materials online with native speakers to assist in their English learning.

Furthermore, the cost of physical infrastructure like classroom is spared as this learning method supported wireless learning and facilitate learning actions (Klimova & Polakova, 2020). Learning with technology is believed to enhance speaking and listening skills as well as confidence of the learners (Mutambik, 2018; Nilayon& Brahmakasikara, 2018; Gyamfi& Sukseemuang,2017) Besides, most of the users agreed that e-learning does motivate learners' interest in learning English (Sharma, 2019; Abu-Ayfah, 2020).

However, in order to find out the usefulness of e-learning, there was a research model proposed by Sun et al. (2008) to know about the causes influencing learners' satisfaction toward e-learning (Chen& Yao,2016). The major drawbacks like interactions between students in classrooms and the low-accomplishment task rate proposed that e-learning was doubtful to be the most useful teaching and learning strategy (Glazer, 2012; Reich, 2015). The most important support for online learning will be the ICT infrastructure mainly the Internet and broadband (Al-Azawei, Parslow& Lundqvist,2016; Taat& Francis,2020). Without Internet it will hinder successful application of e-learning which agreed by many lecturers (22.97%) and most of the students (62.5%) in Iraq (Al-Azawei, Parslow& Lundqvist, 2016). In addition, internal factors like attitudes, perception about ICT and ICT competence were also the factors effect on prediction of the es-Learning (Xhaferi, Bahiti& Farizi, 2018). The facilitator of the online learning should equip with skills and show positive attitudes that could nature the subject and improve e-learning (Malufu, Muchemwa& Malufu, 2016; Ahmed, Hussain& Farid, 2018). Besides, the factors like ease of the e-learning system (Al-Juda, 2017) and good institutional management service (Naveed, Muhammad, Sanober, Qureshi& Shah,2017) could also affect the learners' perception towards e-learning system.

Conclusion

Learning with technology is a learning concept that provides a virtual learning space for all the learners. There are various of options to help develop the teaching and learning methods in the classroom by using technology. In this paper, the students' perceptions on the use of technology in learning English and the factors influencing e-learning are being identified. Most of the students believed and agreed to the usefulness of online learning. They engaged in learning English with technology and have confidence to perform well in their learning. The students enjoy learning English with technology as the audio and visual support from the internet are good to help them in speaking and listening skills. Nonetheless, factors that hinder the learners from trusting the technology in learning should also be aware of. Lack of interactions between the students could hinder students from learning successfully and enthusiastically. Internet is one of the main sources for learning using technology, thus the poor internet connection might impede the process of e-learning and affect the outcomes. The role of teaching assistants is important in e-learning as they are acting like a facilitator to the students, thus they should always equip with the professional development of e-learning. Other than that, the teaching assistants could assign some online project works to the students in order to help them learn better in group discussing and brainstorming skills. Students who stay in rural area might have internet problem when they are learning online, thus the time allocation for their online project could be more flexible to lessen students' burden. In conclusion, the implementation of e-learning in teaching and learning process could help to increase the quality of education if the users take considerations on the factors influencing e-learning. This paper suggests that education authorities should revisit e-learning policies to resolve and prevent the factors that might impede the integration of e-learning.

Future studies could compare students' perceptions on the use of technology in learning English and their success rate based on the four language skills.

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