17

Inst. Dr. Reem Zaid Khalaf



## Abstract

The aims in this research indicate technology English language learning students and indicating impact of technology in learning English language. Many students and teachers have some difficulties using technology to learn English. This research is quantitative. The researcher conducted a questionnaire in universities on the subject of the research, the effectiveness of using technology in English language classes in universities. Where the questionnaire was published electronically in most Iraqi universities Faculty of Education. The sample of study contains the English language students at Iraqi Universities Faculty of Education. The purposive sample consists of (115) students selected randomly to answer the questionnaire. The researcher used one tool to collect data. This tool was a questionnaire designed to give evaluation of the problems that face Iraqi student the effectiveness of using technology in English language classes in universities. The findings of this study will answer the study's questions. Students use technology widely inside the classroom to show and talk about their problems. The majority of the students say that their teachers use their technology to define new words. The majority of the students affirm that their teachers mainly use technology to clarify complex ideas. Students like using technology in study. Students like using technology during group activities.

## **Chapter One**

## Introduction

## **1.1. Introduction**

Technology works best when it is used as a tool to help solve problems. For instance, in-person immersion is a desirable way to speed up language

training, since all activities must be completed using the English language. But it is simply not possible for most people to pick up and travel to a country that speaks the language you want. With technology, students can still benefit from immersion. Thanks to messaging and social networks from the next generation, remote students can access fluent speakers of the languages they study and deliver real language practice in conventional classrooms. Dynamic resources encourage a sense of unity and engaging learning experiences, enable students to take part in classes if they are convenient and eliminate barriers to space and time. Generally, technology-enabled learning environments promote more consistent student interaction and give students access to peers and teachers around the globe and worldwide. The analysis revealed that such technology increases student engagement and focus, as it enables students to communicate with one another in the realistic processes of language learning. The usage and positive effect in classrooms of multimedia technology on the learning process is associated with the evolving productivity of the teacher role (Shyamlee, 2012:155).

Technology provides even hundreds of resources in real time to assist students. Students can use simplified dictionaries, make flashcards, and explore the internet in the language they are learning. You can find colleagues, conversational partners and tutors online. They will find rich examples of the languages they study, not just static examples from traditional textbooks. Technology may also increase the quality of language learning in traditional environments. For instance, the learners may record themselves in the foreign language they learn and bring their feedback and reviews into the classroom. Learners can use technology during class to interact with each other via text chat instead of speaking, since it gives the learner time to focus and evaluate their performance.



Teachers can see how their students perform, by offering useful information about what kind of practice is required by learners. Teachers should adapt their teaching practices and educational approach to the needs of learners and make the whole process much more efficient and effective. For instance, a teacher who understands that all her/his students struggle to read passages that contain examples of the future tense should review them in the classroom, not waste time with examples that do not meet the group's needs. Technology can be a precious part of an overall language learning approach when it is used to address challenges creatively and/or improve language learning processes. (Altun, 2015:84)

## **1.2. Problems statement**

Many students and teachers have some difficulties using technology to learn English. Students and teachers hardly connect together, or teachers cannot motivate students as traditional learning. Therefore, they do not want to use technology in learning. (Cutter, M. 2015: 113)

# **1.3. Research question**

- 1. How does technology help English language learning students?
- 2. What is the impact of technology in learning the English language?

# 1.4. Research objective

- 1. Indicating technology for English language learning students.
- 2. Indicating impact of technology in learning English language.

# 1.5. Significance of the study

Large numbers of research papers have provided advantages from the use of technology in language learning. Technology helps educators and learners have more options for English learning. Students can use educational apps to improve their vocabulary and pronunciation. Technology gives teachers a lot of software to create more life-like lessons for students.

# **Chapter Two: Literature Review**

# 2.1. The Importance of Technology

Technology is a process, method, or knowledge used to carry out a task. On this definition, we define technology as a learning task or instructional objective using technical processes, methods, or knowledge within the context of this study. For instance, the learner can complete a speech task by describing an object's characteristics in the target language and by using a digital voice recorder to record their speech to play it to their teacher later on. Using classroom technology encourages English students to promote their success in English. In addition to the traditional methodologies, technology offers many learning opportunities. Teachers therefore have many resources and materials for their lessons. Cutter also explains the increase in engagement in technology. Students are motivated more while they are working on computers and use modern devices than they are working with textbooks (Cutter, 2015:71).

They are often less distracted and for each student the teacher can choose personal lessons according to their needs. In addition, students can use their home appliances to complement their knowledge. In the learning environment, technology has always been a major factor. It is an important part of the teacher profession that can be used to make learning easier for learners. The word "integration" is used when we speak of technology in teaching and learning. As technology is part of our daily lives, it is time to reconsider the idea of integrating technology into your curriculum and to integrate technology into teaching in order to support the learning process.



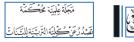
From this we can see that technology flourishes the teachers' abilities and helps them to have a wide range of opportunities in teaching students' the English language, for instance displaying videos or songs in English language related to the subject that the teacher explains will help the students to understand faster and have a better view toward the subject. The use of new-generation technology gives students a natural context for learner autonomy, context for the identity of learner, new ways of language use, and motivation for students to create new collaborative and interaction opportunities between teachers and students under these forms (Murray, 2005:41).

Technology plays an important role in promoting learners' activities and has a substantial impact on teaching methods. If teachers do not use technology in teaching, they cannot keep up with this technology. Therefore, teachers must have complete expertise in teaching language skills in these technologies. Potential technological approaches that could play an important role in teaching, especially in speaking and listening, are also provided by Nomass. He stated that English language learners can learn, including the use of web-based language learning programs, innovative presentations software, dictionaries, chat functions and emails, and computer-assisted language learning programs. The research was carried out in the case study tradition and focused on the use of technology in the school to learn the English language by a group of students. Nomass highlights the current technology issues in classrooms in his recommendations for future research and how these can be taken into account. The problems include the division in the modern classroom between theory and practice. He called for technology integration into the language learning practice at these schools and stated that educators should take these kinds of innovations into account too (Nomass, 2013:67).

## 2.2. Integrating Technology in the Classroom

Internet usage increases the motivation of students. The use of film in education helps students to understand and develop their knowledge with enthusiasm. Students can use technology in their learning processes via computer and the internet to learn effectively. It helps students develop their higher level of thinking skills when they are learning with technology. In conclusion, it is very important to draw the attention of learners to English languages, the true combination of the multimedia and teaching methodology (Arifah, 2014:96). Two different perspectives on how technology can be integrated in a classroom were described. First, with the cognitive approach, students have the opportunity to maximize their language exposure and build their own individual knowledge in a meaningful setting. The text-reconstruction software and multimedia simulation software are examples of these types of technologies. Multimedia simulation software enables learners to enter computerized micro-worlds in a meaningful audio-visual context, with a focus on language and culture. The best of these programs allows students to control and interact much so that their linguistic input can better be manipulated Secondly, the social approach underlines the social dimension of language learning, where linguistic learning is seen as a socialization process. In that context students need to be able to practice real-life skills by genuine social interactions. This can be done through authentic tasks and projects in collaboration with students (Warschauer, 2000:127).

A key element of language learning is pronunciation. However, it is difficult to provide helpful feedback. A teacher who may or may not be good at first assessing the student's statement frequently provides comments and modeling in traditional instructional contexts. Typical





Ш

-

feedback means that students should repeat the pronunciation or explain how the sound should be produced abstractly. The student can receive feedback in more efficient and efficient ways by advancing speech recognition technology (Zhoa, 2013:51). The use of technology in classrooms in English as a foreign language can provide an important and attractive approach to linguistic study. It motivates the students and makes them easier to talk, read, listen and write (Ilter, 2009:109). However, technology is not enough to teach ELLs alone. It needs a teacher with clear targets, who knows the curriculum and effective education strategies and can provide children with learning experiences to increase and encounter previous knowledge (Schwartz & Pollishuke, 2013:42). A study has demonstrated that Wiki technology improves the written skills of students. The students were invited to join a Wiki page to write passages and then read and answer their classmates' passages. Learners said that using this kind of technology would benefit the immediate feedback they received. Another discovery was that students learned vocabulary, spelling, and sentences by reading their classmates' work (Lin and Yang, 2011:26).

A study showed that using technology to improve the reading and writing skills of learners. The results of this study showed that the tools used in technology enhance the ability of learners to write and read because they are user friendly. The other results of this study were that learners learn more efficiently by using technology tools instead of traditional teaching methods because the Internet provided a conducive learning environment for learners and provided a new platform for students who can access learning lessons in a convenient way (Peregoy and Boyle, 2012:98). Technology assists students and teachers in their quick access to course materials. Technological advances have an essential role to play in preparing students for what they learn to find their way into the global

workforce in any subject. Technology facilitates learning for learners and serves as a real learning tool. This research study was carried out to provide schools with information about iPads and applications in the classroom, identify critical use of teaching and learning table technologies, and identify appropriate teacher learning opportunities. In this study, 75 iPads were acquired and distributed to three primary schools including five teachers and more than 90 students during the second semester of 2011.

This research provided important insights into the use of iPads and apps and their impact on teaching and learning in primary classrooms. Although the iPad demanded additional time from teachers, as it took a long time to evaluate educational apps and their curriculum relevance and install them on individual student appliances, researchers noted some alignment of the curriculum and apps in the iTunes App Store. 43% of the apps were actually classified as informative. Teachers believed that they had the best use of the iPads by using content creation applications because this gave students a higher level of understanding and creativity, The Sydney Region, in Australia. Another advantage noticed by teachers was increased student collaboration (Goodwin, 2012:50). The use of computers and other technological devices should be encouraged, since this can increase the motivation of students in English courses and can achieve efficient and successful goals. However, he stresses that the teacher must not believe that technology can be used as the sole motivation, and that all lessons are based on careful use of technology and strong educational considerations (Ilter, 2009:117). The use of technology in the teaching concepts has found that there has been a significant increase in the motivation of students. Before students had internet access at school, they were confined to social studies in classroom books and those which could be found in the school library. (Gustad, 2014:89).



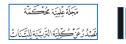
# 2.3. The Impact of Technology on Language Learning at an Early Age

Technology offers teaching resources and provides children with learning experience in the world. Technology also offers many authentic materials and young learners in a long language learning atmosphere can easily become motivated. Mart (2017:112) argues that authentic materials are good models for learners to process real language in context. Larsen-Freeman and Arifah (2014:105) mention that for language learners electronic chat, games, and pan-pals and podcasts may be interesting. In general, children are visual students. They want to see as they learn. Internet and computer-based activities provide children's worlds with visual materials. Children can improve their listening, reading, and writing abilities in the media and the Internet The real value of English is experienced by young students through emails, the web, satellite TV and cable.

Young students are energized, and it can be difficult sometimes to teach them foreign languages during their classes. Technology can provide young language learners with a genuine and enjoyable atmosphere and increase the awareness of their language when it is used correctly. Increasing awareness and understanding of language encourages learners to arrive at accurate meaningful interpretations of text (Mart, 2017:63). The technology also enables young learners who interact actively to acquire language skills outside the classroom. The fact that kids can lose their concentration in a short time. Often this period can be longer with the use of fun and authentic materials. The internet offers many authentic materials to children. The socio-cognitive approach offers the opportunity for language learners to interact in a real social context. The internet can supply socio-cognitive approach via tasks and project study. Online games can support and enhance various vocabulary fields and give positive insights in language feedback (Gee, 1996:31). Among the features that characterize the technology are the speed, high accuracy, and repetition of the lesson presented to it dozens of times in the same day, and also its great contribution to saving time and effort for the teacher. So, the repetition process helps the child a lot in memorization and comprehension of the lesson significantly. Computer-based activities offer quick information and excellent materials to language learners. (Tomlinson ,2009:17)

# 2.4. Technology Makes Learning English Language Easier

The use of technology has changed the teaching methods of English considerably. It offers so many options for the advancement of education to be interesting and productive (Patel, 2013:22). The use of multimedia text in class helps learners to learn the language structure and vocabulary. The use of multimedia also enhances learners' linguistic knowledge by using printed texts, film, and the Internet. The use of print, film and the Internet allows students to gather information and offers various materials for language analysis and interpretation as well as contexts (Arifah, 2014:57). The use of the internet enhances the motivation of learners. Using film in teaching helps students to understand and develop their knowledge with enthusiasm. Learners can learn meaningfully when technology is used through computers and the internet in the process of learning. It helps students develop their higher-quality thinking skills when they learn technology. In conclusion, it is very important for students to focus on English learning through the real combination of multimedia and teaching methodologies. The use of computer technology makes language class an active place full of meaningful tasks for students. The results of this study show that the use of technology tools enhances the ability of





.

learners to read and write because they are user-friendly. The other finding in this study was that lessons learned more effectively by using technological tools instead of traditional teaching methods as the Internet provided a favorable learning environment for learners (Peregoy and Boyle, 2012:80).

## 2.5. Previous Studies

Altun and Khurshid (2021) technology is one of the important factors of progressing the teaching/learning process in the schools and universities especially for the English language teaching. It can help the teacher to present a better lesson to students. Technology is very necessary for the field of education because there are too many things that the teachers can do such as playing videos in English language or a song, movie and even a theater show. Nowadays using technology is very common in the world; however, Kurdistan public schools do not use any technology in their classes except the private schools. The ministry of education has neglected this most important factor in this age. In the pandemic most of the countries faced problems in studying in the schools because of the lock down. Most countries seek to use the technology to finish the school year and they successfully finished their school year by using E Learning and Online Zoom even other resources to rich the learning process but in Kurdistan the schools do not use any kinds of technology and our students are not familiar with the online systems and E learning because we do not apply such valuable resources in our schools that's why in this year we have encountered a lot of problems of finishing the schools year because our students did not know how to use and access them easily.

(Hossain ,2015) across the globe, governments of different countries have recognized the importance and value of digital technologies in language

learning. This article is based on the pilot project of Save the Children using information and communication technology (ICT) in education. Through this initiative, interactive multimedia software based on the national curriculum of English Class 4 were developed and tested in selected government primary schools. The pre-intervention survey indicated that the teachers do not have the language competence to confidently facilitate English classes using the Communicative Language Teaching (CLT) approach. The results of the project showed that the use of audio-visual content has strong potential for enhancing and promoting interactive language classes. However, the success of the program depends on how the technology is designed and implemented and how the teachers are trained to use it.

Lam, Truc, (2021) this study found out about the effectiveness of using technology in learning English. However, few studies have shown the effectiveness of technology in all English skills: Speaking, listening, reading, and writing skills. Third-year students of the Foreign Language Department at Van Lang University participated in this study for two weeks. The questions revolved around learning English and using technology in learning English. The researchers collected all the responses. The goal of using technology in learning English brings a strong potential to enhance learners' language skills and promote the process of learning English quickly. After using technology in learning English, we examined the impacts of the teaching on the four skills, and this effect is expressed as a percentage (30%, 50%, 80%) based on the results obtained from the questionnaires.

## **Chapter Three: Methodology**

This study aims to investigate the effectiveness of using technology in English language classes in universities. The researcher followed the



-

descriptive and analytic statistical method in this study. This study is conducted in Iraq, Iraqi universities Faculty of Education students' Academic year 2022/2023. Recording test for the students and a questionnaire is distributed to be answered by Instructors of the English language department to write their opinions and ideas about the effectiveness of using technology in English language classes in universities. All the data were analyzed later on a statistical and descriptive basis.

## 3.1. Research design

This research is quantitative. The researcher conducted a questionnaire in universities on the subject of the research, the effectiveness of using technology in English language classes in universities. Where the questionnaire was published electronically in most Iraqi universities Faculty of Education.

## 3.2. Research instrument

The sample of study contains the English language students at Iraqi Universities Faculty of Education. The purposive sample consists of (115) students selected randomly to answer the questionnaire.

# 3.2.1. Questionnaire

The questionnaire was adopted by the researcher Altun and Khurshid (2021) and the researcher Reza (2018). It consists of two axes. The first axis is general information, which is represented by gender and university as mentioned in chapter 4, The second axis is the effectiveness of using technology in English language classes in universities.

# **3.3. Procedures**

The questionnaire was distributed to 200 male and female students in various Iraqi universities, Faculty of Education, the Department of English, and it was answered by 115 students. The number of males was 48.7%, while the number of females was 51.3%.

# **3.4. Data collection**

The researcher used one tool to collect data. This tool was a questionnaire designed to give evaluation of the problems that face Iraqi student the effectiveness of using technology in English language classes in universities.

# 3.5. Data analysis

The researcher relied on the statistics related to the results of the questionnaire to carry out the analysis. And the results were obtained through the statistics that were given by Google Form.

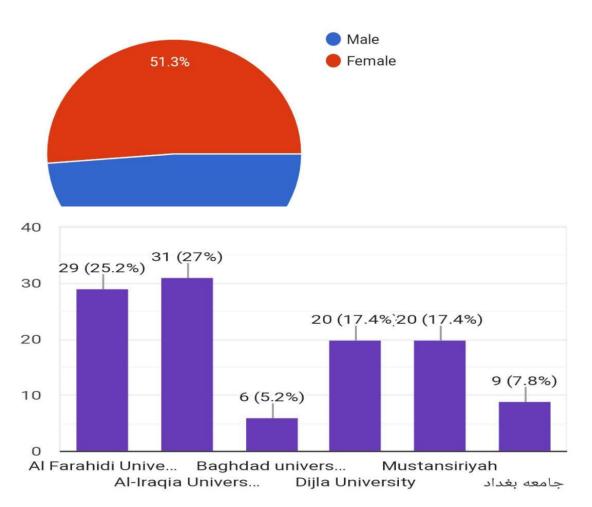
# **Chapter Four: Results**

## 4.1. Results

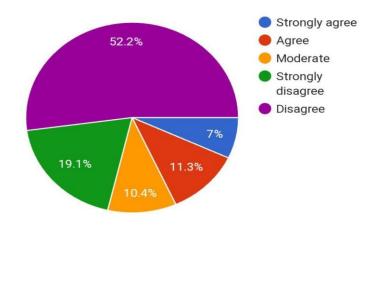
The questionnaire consists of the number of students 115 from most Iraqi universities Faculty of Education participated in this questionnaire, and the percentage of males 48.7% and the percentage of females 51.3%.

No	Gander	Participants
1	Male	48.7%
2	Female	51.3%
3	Total	100%

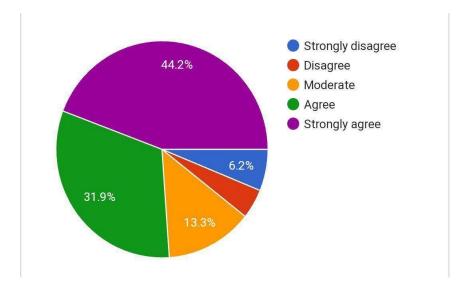




The participants in this questionnaire were from different students of the faculties of education in Iraqi universities. Al-Farahidi university 29, Al-Iraqia university 31, Baghdad university 15, Dijla university 20 and Mustansiriyah 20.

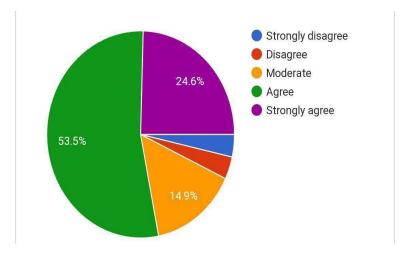


This question was answered by the participants. Point one technological devices make us addicted to technology the participants in answer this questionnaire 48.7% male and 51.3% female to achieve the behavioral objectives of the lesson so it was the highest percentage 52.2% for the variable disagree as for the variable strongly disagree it had the average percentage 19.1% as for the lowest percentage, it is 7% and it was for the share of the strongly agree variable.

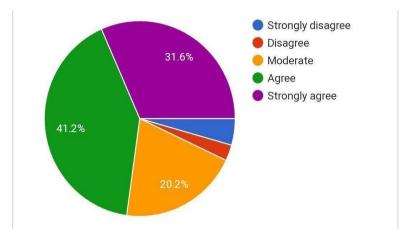


This question was answered by the participants. Point two using technology in classes is very beneficial the participants in answer this questionnaire 48.7% male and 51.3% female to achieve the behavioral objectives of the lesson so it was the highest percentage 44.2% for the variable strongly agree as for the variable agree it had the average percentage 31.9% as for the lowest percentage, it is 6.2% and it was for the share of the strongly disagree variable.





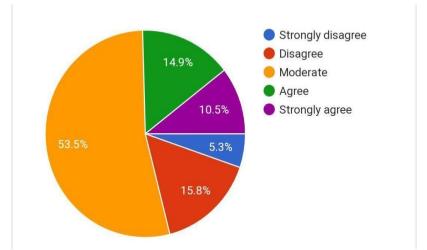
This question was answered by the participants. Point three students have chance to convey a given idea best through technology the participants in answer this questionnaire 48.7% male and 51.3% female to achieve the behavioral objectives of the lesson so it was the highest percentage 53.5% for the variable agree as for the variable strongly agree it had the average percentage 24.6% as for the lowest percentage, it is 14.9% and it was for the share of the moderate variable.



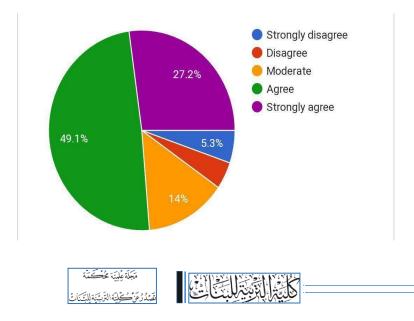
322

This question was answered by the participants. Point four developing technological materials in ELT motivates students the participants in answer this questionnaire 48.7% male and 51.7% female to achieve the behavioral objectives of the lesson so it was the highest percentage 41.7% for the variable agree as for the variable strongly agree

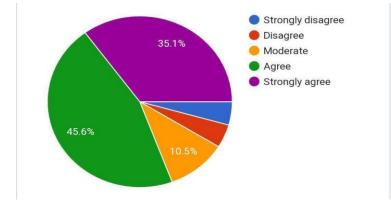
it had the average percentage 31.6% as for the lowest percentage, it is 20.2% and it was for the share of the moderate variable.



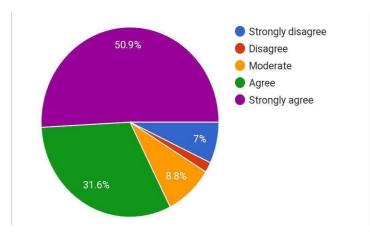
This question was answered by the participants. Point five oldfashioned way (using pen and paper, course books black boards etc.) is more useful than technology in classes the participants in answer this questionnaire 48.7% male and 51.3% female to achieve the behavioral objectives of the lesson so it was the highest percentage 53.5% for the variable moderate as for the variable disagree it had the average percentage 15.8% as for the lowest percentage, it is 8.7% and it was for the share of the strongly disagree variable.



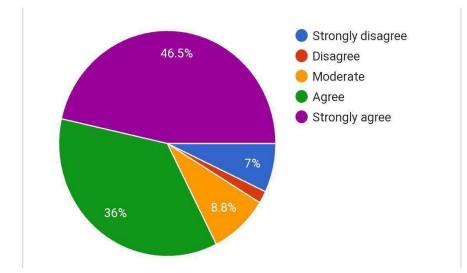
This question was answered by the participants. Point six the percentage of reading skills have been improved after using technology the participants in answer this questionnaire 48.7% male and 51.3% female to achieve the behavioral objectives of the lesson so it was the highest percentage 49.1% for the variable strongly agree as for the variable agree it had the average percentage 27.2% as for the lowest percentage, it is 5.3% and it was for the share of the strongly disagree variable.



This question was answered by the participants. Point seven using technology in learning English classroom will make it easier to understand the lesson the participants in answer this questionnaire 48.7% male and 51.3% female to achieve the behavioral objectives of the lesson so it was the highest percentage 45.6% for the variable agree as for the variable strongly agree it had the average percentage 35.1% as for the lowest percentage, it is 10.5% and it was for the share of the moderate variable.



This question was answered by the participants. Point eight using technology will increase students' enjoyment of learning English the participants in answer this questionnaire 48.7% male and 51.3% female to achieve the behavioral objectives of the lesson so it was the highest percentage 50.9% for the variable strongly agree as for the variable agree it had the average percentage 31.6% as for the lowest percentage, it is 7% and it was for the share of the strongly disagree variable.



This question was answered by the participants. Point nine listening skills have been developed after using technology in learning English the participants in answer this questionnaire 48.7% male and



51.3% female to achieve the behavioral objectives of the lesson so it was the highest percentage 46.5% for the variable strongly agree as for the variable agree it had the average percentage 36% as for the lowest percentage, it is 7% and it was for the share of the strongly disagree variable.

## 4.2. Findings

The findings of this study will answer the study's questions. Students use technology widely inside the classroom to show and talk about their problems. The majority of the students say that their teachers use their technology to define new words. The majority of the students affirm that their teachers mainly use technology to clarify complex ideas. Students like using technology in study. Students like using technology during group activities.

## Conclusion

Technology is a system created by humans that uses knowledge and organization to produce objects and techniques for the attainment of specific goals. The term 'technology' is used to refer to electromechanical systems used for language teaching delivery modes. The use of electronic tools in the classroom, both those that are integrated into Learning Management Systems and others that operate more freely on the entire Internet, is a broad topic. Students and teachers hardly connect together, or teachers cannot motivate students as traditional learning. Therefore, they do not want to use technology in learning. They are often less distracted and for each student the teacher can choose personal lessons according to

their needs. In addition, students can use their home appliances to complement their knowledge. In the learning environment, technology has always been a major factor. It is an important part of the teaching profession that can be used to make learning easier for learners. The word "integration" is used when we speak of technology in teaching and learning. Technology plays an important role in promoting learners' activities and has a substantial impact on teaching methods. If teachers do not use technology in teaching, they cannot keep up with this technology. Therefore, teachers must have complete expertise in teaching language skills in these technologies. Internet usage increases the motivation of students. The use of film in education helps students to understand and develop their knowledge with enthusiasm. Students can use technology in their learning processes via computer and the internet to learn effectively. It helps students develop their higher level of thinking skills when they are learning with technology.

## References

-Altun, M. (2015). The integration of technology into foreign language teaching. International Journal on New Trends in Education and Their Implications.

-Altun, M & Khurshid H, (2021). The Use of Technology in English Language Teaching: A Literature Review. International Journal of Social Sciences & Educational Studies. ISSN 2520-0968 (Online), ISSN 2409-1294 (Print), Vol.8, No.1.

-Arifah, A. (2014). Study on the use of technology in ELT classroom: Teachers' perspective. M.A. Thesis, Department of English and Humanities, BRAC University, Dhaka, Bangladesh.



-Cutter, M. (2015). Using technology with English language learners in the classroom. Education Masters.

-Gustad, A. R. (2014). The impact of technology tools on literacy motivation on elementary school English language learners: Podcasting in a 4th grade EAL class. International Schools Journal.

-Goodwin, K. (2012). Use of tablet technology in the classroom. South Wales, Sydney: NSW Curriculum and Learning Innovation Centre.

-Gee, J. P. (1996). Social linguistics and literacies. London: Taylor & Francis.

-Ilter, B.G. (2009). Effect of technology on motivation in EFL classrooms.
-Schwartz, S., & Pollishuke, M. (2013). Creating the dynamic classroom: A handbook for teachers (2nd ed.), Toronto, ON: Pearson.

-Lin, W., & Yang, S. (2011). Exploring students' perceptions of integrating Wiki technology and peer feedback into English writing courses. English Teaching: Practice and Critique.

-Mart, Ç. T. (2017). Literary Texts: A Means to Promote Language Proficiency of Upper-Intermediate Level EFL Students. Journal of Education in Black Sea Region.

-Murray, D. (2005). Technologies for second language literacy. Annual Review of Applied Linguistics.

-Reza, M. (2018). The Use of Technology in English Language Learning: A Literature Review. International Journal of Research in English Education.

-Nomass, B. (2013). The impact of using technology in teaching English as a second language. English Language and Literature Studies.

-Peregoy, S and Boyle, O. (2012). Reading, writing, and learning in ESL: A resource book for teachers. New York: Allyn & Bacon.

-Patel, C. (2013). Use of multimedia technology in teaching and learning communication skill: An analysis. International Journal of Advancements in Research & Technology, 2(7).

-Hossain R, (2015). The Effectiveness of Using Technology in English Language Classrooms in Government Primary Schools in Bangladesh. Volume 2 Issue 1 Information and Communication Technology (ICT) for Development - Special Issue.

-Shyamlee, S.D., & Phil, M. (2012). Use of technology in English language teaching and learning: An analysis. Proceedings of the International Conference on Language, Medias and Culture, Singapore.

-Tomlinson, B. (2009). Materials development in language teaching. Cambridge: Cambridge University Press.

-Lam, T. (2021). The Effectiveness of Using Technology in Learning English. Van Lang University, Vietnam.

-Warschauer, M. (2000). Technology and second language learning. In J. Rosenthal (Ed.), Handbook of undergraduate second language education. Mahwah, New Jersey: Lawrence Erlbaum.

-Zhao, Y. (2013). Recent developments in technology and language learning: Literature review and meta- analysis. CALICO Journal.

