TEALL: Technology-Enhanced Active Language Learning

Harwati Hashim*, **Muhamad Fizri Jamal, Izzati Esa, Karmila Rafiqah M. Rafiq**

Faculty of Education, Universiti Kebangsaan Malaysia, Selangor, Malaysia
Email: *harwati@ukm.edu.my

Abstract

It is undeniable that technologies have impacted the educational field positively, from the economy to education. Electronic devices such as computers and the Internet have helped educators ease their jobs in educating the learners. ESL learners need to trail the requirement of the global workforce in being proficient in the English language. A few gaps have been identified for other researchers to conduct further study. More empirical evidence is needed to sustain this theory and explore the unknown issues from these research cycles. Hence, this paper aims to discuss the technology used to enhance active learning in the ESL context. This review discusses teaching and learning with technology. Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) boost students' motivation by integrating audio-visual aids and games. The use of technology in language learning contributes positively to a great learning experience in active English language learning. The technology used is adaptable for students to engage in active learning at any English language proficiency level. Teachers and learners should prepare themselves with various technology learning activities for significant benefits.

Keywords

Active Learning, Computer-Assisted Language Learning (CALL),
English Language, Mobile-Assisted Language Learning (MALL),
Technology-Enhanced Language Learning (TELL)

1. Introduction

It is undeniable that technologies have impacted the educational field positively, from the economy to education. Electronic devices such as computers and the Internet have helped educators ease their jobs in educating the learners. Online

games, virtual and augmented reality, and immersive classrooms result from emerging technologies in education. The rapid technological changes of the 21st century are changing the landscape of second and foreign language (L2) teaching and learning (Zhou & Wei, 2018). They came up with relevant examples like computer-assisted language learning, data-driven technology, online and blended learning approaches.

Effective second language learning is the one that lets the learner use his language in his daily life in proportion to his needs (Nachoua, 2012). Like other educators, English teachers also prepared themselves with the knowledge in technology to apply in the teaching and learning activities. Thus, ESL teachers move from passive learning to active learning activities. Active learning has become an important subject because many researchers have argued on active learning issues. Over the past several years, active learning has received significant attention (Prince, 2004).

Reviewing the past and present research, a few gaps have been identified for other researchers to conduct further study. The first is concerning the time constraint. The time required to adapt to these activities should be considered because activity adaptation time is always needed (Tkachenok & Tumskiy, 2019). As beginners, teachers and students need ample time to familiarize themselves with the new technology and devices. They need enough practice to affect the teachers or educational institutions' time frame. Besides, there are times these electronic devices experience system glitches. At times like this, anything that has been planned will need to be restructured.

The methods chosen by the researchers also can be argued. Some of the research was conducted for the first time and with poor materials. More allocations are needed for the researchers to get better materials. Small sample size and the period in collecting the data also can affect the findings' accuracy. Activities done in a short-term and long-term period will have different implications for the users. More empirical evidence is needed to sustain this theory and explore the unknown issues from these research cycles. Hence, this paper aims to discuss the technology used to enhance active learning in the ESL context.

2. The Use of Technology in ESL Learning

The way of learning process nowadays is newer. Learning, teaching, and acquiring knowledge are more innovative than traditional notions (Parvin & Salam, 2015). Modern teachers are assigned to face challenges in this new era. Teaching and learning have continued to grow rapidly and drastically with the remarkable entry of technology. Technology creates more productive education and more interesting (Shyamlee & Phil, 2012). Teachers and students are expected to keep pace with ESL learning to tread into the world of technology.

2.1. Computer-Assisted Language Learning (CALL)

Davis (2002, as cited in Nachoua, 2012) stated that CALL is a language teaching

and learning approach where the computer assists the presentation, reinforcement, and assessment of the learning material. Egbert (2001) provides the following definition which "CALL means learners are learning the language in any context with, through and around computer technologies" (p. 4). CALL gradual development can be categorized into three distinct phrases (Pirasteh, 2014). The first phase is behaviouristic CALL, the second phase is communicative CALL, and the third phase is integrative CALL.

According to Nachoua (2012), CALL allows students to work at their level. Previous research states that CALL can be applied in ESL language learning and teaching in and out of the classroom. In ESL learning, computer and the Internet facilitate learning for students (Derakhshan et al., 2015). Students' motivation would boost with the use of CALL in teaching and learning English.

2.2. Mobile-Assisted Language Learning (MALL)

Technology moves rapidly through an overall development process. MALL is an approach to language learning that is assisted or enhanced through the mobile device. MALL involves mobile technologies, which make it different from CALL. Yaman and Ekmekci (2016) define MALL as a new dimension that emerged in the ESL language teaching and learning field. It is the subset of Mobile learning and CALL. It is convinced that language learning environment is better through mobile devices. Mobile learning provides opportunities to be utilized outside the classroom as it is easily accessible, and the general use in ESL learning becomes feasible (Yaman & Ekmekci, 2016). MALL is relevant in helping to access information, flexible of time and space, quickly adapt in personal habit, increase learners' motivation, manageable to continue in a different setting, and sustain language practice while working on daily activities (Kukulska-Hulme, 2012).

ESL learners need to trail the requirement of the global workforce in being proficient in the English language. Dudeney and Hockly (2012, cited in Oz, 2015) state that technologies integrated into ESL learning open probability for teachers and learners to get connected and educated globally. ESL learners could engage in various educational activities beyond the classroom through mobile learning. They could install plenty of educational applications to enhance their language growth, analytical skill, passion, intellectualism and creativity (Ni & Yu, 2015). Godwin-Jones affirms that mobile devices have become a trend in technology-enhanced language learning to support learning and performance (Oz, 2015).

2.3. Audio-Visual Aids

Audio-visual aids are sophisticated mechanical aids in assisting teachers in creating supplementary meaningful and exhilarating learning (Barani & Seyyedrezaie, 2017). According to Mathew and Alimat (2013, cited in Wazeema & Kareema, 2017), audio-visual aids arouse thinking and improve learners' learning environment. The purpose of audio-visual aids is to facilitate teachers so that

their lessons will be practical and exciting.

Teachers are responsible for bringing the real world into the teaching space. Modern ways to teach ESL have adapted to upsurge students' interest, knowledge and proficiency. Using audio-visual aids in integrating modern technologies into language learning will convey a more significant upshot in students' learning. Visual aids are prevailing tools in ESL learning. Students can understand and acquire various visual aids; hence, they are more attentive and interested in participating in the topic discussed (Pateşan et al., 2018). In addition, audio-visual aids are used to develop thinking skills and the four primary skills in learning a language: listening skills, speaking skills, reading skills, and writing skills. The combinations of pictures, sounds and text are beneficial in ESL learning (Wazeema & Kareema, 2017). Students received clear views of learning through audio-visual aids to make the idea permanent in their minds. Thus, students find using video material remarkable, pertinent, and somewhat encouraging in class.

2.4. Gamification

Gamification applies a game-style element where games are perceived as a learning component. Gamification integrates game elements and game thinking in activities that are not games. The features which play an essential role in gamification are users, challenges/tasks, points, levels, badges and ranking. Teachers could apply the features in pedagogy to stimulate learners to accomplish higher meaningful rendezvous ranks (Yanes & Bououd, 2019). Games are not new in the ICT world, and their use in ESL learning is somewhat remarkable to look into (Flores, 2015). Gamification is apt in various educational settings in achieving intended learning outcomes. An activity adaptation time is needed to adjust the activities in learning as time should be considered (Tkachenok & Tumskiy, 2019).

Gamification is a pleasurable and entertaining method that supports ESL learning. The games elements in gamification are used to engage ESL learners to progress toward the goal set. Students with a short attention span will benefit from the technology-assisted games in learning surroundings. That will ease the gap between students' learning and educational practice (Yanes & Bououd, 2019). The educational content that had been in ESL learning should be interactive, appealing and lavish in multimedia elements to improve students' enthusiasm and positive engagement towards their behaviour in language learning.

3. Technology-Enhanced Active Learning

Learning is a lifelong and complex process for individuals. We begin our learning as early as at the infant stage, and different people require different paces in learning. Scholars have discussed active learning for years because many believe active learning can promote maximum input mastery. Egbert (2001) agreed that the literature on conditions for language learning indicates that learning takes

place when learners are involved. It shows that learners will get minimum input in the passive learning atmosphere. Active learning happens when the learners actively participate and collaborate in the lesson. According to Er et al. (2012), active learning deals with students who engage in an activity or task that will make them think and analyze prior information being taught. Prince (2004) also relates active learning with students' engagement when he stated that active learning is generally defined as any instructional method that engages students in the learning process.

3.1. Technology Increase Students' Engagement, Participation and Attention in Learning

Technology and communication are essential in our world where we can witness new inventions are being made every day. Computer, Internet, laptop, and mobile phone are some examples of important innovations that significantly influence education. The impact of technology can be felt in every possible field. One such field is education (Raja & Nagasubramani, 2018). There is evidence to prove that technology can increase students' engagement in learning.

3.1.1. Technology Increase Students' Engagement, Participation and Attention in Learning

Students who recite scripts with a minimal interface become less productive in traditional classrooms (Agbatogun, 2014). The traditional classroom does not produce maximum constructive thinking because of less participation from the learners. Integrating technology and ICTs in the lesson makes the learning process more interactive and collaborative because more interactions happen between teachers, students, and their mates. Students apply cooperative learning in small groups and help each other (Er et al., 2012). For example, students can present their homework using PowerPoint slides or short videos. In this way, students are more involved in the activities and can absorb the input better and faster. When students give more cooperation, the lesson is more meaningful to them.

3.1.2. Students' and Teachers' Motivation

Students' motivation depends on why learners choose to learn something, how long they are willing to sustain their endeavour, and how hard they will work. Teachers are more motivated to teach because technology makes the work easier and faster. Many teachers regard computer technology as a significant part of providing a high-quality education (Ahmadi, 2018). For illustration, teachers can create exciting PowerPoint slides or find videos from the Internet to support their lessons. For students, when their teachers opt-out to more unconventional ways of teaching, they would see the class be more exciting and are more motivated to learn.

3.1.3. Unlimited Access and Learning Boundaries

Another contribution of technology that increases students' engagement in learning is when the knowledge becomes more independent and widens its boundaries. The use of technology has become an essential part of the learning

process (Ahmadi, 2018). Nowadays, students have more access to resources by using technology. They can easily find further information related to the topics that the teachers had taught previously using with the access to the Internet. Besides, learning can occur anywhere, not just in the school or the educational institute. For instance, students can use mobile phones or tablets for revision or homework while sitting in the car or dining. In addition, if students have any inquiries, they can easily communicate with teachers using technology like sending messages, e-mails or making calls to their teachers.

3.1.4. Innovative in Teaching and Learning Technique

To develop active learning strategies, teachers need to create dynamic learning conditions. Besides enjoying the class, students learn more and retain the information longer in a vibrant learning atmosphere than the traditional teaching method. Teachers can use more pictures and videos to support the learning and elevate students' comprehension of that topic. For instance, by using computers, laptops, mobile phones, and a projector to share the content in the classroom. This is consensus with Raja and Nagasubramani (2018) that using projectors and visuals to aid learning is another form of great technological use.

3.2. Active Learning

Educators in the twenty-first century constantly adopt new technologies and pedagogies (Hung, 2015). Teachers and other educators are catching up with technology to improve their teaching techniques and approaches. Teachers are being sent to courses, and educational institutions are equipped with technology-based teaching aids. This is due to the awareness that active learning can contribute many benefits, especially students' comprehension and engagement. In their research, Hassan et al. (2018) agreed that technology applied to active learning activities ensures that students understand better.

Active learning is not new in the educational field. Many scholars have argued about the importance of active learning and constructing it. Active learning is not just a buzzword: it is a technique with a long-standing presence in the education. As mentioned previously, technology can enhance active learning by increasing students' engagement, encouraging more collaboration, boosting self-motivation, lifting learning boundaries, and inspiring innovation in teaching and learning. The basic understanding of active learning is when the student can self-reflect and actively participate in their interactions with the world (Sarason & Banbury, 2004). By becoming active learners in the classroom, students can develop this trait to be habitual in facing the challenges in the real world.

4. Technology-Enhance Active Language Learning: Combining the Elements of TPACK, SAMR and Bloom's Taxonomy

The implementation of TPACK is widely related to the SAMR (Substitution,
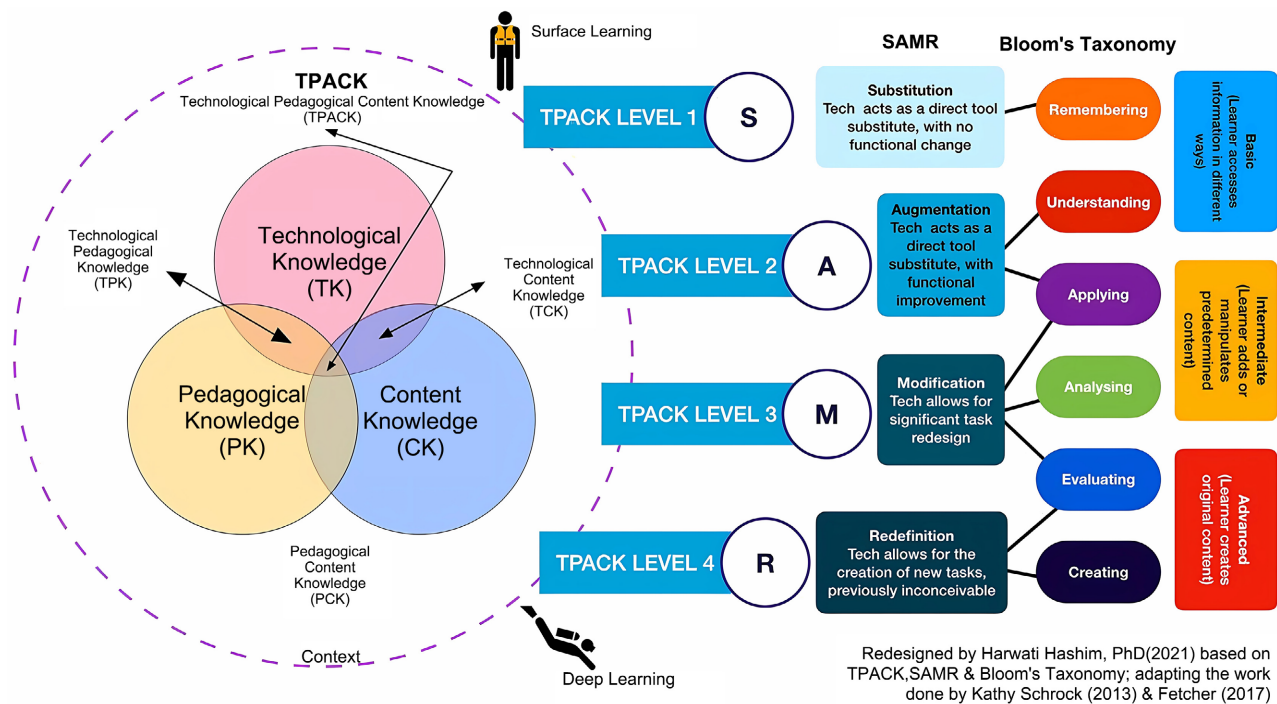
Figure 1. Combination of TPACK, SAMR and Bloom's Taxonomy.

Augmentation, Modification, and Redefinition) model. The SAMR model brings light to teachers for developing their TPACK competence in using technology effectively. Besides, this model assists teachers in assessing their TPACK competence levels and knowing how to use technology effectively in pedagogical activities. Application of SAMR is also claimed by Kirkland (2014) that SAMR tends to be more learner-centred as each level of SAMR application emphasizes. Combined, the TPACK model, SAMR model and Bloom's Taxonomy (see Figure 1) reinforce each other to provide valuable insight into where challenges emerge and opportunities exist when choosing technologies for student learning. TPACK helps to contextualise the teacher knowledge required for technology integration. SAMR assists in analysing the specific levels used for enhancement and transformation and presents an opportunity to examine the integration from both the teachers' and students' perspectives (Kihoza et al., 2016).

The classroom challenge is that learners are now digital and the fact that they are beyond technology-savvy while many teachers are digital immigrants. Teachers must be prepared to teach the content of the future. Above all, action is needed to promote technology in the classroom and to take advantage of the potential benefits that the technology could offer. Consequently, this requires a new set of competencies for teachers. It is time that the teachers, administrators, educational policy-makers, and the ministry of education to understand the taxonomies to meet the challenges of the digital age of education.

5. Conclusion

The use of technology in language learning contributes positively to a great

learning experience in active English language learning. The technology used is adaptable for students to engage in active learning at any English language proficiency level. Teachers and learners should prepare themselves with various technology learning activities for significant benefits. Teachers need to select suitable materials with clear objectives that fit learners' levels and interests in mind so that students can grasp what they are learning (Barani & Seyyedrezaie, 2017). Teachers and students also need to be given enough practice and exposure to improve issues in time constraints. Finally, researchers should use a larger sample and suitable materials to develop precise findings from the methodology perspective. It is suggested to explore issues regarding the long-term and short-term effects of technology-assisted language learning on the learners. We can get more empirical evidence to convince the educational world that technology enhances active language learning by researching this topic.

Acknowledgements

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Agbatogun, A. O. (2014). Developing Learners' Second Language Communicative Competence through Active Learning: Clickers or Communicative Approach? *International Forum of Educational Technology & Society, 17,* 257-269.

Ahmadi, D. M. R. (2018). The Use of Technology in English Language Learning: A Literature Review. *International Journal of Research in English Education, 3,* 115-125. https://doi.org/10.29252/ijree.3.2.115

Barani, G., & Seyyedrezaie, S. H. (2017). Language Learning and Vocabulary: A Review. *Journal of Humanities Insights, 1,* 141-144.

Derakhshan, A., Salehi, D., & Rahimzadeh, M. (2015). Computer-Assisted Language Learning (Call): Pedagogical Pros and Cons. *International Journal of English Language and Literature Studies, 4,* 111-120. https://doi.org/10.18488/journal.23/2015.4.3/23.3.111.120

Egbert, J. (2001). Active Learning through Computer-enhanced Activities. *Teaching English with Technology, 1,* 2-7.

Er, M., Altunay, U., & Yurdabakan, I. (2012). The Effects of Active Learning on Foreign Language Self-Concept and Reading Comprehension Achievement. *International Journal on New Trends in Education and Their Implications, 3,* 43-58.

Flores, J. F. F. (2015). Using Gamification to Enhance Second Language Learning. *Digital Education Review, No. 27,* 32-54.

Hassan, N. F. B., Puteh, S. B., & Muhamad Sanusi, A. B. (2018). Elements of Technology Enabled/Enhanced Active Learning (TEAL) to Enhance Quality and Employability of Bachelor's Students. *MATEC Web of Conferences, 150,* Article ID: 05005.

https://doi.org/10.1051/matecconf/201815005005

Hung, H.-T. (2015). Flipping the Classroom for English Language Learners to Foster Active Learning. *Computer Assisted Language Learning, 28,* 81-96.
https://doi.org/10.1080/09588221.2014.967701

Kihoza, P., Zlotnikova, I., Bada, J., & Kalegele, K. (2016). Classroom ICT Integration in Tanzania: Opportunities and Challenges from the Perspectives of TPACK and SAMR Models. *International Journal of Education and Development using ICT, 12.*

Kirkland, A. B. (2014). Models for Technology Integration in the Learning Commons. *School Libraries in Canada 32,* 14-18.

Kukulska-Hulme, A. (2012). Mobile-Assisted Language Learning. In C. A. Chapelle (Ed.), *The Encyclopedia of Applied Linguistics.* Blackwell Publishing Ltd.
https://doi.org/10.1002/9781405198431.wbeal0768

Nachoua, H. (2012). Computer-Assisted Language Learning for Improving Students' Listening Skill. *Procedia—Social and Behavioral Sciences, 69,* 1150-1159.
https://doi.org/10.1016/j.sbspro.2012.12.045

Ni, Q., & Yu, Y. (2015). Research on Educational Mobile Games and the Effect It Has on the Cognitive Development of Preschool Children. In *2015 Third International Conference on Digital Information, Networking, and Wireless Communications (DINWC)* (pp. 165-169). IEEE. https://doi.org/10.1109/DINWC.2015.7054236

Oz, H. (2015). An Investigation of Preservice English Teachers' Perceptions of Mobile Assisted Language Learning. *English Language Teaching, 8,* 22-34.
https://doi.org/10.5539/elt.v8n2p22

Parvin, R. H., & Salam, S. F. (2015). The Effectiveness of Using Technology in English Language Classrooms in Government Primary Schools in Bangladesh. *FIRE—Forum for International Research in Education, 2,* 47-59.
https://doi.org/10.18275/fire201502011049

Pateşan, M., Balagiu, A., & Alibec, C. (2018). Visual Aids in Language Education. *International Conference Knowledge-Based Organization, 24,* 356-361.
https://doi.org/10.1515/kbo-2018-0115

Pirasteh, P. (2014). The Effectiveness of Computer-Assisted Language Learning (CALL) on Learning Grammar by Iranian EFL Learners. *Procedia—Social and Behavioral Sciences, 98,* 1422-1427. https://doi.org/10.1016/j.sbspro.2014.03.561

Prince, M. (2004). Does Active Learning Work? A Review of the Research. *Journal of Engineering Education, 93,* 223-231. https://doi.org/10.1002/j.2168-9830.2004.tb00809.x

Raja, R., & Nagasubramani, P. C. (2018). Impact of Modern Technology in Education. *Journal of Applied and Advanced Research, 3,* S33-S35.
https://doi.org/10.21839/jaar.2018.v3iS1.165

Sarason, Y., & Banbury, C. (2004). Active Learning Facilitated by Using a Game-Show Format or Who Doesn't Want to Be a Millionaire? *Journal of Management Education, 28,* 509-518. https://doi.org/10.1177/1052562903260808

Shyamlee, S. D., & Phil, M. (2012). Use of Technology in English Language Teaching and Learning: An Analysis. In *International Conference on Language, Medias and Culture* (pp. 150-156).

Tkachenok, K., & Tumskiy, S. (2019). Technology Enhanced Language Learning: Trends and Issues. In *ICERI2019 Proceedings* (pp. 8284-8288).
https://doi.org/10.21125/iceri.2019.1970

Wazeema, T. M. F., & Kareema, M. I. F. (2017). Implication of Multimedia Audio-Visual

Aids in the English Language Classroom. In *Proceedings of 7th International Symposium* (pp. 433-442). SEUSL.

Yaman, I., & Ekmekci, E. (2016). A Shift from CALL to MALL? *Participatory Educational Research (PER), Special Issue 2016-IV,* 25-32.

Yanes, N., & Bououd, I. (2019). Using Gamification and Serious Games for English Language Learning. In *2019 International Conference on Computer and Information Sciences (ICCIS)* (pp. 1-6). IEEE. https://doi.org/10.1109/ICCISci.2019.8716451

Zhou, Y., & Wei, M. (2018). Strategies in Technology-Enhanced Language Learning. *Studies in Second Language Learning and Teaching, 8,* 471-495. https://doi.org/10.14746/ssllt.2018.8.2.13