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EFFECTIVENESS OF TOOL KIT USING DIGITAL TECHNOLOGY ENHANCED LEARNING APPROACHES (TELA) IN TEACHING SCIENCE SIX

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ABSTRACT

This study was conducted to determine the effectiveness of the Digital Technology Enhanced Learning Approaches (TELA) Toolkit in teaching Science six during the school year 2020-2021. The study included 10 Grade VI pupils. There were two instruments developed namely the pretest and posttest and the Digital TELA toolkit. Specifically, a pre-experimental design was used to determine the effect of the instructional materials. The study revealed that there was a significant difference between the pretest and posttest of Grade VI pupils. The posttest score of Grade VI pupils in Science was higher than the pretest score. It was concluded that there was a significant difference between the pretest and posttest of Grade VI pupils. This implies that the use of the Digital Technology Enhanced Learning Approaches (TELA) Toolkit was effective in teaching Science in Grade VI pupils. Teachers are encouraged to employ TELA materials as an approach to teaching science. In addition, the Digital Technology Enhanced Learning Approaches (TELA) Toolkit as a tool for instruction should be used for meaningful learning experiences. The researcher highly recommended that it should be used in delivering the lessons, especially during virtual classroom interactions.

KEYWORDS: ***EFfectiveness, toolkit, digital TELA, science six, Philippines***

INTRODUCTION

As information and communication technologies or ICTs become more intertwined into everyone's life, they have changed. It provides people with numerous options by making all activities more feasible, and it has now become an essential component of the majority of organizations and businesses. Technology is no longer merely innovative or original; it has become a requirement. Technology plays a significant part in the educational system in today's digital economy as it has become the best gear to teach 21st-century learners—the teaching-learning process aided by ICT to facilitate 21st-century learning. COVID-19 is putting our ICT integration readiness to the test. In the absence of face-to-face classes, the best way to deliver education is through information and communication technology, including online, radio-based, modular learning, and many other options.

Despite these capabilities, there are still concerns and challenges with the use of ICT in education. Even though ICT integration in education is not a new idea or theory, Acosta (2016) claimed in her study that it is still so much below expectation in a developing country just like the Philippines in terms of implementation, application, and practice. She went on to say that the complete deployment and use of ICT in education in the Philippines is fraught with difficulties. One of the biggest concerns is the government's inability, notably the lack of consistency in the policies they make in the area of ICT. Teacher and student roles as primary users of ICT resources and raising awareness of the importance of ICT should all be addressed. To ensure this paradigm change's long-term viability and encouragement, they must become more literate in ICT use.

The utilization of ICT in teaching and learning is not new, and it has been widely deployed in the past, but as a result of COVID-19's incapacity to meet face-to-face, it has intensified and become vital. Because of the pandemic-associated closures of colleges, schools, and universities, there are multiplied strains to embody digital academics and online training. Many changes were made, and various instructional approaches, including digital instruction, were utilized. During a pandemic, educational methods and styles change to fit the needs of students. Online platforms such as Google Meetings, Zoom Meetings, and Voov Meetings are currently being used to deliver education. Teachers are attempting to address this educational gap in any way they can. Teachers use various methods to communicate with and educate students despite the

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pandemic. Many online forms are used, including Google Classrooms, Web 2.0 tools like Facebook and Padlet, online applications, etc. (Rehman, Zhang, & Iqbal,2021).

Many schools have maximized the use of Technology Enhanced Learning Approaches (TELA) before the rise of COVID-19. Many researchers have found that Technology Enhanced Learning Approaches (TELA) are effectively used in face-to-face learning. Balunto Elementary School in the Romana C. Acharon District of General Santos City employs TELA in the face-to-face teaching and learning process. It is compelling and exciting for both teachers and students, as it raises their scores on science quizzes and encourages learners' participation in the lesson. Cervenaska (2013) asserts that technological advancements have significantly impacted people's lives, including education. As a result of this rapid change, traditional teaching methods began to adapt to new technologies. The utilization of technology in the form of Technology-Enhanced Learning (TEL) helps to improve education and is now widely used. Because of ICT's global impact, the educational institution promotes 21st-century learning (Schweighhofer, 2015; Young et al., 2017).

Because of the COVID-19 epidemic, education is shifting from face-to-face to digital learning to prevent physical contact, which aids in viral transmission. With the pandemic causing a dramatic shift in education, the researcher was curious about the efficacy of digital technology-enhanced learning approaches in teaching Science six when implemented online.

Theoretical Framework

This research was based on the cognitive theory of multimedia learning, which states that learners attempt to build meaningful connections between words and visuals to learn more deeply than they could with only words or pictures (Mayers, 2009). This learning theory is vital in today's generation, where learners are becoming more advanced due to technological advancements. Learners are drawn to instructional multimedia elements in today's video-driven society. The text should be close to visuals and given breathing room, according to Rudolph (2017). The use of symbols and highlights aids the learner in recognizing essential topics. Almasseri and AlHojailan (2019) support the premise of the cognitive theory of multimedia learning that learners with limited prior Information would benefit more from its principles than learners with extensive prior knowledge. Learning becomes more relevant with the use of ICT since it helps instructors and learners to explore diverse uses of technology and, as a result, increase the learner's cognitive ability.

Conceptual Framework

Figure 1 illustrates the study's conceptual framework, which depicts the relationship between the pre-test (before treatment) and post-test (after treatment) when the Digital TELA toolkit is used. Moreover, this connects to the academic performance in the Science of the Grade six pupils of Balunto Elementary school. When the difference occurs after the treatment, the Tool Kit is adequate. The scores of the subjects in science have improved based on the post-test result.

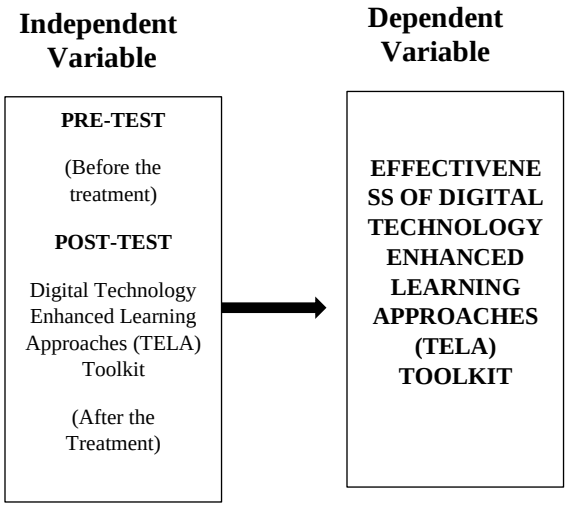

Figure 1: Conceptual Framework

Statement of the Problem

1.What is the pre-test score of the subjects?
2.What is the post-test score of the subjects?
3.Is there a significant difference between the mean gain scores (pre-test and post-test) of the subjects after the treatment?

METHOD

This study uses a pre-experimental design in the form of a one-group Pre-test-Post-test design using a quantitative approach. In the Pre-test and Post-test groups, the observation does two times, before giving treatment called Pre-test and after giving treatment called Post-test.

This study is classified as an experimental design because it is little or no control over the extraneous variable. The researcher uses the one-group pretest-posttest method usually involves three steps: (1) administering a pre-test measuring the dependent variable; (2) applying the experimental treatment X to the subjects; (3) administering a post-test, again measuring the dependent variable. By comparing the pre-test and post-test results, differences due in the application of the experimental therapy are examined.

This research was conducted at Balunto Elementary School, part of the Romana C. Acharon District of the General Santos City Division. The research subjects were the Grade VI pupils enrolled at Balunto Elementary School from 2020 to 2021. Pupils here are homogeneous whose grade in science for the

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second quarter is from 85 and above and who are under modular printed modality.

A survey questionnaire is a tool utilized to collect the necessary data that comprises a 50-item test that serves as a pre-test. In the fourth quarter, these items were generated using the Grade Six Science Most Essential Learning Competencies (MELCs). The questions were prepared and adapted by the researcher from Grade 6 Science Textbooks. The same items were used in the post-test activities after the treatment, but they were jumbled. Choices for each item were mixed up to see if the responders had improved and to avoid memorizing the answers. Experts thoroughly validated the instrument in question.

The researcher developed a digital toolkit, and lessons were designed based on the Essential Learning Competencies (MELCs) of Grade Six Science in the fourth quarter. He produced eight lesson plans that utilize the 5E (Engage, Explore, Explain, Elaborate and Evaluate) teaching and learning model that supports active and constructivist learning. The researcher then creates a PowerPoint presentation using Technology Enhanced Learning Approaches like interactive PowerPoint, Quizizz, Kahoot, and YouTube video presentations. After finalizing the lesson plan, the researcher created an interactive PowerPoint Presentation of each lesson. The assessment was conducted using Kahoot and Quizizz.com.

The One hundred (100) item test was a pilot test for validity and reliability. Test construction was done with the help of the Grade VI science teachers. It was scrutinized and checked by the expert validators before it was administered to the 45 pupils from a different section of the Grade VI class of Balunto Elementary School. After the pupils answered the instrument, it was immediately retrieved from the pupils to analyze the reliability of each item. To do it, the proponent utilized the Internal-Consistency Method. Using this method, one could determine if the examinee passed or failed in an item. A (1) was assigned for a pass and (0) for a failure.

The instrument was submitted to be validated by experts by the researcher. Comments and recommendations were taken into account when creating the questionnaire. Test of validity and reliability, including item analysis, was conducted. To invalidate the Digital Toolkit, the researcher used the evaluation tool for the Learning Resources (LR) of the Division of General Santos City as per Division Memorandum CID No. 352, s.2020, which experts used in validating the toolkit. The toolkit was presented at the agreed-upon time of the validators and researcher. When developing the toolkit, comments and recommendations from the presentation were considered. Validators were also given a soft copy of the tool to review and thoroughly check the toolkit developed by the researcher.

After determining that the instrument was valid and reliable, the researcher administered the questionnaire to the Grade 6 pupils to ensure that 100% of the data would be retrieved immediately, as agreed upon during the instrument distribution.
The pre-test in science (before the treatment) was conducted in March 2021 to the ten pupils in Grade 6. Since face-to-face is not possible for the Pretest, printed test questions were given to the ten respondents and were given one day to accomplish and return to the school. Right after conducting the pre-test, the experiment immediately commenced.

The researcher employed various Technology Enhanced Learning Approaches (TELA) in teaching science. The respondents were not informed that they were taking part in a teaching science study with TELA. Google meet portal was utilized to conduct the online class every Wednesday from 9:00-9:50 in the morning using the TELA Toolkit validated by the experts. A month after discussing the different lessons for the fourth grading in science employing the different Technology Enhanced Learning Approaches (TELA), in May 2021, the same instrument was administered for the post-test activity. Quizizz.com was used to conduct the post-test.

Appropriate tools were used to analyze and interpret the gathered data. During the item analysis, the proponent decided to keep the items that passed the indexes of difficulty and discrimination, as shown on page 29. Other items that were marked revise or improve were carried out. The 100-item test underwent face validation. It was validated by three (3) experts who have been vertically inclined in science. The instrument was validated using the following criteria: 1.) clarity of direction and indicators, 2.) presentation and organization, 3.) suitability of indicators, 4.) adequacy of indicators per category, 5.) congruency to the purpose, 6.) impartiality of the researcher, and, 7.) appropriateness of the options and evaluation rating system. Through their expertise, revisions and improvements were made. The instrument would obtain an overall mean that must be good or very good. Then after that, the researcher would know if the test was valid and reliable.
Out of the 100-item Test in Science that underwent validation and piloting, the researcher came up with an official 50-item Test used in the pre-test and post-test activities for his experimental research design.

Problem numbers one and two were treated using frequency counts. Problem number three was treated using a Wilcoxon Signed Rank Test. The Wilcoxon Rank-Sum Test is used when the sample size is small and frequently quite narrowly restricted, for example, within [0,10] (ChlaB et al. 2006). It is the appropriate test of the difference between two groups if the distribution is abnormal. The means of the two independent groups are compared.

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RESULTS AND DISCUSSION

Table 3 below presents the pre-test score of the Grade VI-Apelinga Pupils in Science before the Digital Technology Enhanced Learning Approaches Toolkit was introduced and Taught.

Of the ten respondents, nobody got a very high score, 3 or 30% got a high score, 4 or 40% got a moderately high score, 3 or 30% got a low score, and 0 for a very low score. The mean score of 25.2 revealed that the pre-test scores of grade 6 pupils before giving the treatment were moderately high. Table 3 below shows the detailed Information on the pupils' pre-test scores.

Table 3
Frequency Count and Percentage Distribution of the Pre-Test Score of Grade VI-Apelinga in Science VI.

Score	F	%	Description
41-50	0	0	Very High
31-40	3	30	High
21-30	4	40	Moderately High
11-20	3	30	Low
1-10	0	0	Very Low
Total	10	100	
Average Score		25.2	Moderately High

Table 4 presents the post-test score of Grade VI- Apelinga students in science after using the Digital Technology Enhanced Learning Approaches Toolkit in teaching the subject.

It can be noted that the progress is evident. Of the ten respondents, 1 or 10% got a very high score, 8 or 80% got a high score, 1 or 10% got a moderately high score, and 0 for a low and very low score. The mean score of 36.5 showed that the post-test score of the pupils after teaching using the toolkit was high. An improvement of a mean score equal to 11.3 is noticeable.

The result was supported by Mayers (2009) that learners try to make meaningful connections between words and visuals to learn more profoundly than they could with only words or pictures. Teachers are encouraged to continuously use the Technology Enhanced Learning Approaches to improve teaching and learning. This platform promotes interactive learning, increasing learning activity and retaining knowledge over long periods (Chuang, 2015).

The review of the literature revealed that Information and Communication Technologies (ICTs) are the tools that gear people to communicate, generate, distribute, collect, and administer Information. It's a "complex system of technological instruments and resources for communicating, generating, disseminating, storing, and managing data." As information society is rapidly growing, technology effortlessly infuses the community and individual's life; ICT will continue to reshape our community in a manner expected to be beyond man's imagination. Technology provides a promising direction for the educational process because it allows self-education and development. With technology, we develop the ability to work with Information independently to find, interpret, translate, and finally synthesize new knowledge based on available data (Abdullayev, 2020; Adeyinka & Aluko, 2018; Alkamel & Chouthaiwale, 2018; Skryabin et al.,2015; Shaikh, 2019; ZTE, 2014).

Playing activities provide various benefits to children in addition to providing enjoyment. Play activities can encourage a variety of potential intelligence in children, including physical abilities, verbal, social, emotional, math, art, and so on. Any adult in charge of early childhood education, whether parents or educators, should be aware of the role of play in stimulating all elements of early childhood development (Hazizah, 2017). Incorporating space into learning aids a child's development. Gamification or game-based learning provides learners with a gaming nature that is fun and interactive, allowing learners to be fully involved in the learning cycle. Due to its 'play nature,' game-based learning also captures learners' full attention and promotes knowledge retention (Tan Ai Lin, Ganapathy, & Kaur, 2018).

Table 4
Frequency Count and Percentage Distribution of the Post-Test Score of Grade VI-Apelinga in Science VI.

Score	F	%	Description
41-50	1	10	Very High
31-40	8	80	High
21-30	1	10	Moderately High
11-20	0	0	Low
1-10	0	0	Very Low
Total	10	100	
Average Score		36.5	High

The U-computed value of the Respondents for the Significant Difference between Pre-test and Post-test Mean Gain Scores

As in Table 5, it can be gleaned that the U1 computed value of 8.5 is less than the U tabular value of 10 at 0.05 level significance with n1= 10 and n2=10 degrees of freedom. It implies a significant difference between the pre-test and post-test after the treatment. It indicates that the techniques and strategies employed by the teacher in using technology-enhanced learning approaches in teaching science 6 played a vital role in obtaining a positive result. There was an

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improvement in the academic performance of Grade 6 pupils in science.

Research about the effect of using e-learning tools online and student performance also supports this result. The findings have contributed to the growing body of knowledge and support the teaching activities, resulting in more meaningful learning experiences to improve learning outcomes and student performance (Galy, Downey, and Johnson, 2012).
In the twenty-first century, the learning cycle necessitates creativity. With the availability of a wide range of information and communication technology, the challenge is to figure out how to use it to reinforce learning. Educators are challenged to use it while keeping the learners' motivation and needs in mind. In a study on the use of Kahoot! At a Malaysian public university, a game-based learning platform, during their weekly lectures for one semester with 51 respondents, the results provide significant insights into the efficacy of using Kahoot! Adult learners in higher education. Kahoot! It offers numerous benefits and allows educators to be creative while motivating students to enjoy and continue to learn. Game-based learning provides an escape from the mundane and traditional instruction (Tan Ai Lin, Ganapathy, & Kaur, 2018).

Gamification isn't a brand-new idea. As technology moves forward, more learning opportunities emerge, such as learning games that trigger effective player engagement and persistence and motivation to win/learn. There is strong evidence that shows the relationship between game-playing and increased motivation. Many studies have had very positive results. They are using game-based learning tools like Kahoot! It allows students to self-evaluate their learning process, making them more active and experienced and better demonstrating what they have learned. According to Zarzycka-Piskorz (2016), gamified education is based on motivation, particularly internal motivation, which stimulates an individual's engagement. Because people enjoy (or experience pleasure) while learning, game-based learning approaches boost learners' interest in the subject matter, and so they are more engaged and concentrated in the subject (Curto et al., 2019; Dehghanzadeh et al., 2021; Wang et al., 2020; Zarzycka-Piskorz, 2016)

Furthermore, ICT in Science can make learning active by involving students in tackling the topic to produce meaningful and understandable Information (Chakravarty,2017). This finding is supported by a study that found that selecting teaching materials positively impacted students' achievement (Eaton et al., 2017).

Table 5
Significant Difference between Pre-test and Post-test Mean Gain Scores

Variables	df	U-value		Decision at a 0.05 level of Significance	Remarks
		Computed	Tabular		
Pre-test Score Versus Post-test Score	1.5	8.5	10	Reject Ho	With significant difference

The study found that using TEL with explicit instructional goals and an intervention coordinated, led, and structured by a mediator makes a difference in learning results. Fun learning occurs due to these factors because TEL allows for experiential learning, personalization, collaboration, information sharing, common interests, active participation, cooperative learning, and group work support. (Cox & Abbot, 2004; Pilkington, 2008; Trucano, 2005) cited by Rodríguez, P., Nussbaum, M., & Dombrovskaia, 2012, Vygotsky, 1978) .

Technology Enhance learning (TEL), three areas must be understood to make TEL: Social, Technological, and Methodological. In improving the standard of pupils, social events are very beneficial. Programs and projects advocating e-learning would increase the active involvement of learners and influence other learners. Methodological: Imagination encourages learners to try out new ideas in the spirit of "learning to learn" to improve self-study skills and prepare for new techniques and technological advances when old ones become obsolete (Udjaja et al., 2018).In a study involving a treatment group and a control group, researchers discovered that the treatment group using TEL had statistically significantly better learning performance results than the

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control group. Despite a minor advantage for the treatment group, the difference in arithmetic fluency was not statistically significant. The difference in fluency test errors, on the other hand, was statistically significant in favor of the treatment group. It has been discovered that it has the potential to improve student's learning achievements, motivations, and interests. (Kurvinen et al., 2020; Hwang & Wu, 2014)

CONCLUSIONS

In the light of the findings and the discussions presented in the previous chapter, this study concluded that:

1. Digital Technology Enhanced Learning Approaches Toolkit was effective in teaching Science 6.
2. The pupils' performance in Science 6 was improved after the use of Digital Technology Enhanced Learning Approaches Toolkit as a tool in teaching Science 6.
3. There was a significant difference in the mean gain score of the pupils in the pre-test and post-test after treating the subjects of this experimental research.

RECOMMENDATIONS

In light of the conclusions, the following are the recommendations of the study:

1. Teachers are encouraged to employ Digital Technology Enhanced Learning Approaches to teach science.
2. The Digital Technology Enhanced Learning Approaches as a tool for instruction should be used for meaningful learning experiences. It suggested that it should be used in delivering the lessons and during virtual classroom interactions.
3. Stakeholders and other community linkages should be encouraged to support the school and pupils for easy and effective delivery of instruction.

REFERENCES

1. *Abdullayev, A. A. (2020). System of information and communication technologies in the education. Science and world International scientific journal, 2, 19-21.*
2. *Acosta, M. (2016). Paradigm shift in open education and e-learning resources as teaching and learning in the Philippines. Jurnal Ilmiah Peuradeun, 4(2), 161- 172*
3. *Adeyinka, F., & Aluko, Y. (2018). Information and Communication Technologies*
4. *(ICTs), Empowerment and Gender Equity. Gender and Development in Nigeria: One Hundred Years of Nationhood, 161.*
5. *Alkamel, M. A. A., & Chouthaiwale, S. S. (2018). The use of ICT tools in English*
6. *language teaching and learning: A literature review. Veda's Journal of English Language and Literature, 5(2), 29-33.*
7. *Almasseri, M., & AlHojailan, M. I. (2019). How flipped learning based on the cognitive theory of multimedia learning affects students' academic achievements. Journal of Computer Assisted Learning, 35(6), 769-781.*
8. *Cervenanská, M. (2013). Need and importance of technology in education. Technologia Vzdelavania, 21(1), 1.*
9. *Chakravarty, R. T. (2017). A Survey on the Usage of ICT in Pedagogy of Science.*
10. *Chuang, Y. T. (2015). SSCLS: A smartphone-supported collaborative learning system. Telematics and Informatics, 32(3), 463-474.*
11. *Curto Prieto, M., Orcos Palma, L., Blázquez Tobías, P. J., & León, F. J. M. (2019). Student assessment of the use of Kahoot in the learning process of science and mathematics. Education Sciences, 9(1), 55.*
12. *Dehghanzadeh, H., Fardanesh, H., Hatami, J., Talaee, E., & Noroozi, O. (2021). Using gamification to support learning English as a second language: a systematic review. Computer Assisted Language Learning, 34(7), 934-957.*
13. *Eaton, S. E., Brown, B., Schroeder, M., Lock, J., & Jacobsen, M. (2017). Signature pedagogies for e-learning in higher education and beyond. ERIC Clearinghouse.*
14. *Galy, E., Downey, C., & Johnson, J. (2011). The effect of using e-learning tools in online and campus-based classrooms on student performance. Journal of Information Technology Education: Research, 10(1), 209-230.*
15. *Hazizah, N. (2017, December). The Importance of Playing for Developing Intelligence in Early Childhood.*
16. *Hwang, G. J., & Wu, P. H. (2014).*
17. *Applications, impacts and trends of mobile technology-enhanced learning: a review of 2008–2012 publications in selected SSCI journals. International Journal of Mobile Learning and Organisation, 8(2), 83-95.*
18. *Kurvinen, E., Kaila, E., Laakso, M. J., & Salakoski, T. (2020). Long term effects on technology enhanced learning: The use of weekly digital lessons in mathematics. Informatics in Education.*
19. *Mayer, R. E. (2009). Multimedia learning (2nd ed). New York: Cambridge University Press.*
20. *Rehman, N., Zhang, W., & Iqbal, M. (2021). The use of technology for online classes during the global pandemic: Challenges encountered by the schoolteachers in Pakistan. Liberal Arts and Social Sciences International Journal (LASSIJ), 5(2), 193-208.*
21. *Rodríguez, P., Nussbaum, M., & Dombrovskaia, L. (2012). ICT for education: a conceptual framework for the sustainable adoption of technology-enhanced learning environments in schools. Technology, Pedagogy, and Education, 21(3), 291-315. Routledge.*
22. *Rudolph, M. (2017). Cognitive theory of multimedia learning. Journal of Online Higher Education, 1(2).*
23. *Schweighofer, P., & Ebner, M. (2015). Aspects to be considered when implementing technology-enhanced learning approaches: A literature review. Future Internet, 7(1), 26-49.*

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24. *Shaikh, M. A. (2019). Use of ICT in Teaching and Learning Process of Language and Social Science. RESEARCH JOURNEY, 93.*
25. *Skryabin, M., Zhang, J., Liu, L., & Zhang,*
26. *D. (2015). How the ICT development level and usage*
27. *influence student achievement in reading, mathematics, and science. Computers & Education, 85, 49-58*
28. *Tan Ai Lin, D., Ganapathy, M., & Kaur, M. (2018). Kahoot! It: Gamification in higher education. Pertanika Journal of Social Sciences & Humanities, 26(1).*
29. *Udjaja, Y., Indrianti, Y., Rashwan, O. A., & Widhoyoko, S. A. (2018, October). Designing website e-learning based on the integration of technology enhances learning and human-computer interaction. In 2018 2nd International conference on informatics and computational sciences (ICICoS) (pp. 206-212). IEEE.*
30. *Young, S., & Nichols, H. (2017). A reflexive evaluation of technology-enhanced learning. Research in Learning Technology: the Journal of the Association for Learning Technology/ALT-J.*
31. *Zarzycka-Piskorz, E. (2016). Kahoot it or not? Can games be motivating in learning grammar?. Teaching English with Technology, 16(3), 17-36.*