ENHANCING STUDENTS' WRITING SKILLS THROUGH GAME-BASED LEARNING MEDIA

(An Experimental Study in English Branding Class)

Zumrotul Fauziah[1], Siti Nur Khofidhotun Rofi'ah[2]

Universitas Nahdlatul Ulama Sunan Giri[1], MA Islamiyah Malo[2]

fauziah@unugiri.ac.id

0859176807927

Abstract

This research aims to describe the use of game-based learning to enhance the students' writing skills, and to find out the difference in students' writing skills after using game-based learning. This research used a quantitative method namely One Group Pre-test and Post-test Design. The sample of this research is 23 students chosen using the purposive sampling technique. The students were given a pre-test to identify their prior skills before treatment. After that, the treatment was given twice using different games. The students are given a pre-test and post-test to determine the difference in students' writing skills. Then, the pre-test and post-test scores were analyzed using Microsoft Excel 2019 *XLMiner Analysis Tool Pak.* The result shows that the implementation of game-based learning could enhance their learning motivation (60,9%). The students also perceived that the implementation of game-based learning media could help them enhance their writing skills (69,1%). The result of the paired sample t-test above shows that the P value is lower than 0,05 (0,00 < 0,05). It means that the use of game-based learning media is effective in enhancing the students' writing skills.

Key Words: *Game-based Learning, TEFL, Writing Skills*

Abstrak

Penelitian ini bertujuan untuk mendeskripsikan penggunaan *game-based learning* untuk meningkatkan kemampuan menulis siswa, dan untuk mengetahui perbedaan kemampuan menulis siswa setelah menggunakan *game-based learning*. Penelitian ini menggunakan metode kuantitatif yaitu *One Group Pre-test and Post-test Design*. Sampel dari penelitian ini adalah 23 siswa yang dipilih dengan menggunakan teknik purposive sampling. Para siswa diberikan pre-test untuk mengetahui kemampuan awal mereka sebelum diberikan perlakuan. Setelah itu, perlakuan diberikan sebanyak dua kali dengan menggunakan permainan yang berbeda. Para siswa diberikan pre-test dan post-test untuk mengetahui perbedaan keterampilan menulis siswa. Kemudian, skor pre-test dan post-test dianalisis menggunakan Microsoft Excel 2019 *XLMiner Analysis Tool Pak.* Hasil penelitian menunjukkan bahwa penerapan pembelajaran berbasis permainan dapat meningkatkan motivasi belajar mereka (60,9%). Para siswa juga merasa bahwa penerapan media pembelajaran berbasis game dapat membantu mereka meningkatkan keterampilan menulis (69,1%). Hasil dari paired sample t-test di atas menunjukkan bahwa nilai P lebih kecil dari 0,05 (0,00 < 0,05). Hal ini berarti bahwa penggunaan media pembelajaran berbasis game efektif dalam meningkatkan kemampuan menulis siswa.

A. Introduction

The accelerated growth of technology has affected the way of teaching and learning. Integrating technology in education cannot be avoided. In education, especially in language teaching, technology has been incorporated into the teaching and learning process. Some teachers use technology as an innovative learning media and or assessment tool to enhance the quality of teaching. Caroll suggests that technology provides new dimensions of learning a second language or language beyond the mother tongue (Chapelle & Sauro, 2019). In learning a second language, technology could provide broader material sources and more interaction, even in distance learning.

Traditional language teaching which counts on textbooks and live interactions between tutors and students now has been facilitated and utilized by any platforms, applications, and other digital tools. These tools could make the learning process more interesting and interactive and provide more opportunities for the students to get more personalized learning, which can facilitate them to learn based on their needs and competencies. Moreover, students nowadays are avid gamers, so teachers could transfer the materials and assessment into a game so that the students will be more enthusiastic about learning the foreign language. Learning through games could enhance the students' enthusiasm, involvement, and motivation to learn a language (Reinhardt, 2019). Therefore, Embedding technology in language learning could provide a new opportunity to enhance the efficiency and effectiveness of learning. Using an appropriate approach, technology could become a fruitful tool for creating inclusive, interactive, and joyful learning experiences.

Integrating technology in learning process can be in the form of learning media or assessment tools. Lately, various applications or websites could help teachers develop learning media, such as Canva, Heyzine, Genially, Quiziz, Kahoot, Bamboozle, and many others. Game-based learning uses elements and mechanisms of games to aid the learning process. This approach aims to enhance students' motivation, involvement, and understanding by integrating game elements such as efforts, achievements, and interactions into the learning material. It can be implemented in various forms, such as digital games, simulations, or physical games specifically designed for educational purposes (Prensky, 2001).

Numerous studies have been carried out on the use of technology in English Language Teaching (ELT), especially the implementation of game-based learning and the impact on language

skills. An experimental study conducted by Chang revealed that the use of games in learning a foreign language could strategically foster the students' educational attainment and decrease the information processing demand (Chang et al., 2017). The use of games could enhance the students' language skills and learning motivation (Chang et al., 2017). Furthermore, Chen and Lee demonstrated that educational games could impact the students' vocabularies and self-regulation (Chen & Lee, 2018). The studies mentioned above mostly focused on the effectiveness of games on vocabulary mastery. Therefore, this research focuses on the use of game-based learning and its effect on the students' writing skills.

B. Literature Review and Hypothesis Development

Game-based learning is learning through games, the students learn something through playing games. It is different from gamification in which the aspects of games are integrated into the learning process. In education, there are two kinds of games according to the purpose of it, they are serious games and entertainment games (Becker, 2017). Serious games are aimed for serious purposes such as assessment or measuring the students' understanding of a particular subject. Serious games are created with specific and well-defined educational objectives, not for amusement (Loh et al., 2015). While entertainment games aim to build a joyful atmosphere in learning.

According to Becker, a game has several characteristics, such as: being interactive, having rules, having one or more goals, having an assessable measure of progress, and having a definitive closure (Becker, 2017). Using games in learning can boost student involvement and motivation, improve learning outcomes and academic success, enhance memory and retention, offer immediate feedback on progress and activities, encourage behavioral changes, enable students to track their development, and foster collaboration skills (Kim et al., 2018). Furthermore, game-based learning offers an aesthetic learning experience for the students since it involves more than cognitive rules, actions, and procedures; it also provides sensory and embodied experiences (Dickey, 2015).

Many studies have been conducted in terms of game-based learning. A research conducted by Adipat et.al suggest that game-based learning could enhance the students' involvement in learning. It can be identified from the students' behavior, collaboration, and their cognitive involvement during the learning process (Adipat et al., 2021). Hamari et.al researched the impact of game-based learning on the students' involvement and immersion. the result shows that game-based learning is a strong predictor of the students' learning outcomes (Hamari et al., 2016).

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Differing from the previous studies, this study aimed to find out the implementation of game-based learning in English branding classes and to analyze the effectiveness of game-based learning on the students' writing skills. The independent variable of this research is "the use of game-based learning", and the dependent variable is "the students' writing skills". The hypotheses of this research are written as follows:

Ho (null hypothesis): the use of game-based learning is not effective in enhancing the students' writing skills.

Ha (alternative hypothesis): the use of game-based learning is effective in enhancing the students' writing skills.

C. Research Method

This research uses quantitative methods. The type of this research is a pre-experimental study with a one-group pre-test post-test. This research design has one group observed by pre-test to get information about the students' skills or competencies before treatment. After the treatment, the students are given a post-test to find out the difference in the students' skills (Abdullah et al., 2021).

The population of this research is the English branding classes of MA Islamiyah Malo which consist of 44 students from eleventh and twelfth grade. The sample is chosen using a purposive sampling technique in which the sample is chosen based on particular considerations (Abdullah et al., 2021), such as the characteristics of the students that meet the research need. Therefore, after several considerations, the sample in this research is 23 students of English Branding Class at twelfth grade.

Before applying game-based learning, the students are given a pre-test which consists of ten questions to measure the students' prior writing skills. Then, the students are taught using game-based learning for 2 meetings. After that, the students are given a post-test which consists of ten questions to measure the students' writing skills after the treatments. The data was then analyzed using descriptive analysis and paired sample t-tests to determine the effectiveness of game-based learning on the students' writing skills. This statistical analysis was used because the researcher wanted to analyze the differences before and after treatment. To do the paired sample t-test, the researcher used Microsoft Excel 2019 *XLMiner Analysis Tool Pak.*

D. Discussion

The Implementation of game-based learning

In this research, the researcher made two games by using the Genially application. The first game focus on Pronouns namely "Fill in the Blank Games", and the second game focuses on Parts of Speech namely "Emoticon Games". These two games are given in different meetings. The following are the steps for using games in teaching writing:

1. The students are divided into 4 groups.
2. The students play the games in groups. Each session consists of two groups.
3. Each group will get five questions to answer.
4. The group that has the most correct answer will be the winner.

After two treatments given to the students of the English branding class, they gave a response towards the use of game-based learning. Their responses were gained through a rating scale questionnaire with 7 statements or indicators. The questionnaire was distributed through Google Forms. The following are the students' responses to the use of game-based learning media.

Table 1. The students' responses to the use of game-based learning media

No.	Indicators	Percentage
1	Game-based learning media is very interesting	60,9%
2	The content of the game-based learning media suits the learning materials	47,8%
3	The design of the learning media is very suitable for the users	52,2%
4	Learning using game-based learning media can enhance learning motivation	60,9%
5	Game-based learning media can enhance writing skills	69,1%
6	Game-based learning media is easy to use (user-friendly)	47,8%
7	Game-based learning can promote interactive learning	39,1%

Based on the table above, the students perceive that the implementation of game-based learning could enhance their learning motivation (60,9%) because the game-based learning media is very interesting (60,9%). The students also perceive that the design of the learning media is suitable for users of their age (52,2%), although some of the students still have difficulties in playing the game-based learning media. Only 47,8% of the students perceive that the game-based learning media is easy to use. The highest score is 69,1% which shows that the use of game-based learning media could help the students enhance their writing skills.

Data from the interview showed that game-based learning not only enhances the students' writing skills but also other aspects, such as learning motivation and involvement, active learning, enhanced retention, collaboration and competition, and direct feedback.

1. Motivation and Involvement: By using game elements, game-based learning can enhance students' motivation to learn. Students tend to be more engaged and interested in the material presented in a game format.
2. Active Learning: Game-based learning encourages active learning, where students take an active role in the learning process, make decisions, and see the consequences of their actions.
3. Enhanced Retention: The use of games can enhance information retention because students are more likely to remember what they learned in a fun and interactive context.
4. Collaboration and Competition: Many educational games are designed to be played in groups, promoting collaboration and healthy competition among students.
5. Direct Feedback: Games provide immediate feedback to players, allowing students to quickly identify and correct their mistakes.

The effectiveness of game-based learning media towards the students' writing skills

Game-based learning has emerged as a powerful tool in the realm of education, particularly in enhancing writing skills. By incorporating elements of play, challenge, and interactive feedback, game-based learning transforms traditional writing exercises into engaging and dynamic experiences. This innovative approach not only motivates students to participate actively in writing activities but also helps them develop critical thinking, creativity, and effective communication skills. As students navigate through game-based tasks, they receive immediate feedback, enabling them to recognize and rectify errors in real-time, thereby improving their writing proficiency. The game-based learning highlights its ability to make learning more enjoyable and effective, ultimately leading to better academic outcomes. The following is the comparison between the results of the pre-test and post-test on writing skills.

Table 2. The results of the pre-test and post-test

Descriptive Statistic	Pre-test	Post-test
Mean	45	72
Median	40	70
Mode	30	75
Minimum	15	60
Maximum	80	90

The table presents the results of a pre-test and a post-test, showing various statistical measures that indicate an enhancement in performance from the pre-test to the post-test. The average score of the pre-test was 45 and the average score of the post-test enhanced to 72. This shows a significant enhancement in the overall performance of the participants after the intervention. The middle score of the pre-test was 40, and the middle score of the post-test enhanced to 70. The median also indicates an enhancement, suggesting that the majority of

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participants scored higher in the post-test. Further, the most frequent score in the pre-test was 30, while the most frequent score in the post-test enhanced to 75. The mode shows that the most common score among participants enhanced substantially in the post-test. The lowest score of the pre-test was 15 and the lowest score enhanced to 60. The enhance in the minimum score indicates that even the lowest-performing participants showed significant enhancement. The highest score of the pre-test was 80 and the highest score enhanced to 90. The enhance in the maximum score shows that the highest-performing participants also enhanced. Overall, the data from the table indicates that participants showed notable enhancement in their scores from the pre-test to the post-test across all statistical measures. This suggests the effectiveness of the intervention or instructional method applied between the tests.

To analyze the hypotheses, the researcher used a paired sample t-test. The paired sample t-test formula is used to determine whether the mean of a sample is significantly different from the pre-test and the post-test. Here is the result of the paired sample t-test.

Table 3. Result of paired sample t-test

T Test: Paired Two Sample for Means		
	PRE-TEST	**POST-TEST**
Mean	45	71.74
Variance	277.27	46.84
Observations	23	23
Pearson Correlation	0.78	
Hypothesized Mean Difference	0	
df	22	
t Stat	-10.58	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.72	
P(T<=t) two-tail	0.00	
t Critical two-tail	2.07	

The paired sample t-test above used alpha 5% (0.05). If the P value is higher than 0,05, the null hypothesis is accepted (there is no significant difference), and if the P value is lower than 0,05, the null hypothesis is rejected (there is a significant difference) (Mundir, 2012). The result of the paired sample t-test above shows that the P value is 0.00 which is lower than 0,05 (0,00 < 0,05). It means that Ho is rejected and Ha is accepted. Therefore, the use of game-based learning media is effective in enhancing the students' writing skills.

Game-based learning media can be a recommended choice for enhancing the students' writing skills. The result of this study shows that the use of game-based learning can make the learning process more interactive, get direct feedback, and recognize the errors in the students' writing task immediately. As a result, the students become more enthusiastic about learning English. This finding is in line with Reinhardt who stated that learning using games could create enthusiasm and involvement in learning a foreign language (Reinhardt, 2019).

The students perceived that the game-based learning media is very interesting and can be accessed easily through their mobile phones or other digital tools. The game-based learning media in this study used Genially, this website could help teachers create many kinds of games for education. Not only used as learning media, but we can also use games in Genially to measure the students' learning achievement. Overall, this game-based learning media is recommended for use in language learning. Because it can help teachers to enhance language skills, such as vocabulary, reading comprehension, and writing skills. (Chang et al., 2017; Chen & Lee, 2018)

E. Conclusion

The use of game-based learning could enhance the students' learning motivation because it is very interesting. It is revealed by the students' responses to the questionnaire that the implementation of game-based learning could enhance their learning motivation (60,9%) because the game-based learning media is very interesting (60,9%). The most important thing, the students stated that the use of game-based learning could help them enhance their writing skills (69,1%). Furthermore, the descriptive statistics show that the main score of post-tests was 45 and the mean score of post-tests is 72. The enhancement made by the students is 27 points. In addition, the result of the paired sample t-test shows a significant difference in mean scores from the pre-test and post-test. The P value is 0,00 which is lower than sig. 0,05. Therefore, Ho is rejected and Ha is accepted. In other words, the use of game-based learning is effective in enhancing the students' writing skills.

Bibliography

Abdullah, K., Jannah, M., Aiman, U., Hasda, S., Fadilla, Z., Taqwin, T., Masita, M., Ardiawan, K. N., & Sari, M. E. (2021). *Metodologi Penelitian Kuantitatif*. http://penerbitzaini.com

Adipat, S., Laksana, K., Busayanon, K., Ausawasowan, A., & Adipat, B. (2021). Engaging Students in the Learning Process with Game-Based Learning: The Fundamental Concepts. *International Journal of Technology in Education*, *4*(3), 542–552. https://doi.org/10.46328/ijte.169

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Becker, K. (2017). *Advances in Game-Based Learning Choosing and Using Digital Games in the Classroom A Practical Guide*. http://www.springer.com/series/13094

Chang, C., Shih, J. L., & Chang, C. K. (2017). A mobile instructional pervasive game method for language learning. *Universal Access in the Information Society*, *16*, 653–665.

Chapelle, C. A. ., & Sauro, Shannon. (2019). *The Handbook of Technology and Second Language Teaching and Learning*. Wiley Blackwell.

Chen, Z. H., & Lee, S. Y. (2018). Application-driven educational game to assist young children in learning English vocabulary. *Journal of Educational Technology & Society*, *21*(1), 70–81.

Dickey, M. D. (2015). *Aesthetic and Design for Game-Based Learning*.

Hamari, J., Shernoff, D. J., Rowe, E., Coller, B., Asbell-Clarke, J., & Edwards, T. (2016). Challenging games help students learn: An empirical study on involvement, flow and immersion in game-based learning. *Computers in Human Behavior*, *54*, 170–179. https://doi.org/10.1016/j.chb.2015.07.045

Kim, S., Kibong, S., John, B., & Barbara, L. (2018). *Advances in Game-Based Learning Gamification in Learning and Education Enjoy Learning Like Gaming*. http://www.springer.com/series/13094

Loh, C. S., Sheng, Y., & Ifenthaler, D. (2015). *Advances in Game-Based Learning Serious Games Analytics*. http://www.springer.com/series/13094

Mundir. (2012). *Statistik Pendidikan: Pengantar Analisis Data untuk Penulisan Skripsi dan Tesis*. Pustaka Pelajar: STAIN Jember Press.

Prensky, M. (2001). *Digital Game-Based Learning The Games Generations: How Learners Have Changed*. McGraw-Hill.

Reinhardt, J. (2019). *Gameful Second and Foreign Language Teaching and Learning*. http://www.palgrave.com/gp/series/14736