



GAMIFICATION IN THE LEARNING EVALUATION ON STUDENTS' LEARNING OUTCOMES OF ENGLISH EDUCATION STUDENTS

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Abstract

This research sets the goals to find out the form of gamification in the learning evaluation on the learning outcomes of English Education students and the effectiveness of using gamification in the learning evaluation on the learning outcomes of English Education students. English Book Grammar Application and Cue Card used as the media in implementing the gamification. Quantitative research with pre-experimental was conducted in this research. The research was conducted at English Education Study Program Islamic Institute of Muhammadiyah (IAIM) Sinjai and English Education Study Program of Makassar Islamic University (UIM). The sample of this research were 25 students from IAIM Sinjai and UIM by using purposive sampling technique. Test and documentation techniques were combined to obtain the data. The collected data then analyzed by descriptive statistics and inferential statistic. The result showed that: (1) the form of gamification in the learning evaluation of English Education students using the English Book Grammar application and Cue Card is like playing the game with its components, such as grouping the students, explaining the rules, giving question to the students, the students competing answer the question by using English Book Grammar App and Cue Card, scoring the result, and giving rewards to the winner. (2) the use of gamification in the learning evaluation is effective on the learning outcomes of English Education students. It can be seen from the result of data analysis by using t-test where $\text{sig. } 0,000 < 0,05$ means H_1 is accepted.

Keywords: Gamification, English Book Grammar Application, Cue Card, learning evaluation, learning outcomes

Abstrak

Penelitian ini bertujuan untuk mengetahui bentuk gamifikasi dalam evaluasi pembelajaran terhadap hasil belajar siswa Pendidikan Bahasa Inggris dan efektivitas penggunaan gamifikasi dalam evaluasi pembelajaran terhadap hasil belajar siswa Pendidikan Bahasa Inggris. Aplikasi Grammar Buku Bahasa Inggris dan Cue Card digunakan sebagai media dalam implementasi gamifikasi. Penelitian kuantitatif dengan pra-eksperimental dilakukan dalam penelitian ini. Penelitian ini dilakukan di Program Studi Pendidikan Bahasa Inggris Institut Agama Islam Muhammadiyah (IAIM) Sinjai dan Program Studi Pendidikan Bahasa Inggris Universitas Islam Makassar (UIM). Sampel penelitian ini adalah 25 mahasiswa IAIM Sinjai dan UIM dengan menggunakan teknik purposive sampling. Teknik tes dan dokumentasi digabungkan untuk memperoleh data. Data yang terkumpul kemudian dianalisis dengan statistik deskriptif dan statistik inferensial. Hasil penelitian menunjukkan bahwa: (1) bentuk gamifikasi dalam evaluasi pembelajaran siswa Pendidikan Bahasa Inggris menggunakan aplikasi English Book Grammar dan Cue Card seperti memainkan permainan dengan komponen-komponennya seperti mengelompokkan siswa, menjelaskan aturan, memberikan pertanyaan kepada siswa, siswa berlomba menjawab pertanyaan dengan menggunakan Aplikasi Tata



Bahasa Buku Bahasa Inggris dan Kartu Isyarat, menilai hasilnya, dan memberikan hadiah kepada pemenang. (2) penggunaan gamifikasi dalam evaluasi pembelajaran efektif terhadap hasil belajar siswa Pendidikan Bahasa Inggris. Hal ini terlihat dari hasil analisis data dengan menggunakan uji t dimana sig. 0,000 < 0,05 berarti H1 diterima.

Kata Kunci: *Gamifikasi, Aplikasi Grammar Buku Bahasa Inggris, Cue Card, evaluasi pembelajaran, hasil belajar*

1. Introduction

Education is one of the basic needs in human life to cultivate the human mind. Education can be said to be good if in its implementation it can be integrated with the needs and developments of the times. Educators must be able to use technology to support activities in the field of education. The use of technology in the education sector has become unstoppable, when the Covid 19 pandemic hit the whole world. This forces people to carry out their activities from home. People who work in offices must work from home, as well as students must study from home. This policy is based on the Circular of the Minister of Education and Culture of the Republic of Indonesia Number 4 of 2020 which was first initiated on March 24, 2020 regarding the Implementation of Educational Policies in the Emergency Period for the Spread of COVID. In the Circular it is explained that the learning process is carried out at home through online/distance learning in order to provide a meaningful learning experience for learners (Astini, 2020).

The existence of this circular has made the learning system change drastically at all levels of education units, from basic education to higher education levels. The learning system, which was originally in the form of face-to-face in the classroom, had to change to online learning. This change in the learning system forces students and educators to adapt as quickly as possible in the teaching and learning process. One form of adaptation is to use applications that are already available on the internet platform. The use of technology like this has an impact on the education actors themselves, both positive and negative impacts. This is in line with the opinion of Novita and Ismi who say that the difficulties or impacts that can be caused by learning using technology, especially in online learning, namely students' concentration is disturbed when they are bored and want to play or watch television shows that broadcast entertainment (Novita & Ismi, 2021).

The above phenomenon indicates that students are very vulnerable to experiencing boredom in learning, especially during online learning. However, this phenomenon does not only occur in online learning, but the same thing often happens when face-to-face learning in the classroom. The main trigger of boredom learning in the classroom is conventional teaching methods. The impact of the above, requires educational institutions or more precisely universities to be more sensitive to see the learning process so that the weight of students when they graduate will have provisions in the world of work. In addition to the learning process, the thing that should not be forgotten in learning is the evaluation of learning outcomes. According to Ardiyanti et al. in Asria and Putrie, the assessment of success in learning can be seen through the evaluation of learning outcomes. Evaluation is a process of describing and providing information that is very useful for decision making to determine alternative decisions (Asria & Putrie, 2021).

Learning evaluation activities so far are generally in the form of written tests by distributing assignment papers to students and students are obliged to answer questions on these questions. This also happened to the students of English Education, Muhammadiyah Islamic Institute of Sinjai, who at the time of their mid-semester or end-of-semester exams still used this method. One form of learning evaluation that can be done by lecturers is through the gamification method. Learning evaluation is a method of systematically assessing the degree of performance of defined learning goals. Learning assessment strives to gather data that may be used to assess students' growth, progress, and educational attainment, as well as the efficacy of teachers in the classroom. The key actions in learning evaluation are measuring and assessing (Wulan & Rusdiana, 2014).



Gamification has been widely applied in education in this world. This is done to keep pace with technological developments, especially the game world which continues to grow rapidly and is also something that is in great demand by students from children to adults. Gamification learning is applied because it is seen from the interests of students who really like playing games so that learning becomes more fun and of course more exciting. Gamification learning is applied in light of the fact that it is seen from the interests of understudies who truly like messing around so that learning turns out to be more enjoyable and obviously seriously invigorating (Dinata, 2021). Gamification, also known as the game full experience, is defined as the systematic transformation of any event, system, business, item, or management structure into one that gives positive experiences, skills, and practices comparable to those offered by games (Hamari, 2019). Huotari and Hamari stress the function of gamification in triggering the same psychological experiences that games (usually) induce in their definition of gamification (Deterding et al., 2011).

The previous research is conducted by Dragana Stanojević et. Alin found out that the awareness of the general pedagogical professional and scientific public to a broader range of alternatives afforded by this form of assessment in the educational process, which is currently occurring at the classroom level. In this regard, the article presents, in addition to theoretical concerns, practice-based experience arising from implementation assessments of generated educational software, as well as expertise with contemporary academic technology (Stanojević et al., 2018). Gamification learning is applied in light of the fact that it is seen from the interests of understudies who truly like messing around so that learning turns out to be more enjoyable and obviously seriously invigorating (Dinata, 2021).

The application of gamification that can be done to English Tadriss students is in the evaluation of the Basic English Structure Course. Based on initial interviews with students who took the course, generally students found it difficult because they thought the course was quite difficult, especially for early semester students. Based on these assumptions, researchers are interested in applying this gamification method in the process of evaluating these courses and seeing the extent of their responses after the application of the method.

More similar previous research about learning evaluation conducted by of Elena C. Laskari et. al, they investigate the use of e-voting-based cryptographic protocols to develop synchronous and asynchronous online electronic assessment procedures in open and distant learning settings, in order to address the challenges that arise from the lack of interpersonal interaction. Their strategy is based on the similarities between the security and privacy needs of such settings and the security and privacy requirements of electronic voting systems (Galanis et al., 2009)

Based on some research above, it can be seen that the novelty in this research lies on the use of gamification as the learning evaluation method on students' learning outcome.

2. Method

This study uses the quantitative technique to examine the effectiveness of gamification of learning evaluation on student learning outcomes as a scientific method for analyzing data. Quantitative research use numbers throughout the process, from data collection to interpretation to presentation of findings. Pre-experimental design is the type of research used in this research by using a one-group pretest-posttest design. Pre-experimental design is a design in which only one group or class is tested before and after the experiment, because there are still external variables that affect the formation of the independent variables, this research style is called not including a true experiment (Sugiyono, 2017).

A pre-experimental design is one in which only one group or class is tested before and after the experiment. The data is analyzed by the author using analytical procedures. There is a pretest before treatment which uses a one-group pretest-posttest design. (Sugiyono, 2017) As a result, the outcome of treatment can be predicted more precisely because it can be compared with the condition before being treated. This research carried out on students of the English Education Study Program at the



Islamic Institute of Muhammadiyah Sinjai and English Education Study Program of Makassar Islamic University. The sample in this research were 25 students. 12 students from IAIM Sinjai and 13 students from UIM. The instruments used in this research were test and documentations list. While the data analysis technique used is quantitative analysis, which includes both descriptive statistical analysis and inferential analysis consists of normality test, homogeneity test and hypothesis testing.

2.1 Significance of the Research

The results that will be obtained from conducting research of gamification in the learning evaluation on students' learning outcomes of English Education students, include:

a. Gamification using the English Grammar Book Application

In the application of gamification using the English Grammar Book application, students first install the application on the play store and then follow the lecturer's instructions to work on questions related to Basic English Structure in accordance with the order of levels in the application. The scoring system will be determined by the lecturer and the time for working on the questions will be limited by a predetermined time. For students, whether in groups or individuals who win the game, they will be given a reward in the form of an asterisk.

b. Gamification using Cue Card

In the application of gamification using Cue Card, the first step that will be taken is that students will be divided into several groups. After that, students choose a red or blue card and match the tenses on the questions behind the card with a predetermined time duration. For groups of students who win the game, they will be given a reward in the form of an asterisk.

c. Evaluation of Basic English Structure learning using Gamification

In the evaluation process of Basic English Structure learning, researchers will use the two methods above, namely the English Grammar Book and Cue Card Applications. The implementation is in the form of individual work from students to assess learning outcomes in the Basic English Structure course.

3. Result and Discussion

3.1 Result of The Research

1. Statistics Descriptive Test

Based on the descriptive analysis, the pre-test student learning outcomes in the Basic English Structure course in the English Education Study Program are as follows:

Table 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PRE_TEST	25	40	80	57.20	10.214
POST_TEST	25	70	100	84.40	7.681
Valid N (listwise)	25				

Based on the SPSS output above, it shows that there are differences in student scores before and after using the English Grammar Book application and Cue Card. The minimum value in the pre-test result is 40 and the maximum value is 80. The pre-test's average value is 57.20, with a standard deviation of 10.214. While the post-test results show a minimum value of 70 and a maximum value of 100. There is also the average value of the post-test results is 84.40, with a standard deviation of 7.681.



Table 2 Students' learning outcomes: Frequency distribution of pre-test scores

No	The Scores of learning outcomes	Category	Frequency
1	90-100	Very high	0
2	80-89	High	1
3	65-79	Currently	4
4	55-64	Low	10
5	0-54	Very Low	10
Total			25

Based on the table above, it shows that the learning outcomes of Basic English Structure on students of the English Education Study Program before using the English Grammar Book Application and Cue Card are in the very low category with an interval of 0-54. This indicates that before using the English Grammar Book Application and Cue Card media, the scores of the English Education Study Program students were still in the low category.

Table 3 Students' learning outcomes: Frequency distribution of post-test scores

No	The Scores of learning outcomes	Category	Frequency
1	90-100	Very high	13
2	80-89	High	9
3	65-79	Currently	3
4	55-64	Low	0
5	0-54	Very Low	0
Total			25

Based on the table above, it shows that the learning outcomes of Basic English Structure in students of the English Education Study Program after using the English Grammar Book Application and Cue Card are in the very high category, with an interval of 90-100. This shows that before using the Media English Grammar Book Application and Cue Card, the value of students in the English Education Study Program increased and was in the very high category.

Based on the results of the pre-test and post-test, the N-Gain test will then be carried out. N-Gain is a comparison of gain scores obtained by students with the highest gain scores obtained by students. The calculation of the N-Gain is obtained from the results of the pre and post tests. The Gain (N-Gain) formula and the criteria for improving student learning outcomes are as follows:



Table 4 Criteria of N-Gain

Normalization Coefficient Gain	Category
$g < 0,3$	Low
$0,3 < g < 0,7$	Medium
$g > 0,7$	High

The gain value from student learning outcomes is 0.64. When viewed from the criteria for the level of student learning outcomes in the table above, the gain criteria are in the high category. So, it can be concluded that the English Grammar Book Application and Cue Card media are effectively applied to improve learning outcomes in the Basic English Structure course for English Education Study Program students.

3.2 Inferential Statistics

Inferential statistics aims to be an estimator of population parameters and hypothesis testing. The data analysis technique used in this research is the paired t-test. Before conducting data analysis, it is necessary to rest the data analysis prerequisites, namely:

a) Prerequisite

1) Normality Test

The data normality test aims to show that the data obtained from the population is normally distributed. Shapiro-Wilk was used in this study because the **sample was small or (<50) with a test significance (Alpha) = 0.05. In tests with special criteria, namely If the significant value > 0.05, the sample comes from a normally distributed population, and versa if the significance value < 0.05 then the sample comes from a population that is not normally distributed.**

Table 5 Tests of Normality

	Shapiro-Wilk		
	Statistic	df	Sig.
PRE_TEST	.917	25	.961
POST_TEST	.838	25	.101

Based on the normality test table above, the significance value for the pre-test was 0.961, which indicates that the value $0.961 > 0.05$ means the data is normally distributed. Meanwhile, the significant value in the post-test was 0.101, which means that the value of $0.101 > 0.05$ means that the data is normally distributed.

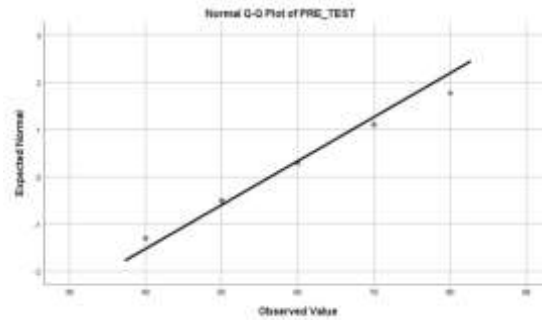


Chart 1 The Histogram of Normality Test of Pre-Test

Based on the results of the normality data test of the pre-test above, it can be seen in the histogram above which indicates that the black dots are adjacent to the diagonal line, which means the data is normally distributed.

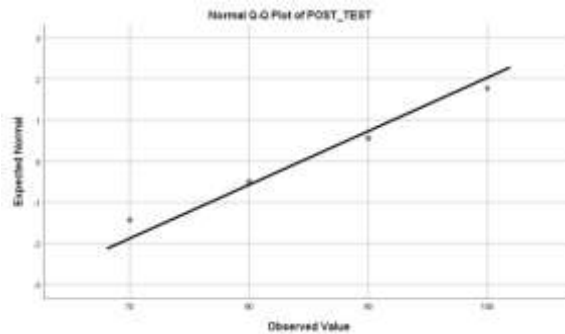


Chart 2 The Histogram of Normality Test of post-Test

Based on the results of the normality data test of the post-test above, it can be seen in the histogram above which indicates that the black dots are adjacent to the diagonal line, which means the data is normally distributed.

2) Homogeneity test

A homogeneity test is a test to show that a group or more data samples come from a population that has the same variance. This homogeneity test means that if the data obtained is homogeneous, then the sample group comes from the same population. The basis for making the decision on the homogeneity test is that if the Sig value > 0.05 , then the data in both groups will have the same variance. On the other hand, if the value of Sig < 0.05 , the data in both groups do not have the same variance.

Table 6 Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Pre-test dan Post-test	Based on Mean	2.555	1	48	.117
	Based on Median	.955	1	48	.333
	Based on Median and with adjusted df	.955	1	47.806	.333
	Based on trimmed mean	2.669	1	48	.109

Based on the SPP output in the homogeneity test above, in the row (based on mean) the significance value is $0.117 > 0.05$, which means that the two data have the same variance.

3) T-Test (Paired Sample T-Test)

After the data is normally distributed and homogeneous, the next test carried out is hypothesis testing. This is to prove the truth or answer the research hypothesis. The hypothesis test used is the paired sample t-test to determine whether the use of English Grammar Book Application and Cue Card Media can affect the learning outcomes of Basic English Structure for the students of the English Education Study Program or vice versa.

The following is a table of paired-sample t-test results using SPSS version 25:

Table 7 Paired Samples Test

	Paired Differences	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	PRE TEST - POST TEST	-28.00000	6.45497	1.29099	-30.66448	-25.33552	-21.689	24	.000

Results based on the analysis of the paired sample t-test above, it shows that the value of Sig. (2-tailed) is 0.000, which means that the value is smaller than 0.05 or $0.000 < 0.05$. This indicates that H_0 is rejected and H_1 is accepted, which means the use of gamification in the learning evaluation is effective on the learning outcomes of English Education students.

3.3 Discussion of the Research' Result

1) Learning Outcomes of Students of English Education Study Program

The Basic English Structure learning outcomes are categorized based on the results of the pre-test and post-test using the English Grammar Book Application and Cue Card. Based on the results of descriptive analysis, the student's Basic English Structure learning result before the treatment was carried out was obtained the minimum value in the pre-test result is 40 and the maximum value is 80. The pre-test's average value is 57.20, with a standard deviation of 10.214.

Then, on the frequency distribution of pre-test scores, it shows that there are no students who have scores in the very high category; 1 student is in the high category; 4 students are in the medium category; 10 students are in the low category; and 11 students are in the very low category. It was concluded that before the implementation of the English Grammar Book Application and Cue Card media, they were in the low category.



While the value of student learning outcomes after the implementation of the treatment is obtained the post-test results show a minimum value of 70 and a maximum value of 100. There is also the average value of the post-test results is 84.40, with a standard deviation of 7.681. Then the frequency distribution of post-test scores shows that there are 13 students who have scores in the very high category, 9 students have scores in the high category, 3 students have scores in the medium category, and there are no student scores in the low and very low categories. It can be concluded that after the implementation of the English Grammar Book Application and Cue Card Media, it is in the very high category.

From the results of the descriptive analysis, it can be concluded that there are differences in the value of student learning outcomes before and after treatment.

2) The Effectivity of learning evaluation on students' learning outcomes of English Education Study Program

The results showed that there were significant differences in student learning outcomes before and after the treatment. This is evidenced in the paired sample t-test that is obtained with a significant value of $0.000 < 0.05$, with the decision-making condition that if the value of Sig. (1-tailed) < 0.05 , then H_0 is rejected and H_1 is accepted. It means that the use of gamification in the learning evaluation is effective on the learning outcomes of English Education students.

The result above in line with Benny's research entitled "The Effectiveness of Gamification to Enhance Students' Mastery on Tenses Viewed from Students' Creativity" showed that gamification is more effective than conventional teaching method to enhance tenses mastery of the second semester students (Krisbiantoro, 2020)¹

4. Conclusion

Based on the research's result, it showed that: (1) the form of gamification in the learning evaluation of English Education students using the English Book Grammar application and Cue Card is like playing the game with its components, such as grouping the students, explaining the rules, giving question to the students, the students competing answer the question by using English Book Grammar App and Cue Card, scoring the result, and giving rewards to the winner. (2) the use of gamification in the learning evaluation is effective on the learning outcomes of English Education students. It can be seen from the result of data analysis by using t-test where H_1 is accepted. Based on the result of this research, the researchers highly recommend the use of gamification method in teaching English as foreign language.

References

- Asria, L., & Putrie, D. R. (2021). Persepsi Mahasiswa Pendidikan Matematika Terhadap Penggunaan Platform Quizizz sebagai Media Evaluasi Hasil Belajar Berbasis Online Mathematics Education Students' Perceptions of the Use of the Quizizz Platform as an Online-Based Learning Outcome Evaluati. *MATH LOCUS : Jurnal Riset Dan Inovasi Pendidikan Matematika*, 2(1), 34–43.
- Astini, N. K. S. (2020). Pemanfaatan Teknologi Informasi dalam Pembelajaran Tingkat Sekolah Dasar pada Masa Pandemi Covid-19. *JURNAL LAMPUHYANG LEMBAGA PENJAMINAN MUTU STKIP AGAMA HINDU AMLAPURA*, 11(2), 13–25.



- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From Game Design Elements to Gamefulness: Defining “Gamification.” *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, MindTrek 2011*, 9–15.
- Dinata, H. (2021). Gamification in Education Context: The Intention, The Design and The Result. *Inform: Jurnal Ilmiah Bidang Teknologi Informasi Dan Komunikasi*, 6(2), 75–80. <https://doi.org/10.25139/inform.v6i2.4035>
- Galanis, V. I., Laskari, E. C., Meletiou, G. C., & Vrahatis, M. N. (2009). *E-Evaluation in Open and Distance Learning Environments*. 2009(September), 28–33. <https://doi.org/10.13140/2.1.3803.2326>
- Hamari, J. (2019). *Intentional Gamification*. 7–9. <https://doi.org/10.1002/9781405165518.wbeos1321>
- Krisbiantoro, B. (2020). The effectiveness of gamification to enhance students' mastery on tenses viewed from students' creativity. *Journal of Advanced Multidisciplinary Research*, 1(2), 73. <https://doi.org/10.30659/jamr.1.2.73-97>
- Novita, L., & Ismi, H. N. (2021). Analisis Penerapan Pembelajaran Online Pada Siswa. *Jurnal Manajemen Pendidikan*, 09(02), 102–106.
- Stanojević, D., Stanković, Z., & Maksimović, J. (2018). Electronic Evaluation in Teaching Class: Assessment Value of Educational Software. *Facta Universitatis, Series: Teaching, Learning and Teacher Education*, 1(2), 185. <https://doi.org/10.22190/futlte1702185s>
- Sugiyono. (2017). *Metode Penelitian Pendidikan : Pendekatan Kuantitatif, Kualitatif, Dan R&D*. Alfabeta.
- Wulan, E. R., & Rusdiana. (2014). *Evaluasi Pembelajaran dengan Pendekatan Kurikulum 2013*. Pustaka Setia.