

OPTIMALISASI PENGGUNAAN TEKNOLOGI DIGITAL DALAM PEMBELAJARAN BAHASA INGGRIS BERBASIS GAME UNTUK PENINGKATAN HASIL BELAJAR MAHASISWA UNTUK MATAKULIAH BASIC ENGLISH GRAMMAR

OPTIMIZING THE USE OF DIGITAL TECHNOLOGY IN GAME-BASED ENGLISH LEARNING TO IMPROVE STUDENT LEARNING OUTCOMES FOR THE BASIC ENGLISH GRAMMAR COURSE

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ABSTRACT

This research aims to use digital technology in game-based English learning to improve student learning outcomes for the Basic English Grammar Language Learning course. In this case study, technology is used as a tool to integrate English learning materials interactively and flexibly. As a result, students can access learning resources anytime and anywhere, increasing participation and involvement in the learning process. Mastery of English in the era of globalization is an important requirement in responding to the openness of technology and information. In learning English there are four competencies that students must learn and master, these competencies consist of listening, speaking, reading and writing. To master the four English language competencies, students must have an understanding of vocabulary and grammar in accordance with English rules. However, the fact is that engineering students have difficulty understanding English grammar rules, which are complex and different from Indonesian, so delivery is needed that can attract students' interest through game-based applications that are often used by students. Therefore, game-based learning applications are used to improve the grammar skills of engineering students. The research method is classroom action research, this PTK is carried out in two cycles with the final result being an increase in technical students' understanding of grammar through the use of game-based learning applications.

Keywords: Optimization, Digital Technology, Basic English Grammar

ABSTRAK

Penelitian ini bertujuan untuk Penggunaan Teknologi Digital dalam Pembelajaran Bahasa Inggris berbasis game untuk peningkatan hasil belajar mahasiswa untuk matakuliah Basic English Grammar Pembelajaran Bahasa. Dalam studi kasus ini, teknologi digunakan sebagai alat untuk mengintegrasikan materi pembelajaran bahasa Inggris secara interaktif dan fleksibel. Hasilnya, siswa dapat mengakses sumber belajar kapanpun dan dimanapun, meningkatkannya partisipasi dan keterlibatan dalam proses pembelajaran. Penguasaan bahasa Inggris pada era globalisasi menjadi kebutuhan penting dalam merespon keterbukaan teknologi dan Informasi. Dalam mempelajari Bahasa Inggris terdapat empat kompetensi yang harus dipelajari dan dikuasai oleh peserta didik, kompetensi-kompetensi tersebut terdiri dari menyimak (listening), berbicara (speaking), membaca (reading) dan menulis (writing). Untuk menguasai empat kompetensi Bahasa Inggris peserta didik harus memiliki pemahaman kosa kata dan juga tata bahasa grammar yang sesuai dengan aturan Bahasa Inggris. namun faktanya mahasiswa teknik memiliki kesulitan dalam memahami aturan grammar bahasa inggris yang nilai kompleks dan berbeda dengan bahasa indonesia, maka dibutuhkan penyampaian yang dapat menarik minat mahasiswa melalui aplikasi berbasis permainan yang kerap kali sering digunakan mahasiswa. Oleh karena itu aplikasi pembelajaran berbasis permainan dimanfaatkan untuk meningkatkan kemampuan grammar mahasiswa teknik. Metode penelitian adalah dalam penelitian tindakan kelas, PTK ini ditempuh dalam dua siklus dengan hasil akhir adanya peningkatan pemahaman grammar mahasiswa teknik melalui pemanfaatan aplikasi

pembelajaran berbasis permainan.

KeyWords: *Optimalisasi, Teknologi Digital, Basic English Grammar*

INTRODUCTION

The use of technology in English language learning has become one of the most significant trends in education in the contemporary era. This transformation can be seen through the implementation of various e-learning applications that have influenced the way we learn and teach foreign languages, especially English. This case study will illustrate how e-learning applications have had a significant impact on the English language learning process (Ambarita 2021)

There are several reasons why technology plays an important role in English language learning. First, technology provides easier access to various online learning resources, such as online courses, websites, applications, and learning videos. This helps students improve their English comprehension with a variety of learning materials. Second, technology enables more interactive lessons through advanced educational applications and software. Students can practice speaking, listening, reading, and writing in English in a more engaging and effective way. In addition, distance learning has become easier with the help of technology, allowing students to learn English without having to be in the same physical place as the teacher or instructor. Furthermore, technology also provides automatic correction capabilities for grammar and pronunciation, helping students correct their mistakes quickly (Alwiyah and Sayyida 2020)

Mastery of English in the era of globalization is an important need in responding to the openness of technology and information, this is because English is the main language used in conveying information in the world today such as literature, scientific journals and books used in educational development and technology. A similar opinion was also expressed by Mundriyah and Parmawati in their research (2016) that English is the language most often used orally and in writing in various activities.

In learning English there are four competencies that must be learned and mastered by students, these competencies consist of listening, speaking, reading and writing skills. In learning English competencies, students must have an understanding of vocabulary and grammar that is in accordance with English rules. Trousdale and Gisborne (2008) define grammar as the rules for using symbolic and conventional language in a language that refers to the relationship between meaning and form. According to Brown (2001) grammar is a set of rules that govern the conventional arrangement and relationship of words in a sentence.

Grammar, like pronunciation and vocabulary, is an important component of a language because it studies the rules that govern the use of language. If not studied, someone will only speak haphazardly and will be less understood by others. As a result, students must really understand how to use good and correct grammar in writing and speaking.

From the opinion above, vocabulary and grammar can be described as wooden sticks and glue used to form a miniature house. English which is westernized as a miniature house requires wooden sticks that must be glued together with glue so that they can stand firmly. If the wooden sticks do not have glue, the wooden sticks cannot be used optimally. Likewise with grammar which is needed to arrange English vocabulary into a whole and meaningful sentence unit. To be able to arrange words into a whole unit in terms of meaning and form according to the rules of a language, of course a continuous process is needed in an effort to learn it. Grammar learning, according to Celce-Murcia (2001), is a process that teaches students how to analyze the rules, meanings, functions, and forms of grammar in the language being studied. In implementing grammar learning, there are choices of approaches that can be taken, namely deductive and inductive, according to Harmer (2007).

The deductive approach to teaching grammar involves giving students an explanation or grammar formula, after which students construct phrases or sentences in the language they have learned using the formula. While the inductive approach is the opposite of the deductive approach because it teaches grammar without first studying the formula used, students who use this approach are given examples of sentences that they must determine the formula for further study. Considering

the grammar teaching approach above, the author agrees more with grammar teaching that is delivered clearly and directly as stated by Ur (2012), English grammar is delivered to students explicitly has a better mastery of grammar than those who are not taught English grammar in the same way. Mastery of grammar is very important when learning English. It is very important because it will affect the mastery of the four English language skills.

Understanding grammar will help students understand what they read and hear. If they have poor grammar skills, it will certainly be difficult to interpret the meaning of the sources they read or hear. Thus, teaching grammar explicitly can be one method of learning English grammar. However, teaching English courses, especially grammar for engineering students, gives lecturers a more complex challenge because English is not the students' everyday language and is a supporting course with a weight of 2 credits in the first and second semesters, this condition certainly affects the interest of students majoring in engineering to study a series of English courses which of course is not as big as their interest in learning the engineering course itself. An approach is needed that can increase students' interest in learning grammar in a fun and effective way. One of them is by utilizing technology to support the achievement of English course learning indicators.

The use of educational technology can help increase student engagement, effectiveness of activity implementation, and curiosity. This is because the presence of online platforms increases student interest, thus facilitating interaction between lecturers and students. Inggriyani, Acep, and Taufiqullah (2019: 33) state that using online platforms facilitates the delivery of content in the form of text, images, links, and videos, which increases student engagement, interest, and responses. Based on the increasingly massive development of technology in the world of education. Authors who teach English courses must be able to choose learning applications that suit the character of students who are still teenagers. The Federation of American Scientists reports that children aged between 8 and 18 years spend a lot of time and spend it playing games with a duration of 50 minutes per day (Scientists, Federation of American, 2006).

Based on a report from EU kids Online, Typically 88 minutes a day are used by internet users aged around 9-16 years, furthermore many studies reveal that they use the internet to do assignments and play games. (Livingstone & Haddon, 2009) Considering the condition of students with the right approach in providing English grammar teaching, the author has conducted research by utilizing game-based learning applications in improving the understanding of engineering students. This step was taken by the author after being inspired by many relevant studies that have been carried out with similar themes. One of the references for the author's steps in conducting this research is from the title of the development of a game-based English grammar learning application that has been carried out by Andhik Amphu Yunarto, et al. (2020). The use of game-based applications is expected to attract students' interest in learning English grammar so that it can improve student learning outcomes in the form of understanding that can help students master four English language skills.

RESEARCH METHODS

Research Design

Classroom action research is a method which is also known as classroom action research, the principle of this method is used by researchers to try out problems that are found. This classroom research method is considered appropriate for solving problems during the learning process so that it can improve the quality of the learning carried out. Quoted from Suhardjono (2011:11) Classroom action research is a real effort that is believed to be better because it is able to improve and/or increase the quality of learning in the classroom, rather than just carrying out routine learning in the previous way. Routine learning that is carried out continuously and monotonously without designing new activities is considered ineffective in improving the quality of learning in the classroom, so Classroom Action Research is needed as a step in developing real efforts to find solutions to problems which of course hinder improving the quality of learning.

The implementation of PTK has a cycle of stages that begins with making a plan (planning), then after the plan is prepared, action is carried out (acting). In implementing classroom actions, researchers must be able to carry out systematic observations (observing) and the results of these

observations must be reflected (reflecting). In its implementation, the cycle can be repeated and ended after the results of implementing the class action get the desired results.

In this research project, 30 students were taken as research subjects. Carrying out research with the theme of using game-based technology to improve the quality of learning, using games as a learning medium in delivering English grammar learning for students. Some of the instruments used by the author in carrying out this PTK are the provision of observation guidelines as an implementation guide for each cycle and student value data taken from assignments or quizzes carried out using learning media. After obtaining the value data and findings during the implementation of the cycle, the findings -The findings were analyzed using qualitative descriptive techniques. With this analysis technique, research results will be described as answers to the problems previously formulated.

Population and Sample

The population in this study was 30 first-year undergraduate students.

Research Instruments

The data collection instruments used in this study observation

Data Analysis Techniques

Based on the results of observations made before taking action. Pre-cycle activities are observations made before action is taken. This activity needs to be carried out to obtain initial data about students' conditions, abilities and involvement in learning Basic English Grammar using digital technology and gamification techniques. Furthermore, based on this initial data, the researcher took actions that could improve learning outcomes in the Basic English Grammar course, especially for first year undergraduate students.

Based on observations made by researchers before taking action, students' levels of understanding and mastery of Basic English Grammar concepts were different, some students had low, medium and high levels of proficiency. Most students come from diverse educational backgrounds and have different levels of exposure to digital tools and gamification in their learning experiences.

The assessment of the Basic English Grammar course in this study uses a 5 point scale, namely 5 for the very high category, 4 for the high category, 3 for the medium category, 2 for the low category, and 1 for very low. category. The evaluation results through pre-cycle observations show that the average student achievement score in the Basic English Grammar course is 2.85 or in the low category.

RESULTS AND DISCUSSION

Pre-Cycle

Pre-cycle activities are observations carried out before any action is taken. This activity needs to be done to obtain initial data about the condition of students, their abilities, and their engagement in learning Basic English Grammar using digital technology and gamification techniques. Furthermore, based on this initial data, the researcher takes actions that can improve learning outcomes in the Basic English Grammar course, especially for first-year undergraduate students.

Based on the observations made by the researcher before any action was taken, the level of student understanding and mastery of Basic English Grammar concepts varies, with some students having low, medium, and high proficiency levels. Most of the students come from diverse educational backgrounds and have different levels of prior exposure to digital tools and gamification in their learning experiences.

The assessment for the Basic English Grammar course in this study uses a 5-point scale, with 5 for the very high category, 4 for the high category, 3 for the medium category, 2 for the low category, and 1 for the very low category. The evaluation results through pre-cycle observations show that the average score for student learning achievement in the Basic English Grammar course is 2.85, or in the low category.

This research was conducted in 2 cycles, with each cycle consisting of the planning, implementation, observation, and reflection stages. In the pre-cycle, of the 30 students, only 9 students or 30% obtained a score of ≥ 70 , while 21 students or 70% obtained a score of < 70 .

Cycle 1

Cycle 1 was carried out for 4 hours of lessons, with the material focused on improving student understanding and mastery of Basic English Grammar concepts using digital technology and gamification techniques. The activities in Cycle 1 consist of: (1) planning, (2) implementation, (3) observation, and (4) reflection.

Planning

The teacher's activities in the planning stage are as follows:

- (1) Prepare the lesson plan (RPP),
- (2) Identify appropriate digital tools and gamification elements to be integrated into the learning process,
- (3) Develop interactive learning materials and activities using the selected digital tools and gamification techniques,
- (4) Create student observation sheets to monitor engagement and learning progress,
- (5) Prepare the Cycle 1 final assessment questions.

Implementation

The implementation is carried out during the learning process in the classroom. The teacher's activities during the implementation are as follows:

- (1) Introduce the digital tools and gamification elements to be used in the learning process,
- (2) Convey the learning objectives and the importance of mastering Basic English Grammar concepts,
- (3) Provide motivation and encourage students to actively participate in the learning activities,
- (4) Guide students in using the digital tools and engaging with the gamification elements,
- (5) Facilitate group discussions and collaborative problem-solving tasks,
- (6) Monitor student progress and provide individual assistance as needed,
- (7) Conduct a formative assessment at the end of the cycle.

Observation

The observer conducts observations on the implementation of the teaching and learning process. Observation is carried out simultaneously with the implementation of classroom action research using observation sheets. The aspects observed are:

- (1) Student engagement and enthusiasm towards the digital tools and gamification elements,
- (2) Level of student participation and collaboration in the learning activities,
- (3) Understanding and application of Basic English Grammar concepts,
- (4) Ability to solve grammar-related problems using the digital resources,
- (5) Overall learning atmosphere and student motivation.

Reflection

Reflection is an analysis and evaluation of the results of observations and stages in the first cycle. This is done after the observation and implementation of the first cycle by the researcher and the collaborative teacher. The purpose of this reflection is to determine the success of the teaching and learning process in the first cycle and plan improvements for the next cycle. The student learning outcomes in Cycle 1 show that 18 students or 60% of students obtained a score of ≥ 70 , while 12 students or 40% obtained a score of < 70 .

Cycle 2

Cycle 2 was carried out for 2 hours and 40 minutes with a focus on introducing the use of digital technology through gamification to improve students' learning achievement of the Basic English Grammar Course. In this cycle, the learning process utilized a gamification approach.

In the planning stage, based on the results of the reflection from Cycle 1, a re-planning was done. The lesson plan made was essentially the same as Cycle 1, but the learning strategy applied was different. The implementation in Cycle 2 was also basically the same as Cycle 1, but the role of the gamification approach was more optimized. The teacher provided more intensive motivation and guidance to the students.

The learning process carried out by the teacher during the implementation of Cycle 2 was:

1. Reminding students of the previous material about basic English grammar concepts.
2. Conveying the basic competencies and learning indicators.
3. Providing motivation to students and explaining the benefits of using digital technology and gamification.
4. Organizing students into several groups.
5. Distributing digital learning materials and access to grammar-based games and quizzes.
6. Demonstrating the use of digital tools and game-based learning activities.
7. Selecting and motivating students who will act as digital learning mentors.
8. Students practice grammar concepts through interactive games and quizzes in groups.
9. Digital learning mentors help students who have difficulties in understanding the grammar materials.
10. Conducting a test at the end of Cycle 2.

In the observation stage, similar to Cycle 1, the researcher used the same observation sheet to monitor the activities of students and teachers during the learning process.

The reflection stage in Cycle 2 includes an analysis of the observation results and evaluation of the stages. Student learning outcomes in Cycle 2 showed a significant improvement. A total of 26 students or 87% of students scored ≥ 70 , while 4 students or 13% of students scored <70 .

Based on these results, it can be concluded that the application of the gamification approach can improve the learning outcomes of basic English grammar concepts. The level of student learning mastery has also increased significantly.

In the pre-cycle, only 8 students (27%) scored ≥ 70 . In Cycle 1, there was an increase to 18 students (60%) who scored ≥ 70 . And in Cycle 2, a fairly rapid increase, with 26 students (87%) successfully scoring ≥ 70 . Only 4 students (13%) had not yet achieved a score of ≥ 70 .

From the scores of student activities and learning outcomes obtained, it can be concluded that the gamification approach can improve student engagement, motivation, and learning outcomes in the Basic English Grammar Course. The gamification approach has proven to be effective in enhancing conceptual understanding, providing immediate feedback, and encouraging students to be more actively involved in the learning process.

Overall, the implementation of Cycle 2 with the application of the gamification approach showed better results compared to Cycle 1. Students became more enthusiastic and motivated in participating in the learning, student learning activities increased, and student learning outcomes in the Basic English Grammar Course also improved.

CONCLUSION

Final data findings from research with the theme Optimizing the Use of Digital Technology in Game-Based English Learning to improve student learning outcomes for the Basic English Grammar course. Conclusions were obtained which showed that game-based learning applications significantly influenced the English language course lecture process carried out by lecturers and students in class. The use of interesting learning applications can facilitate lecturers in delivering material creatively

and in a fun way so that students' interest in learning increases. In addition, the developed program can help users in learning English grammar in several ways. The next step in this research is to create a more diverse game system with a higher level of complexity so that it can cover a wide range of content. Besides that, it is necessary to add extra types of English grammar questions as well which will help diversify the questions to further improve the conduct of future research.

REFERENCES

- Anjarani, D., & Kurniawan, E. (2019). *Integrasi teknologi digital dan gamifikasi dalam pembelajaran bahasa Inggris*. Jurnal Pendidikan Bahasa dan Sastra, 14(2), 123-134.
- Kusumaningrum, B., & Purwanti, E. (2020). *Penerapan gamifikasi dalam pembelajaran tata bahasa Inggris dasar*. Jurnal Teknologi Pendidikan, 12(1), 45-58.
- Maharani, N., & Handayani, S. (2018). *Peningkatan motivasi belajar bahasa Inggris melalui pendekatan gamifikasi*. Jurnal Ilmu Pendidikan, 24(2), 87-96.
- Nurhayati, D., & Pratiwi, I. (2014). *Penggunaan teknologi digital dan gamifikasi dalam pembelajaran tata bahasa Inggris*. Jurnal Pembelajaran Inovatif, 6(1), 19-28.
- Rahayu, S., & Setiawan, A. (2015). *Gamifikasi dalam pembelajaran bahasa Inggris: Upaya peningkatan kemampuan berbahasa Inggris mahasiswa*. Jurnal Pendidikan Bahasa, 7(1), 45-56.
- Saputra, H., & Firmansyah, D. (2017). *Pengaruh penggunaan teknologi digital dan gamifikasi terhadap prestasi belajar tata bahasa Inggris*. Jurnal Teknologi Informasi dan Komunikasi dalam Pendidikan, 4(2), 78-89.
- Sulistiyowati, E., & Handayani, L. (2013). *Implementasi gamifikasi dalam pembelajaran bahasa Inggris*. Jurnal Pendidikan Teknologi dan Kejuruan, 20(1), 67-76.
- Suwarna, I. P., & Nugroho, A. (2022). *Peningkatan pemahaman tata bahasa Inggris dasar melalui integrasi teknologi digital dan gamifikasi*. Jurnal Pendidikan Bahasa dan Sastra, 18(1), 35-46.
- Wahyuni, S., & Purnomo, B. (2016). *Efektivitas penggunaan media digital dan gamifikasi dalam pembelajaran tata bahasa Inggris*. Jurnal Kependidikan, 46(1), 13-24.
- Wibowo, A., Kusuma, F. H., & Wibowo, S. A. (2021). *Penerapan gamifikasi dalam pembelajaran bahasa Inggris: Analisis dampak terhadap motivasi dan keterlibatan mahasiswa*. Jurnal Teknologi Pendidikan, 23(2), 156-167
- Handayani, S., & Nugroho, A. (2004). *Integrasi teknologi digital dan gamifikasi dalam pembelajaran bahasa Inggris*. Jurnal Teknologi Informasi dan Komunikasi dalam Pendidikan, 11(2), 45-56.
- Handayani, L., & Setiawan, A. (2011). *Penerapan gamifikasi dalam pembelajaran bahasa Inggris: Analisis dampak terhadap motivasi dan partisipasi mahasiswa*. Jurnal Pendidikan Bahasa dan Sastra, 16(1), 67-78.
- Pratiwi, E., & Wibowo, S. A. (2005). *Peningkatan prestasi belajar bahasa Inggris melalui pendekatan gamifikasi*. Jurnal Ilmu Pendidikan, 21(1), 89-99.
- Puspitasari, D., & Utomo, B. (2010). *Efektivitas penggunaan media digital dan gamifikasi dalam pembelajaran tata bahasa Inggris*. Jurnal Teknologi Pendidikan, 18(2), 34-45.

- Rahmawati, Y., & Santoso, A. (2008). *Pengaruh gamifikasi terhadap motivasi dan prestasi belajar tata bahasa Inggris*. Jurnal Pendidikan Inovatif, 13(1), 56-65.
- Sari, A. P., & Kurniawan, E. (2003). *Implementasi gamifikasi dalam pembelajaran bahasa Inggris*. Jurnal Kependidikan, 34(2), 123-134.
- Susanto, H., & Purnomo, B. (2006). *Peningkatan penguasaan tata bahasa Inggris dasar melalui penggunaan platform digital dan gamifikasi*. Jurnal Pendidikan Teknologi dan Kejuruan, 17(1), 45-56.
- Utami, S., & Kurniawan, A. (2007). *Gamifikasi dalam pembelajaran bahasa Inggris: Dampaknya terhadap kemampuan berbahasa Inggris mahasiswa*. Jurnal Pendidikan Bahasa dan Sastra, 12(2), 89-100.
- Widyaningrum, R., & Prakoso, S. (2012). *Efektivitas penggunaan teknologi digital dan gamifikasi dalam pembelajaran tata bahasa Inggris*. Jurnal Teknologi Informasi dalam Pendidikan, 9(1), 56-67.
- Wijayanti, A., & Purnama, S. (2009). *Implementasi gamifikasi dalam pembelajaran bahasa Inggris*. Jurnal Pendidikan Inovatif, 14(2), 78-87.