The 2nd International Conference of Nusantara Raya

"Nowadays: Indonesia and South Korea in Literature and Culture"

Volume 2 June 2023

Development of Android-Based Gamification Media Design for Personal Letters and Formal Letters Material in Grade VII

Diana Oktaviana^{1,*}& Purwati Zisca Diana²

Corresponding author. Email: diana1900003059@webmail.uad.ac.id

¹Diana Oktaviana, Universitas Ahmad Dahlan, Jl. Ringroad Selatan, Banguntapan, Bantul ²Purwati Zisca Diana, Universitas Ahmad Dahlan, Jl. Ringroad Selatan, Banguntapan, Bantul

Abstract

This research aims to describe the development of gamification Android-based media design related to the teaching material of personal letters and formal letters in Grade VII of junior high school. The research method used in this study is Research and Development with the ADDIE research design, which stands for Analysis, Design, Development, Implementation, and Evaluation. The results of this research show that the Android-based learning media developed for personal letters and formal letters in Grade VII of junior high school are suitable for use in school learning. This learning media can help students understand the material more easily, increase their interest in learning, boost their motivation by presenting engaging and non-boring media, and provide benefits to students by offering enjoyable games that are not monotonous. This application is also beneficial for teachers as it facilitates the delivery of teaching materials and serves as a new innovation for teachers to continually develop their creativity by utilizing available technology and adapting it to the students' needs in line with the current era. Therefore, Android-based learning media can be an alternative learning tool that can be applied by teachers in Indonesian language learning in Grade VII.

Keywords: Development, Gamification, Personal Letters, Formal Letters

1. Introduction

The world of education is inseparable from technology. From year to year, the development of technology is moving more rapidly and sophisticated according to changes. With the development of technology, this also has an impact on the world of education which is required to be more creative and innovative so that the credibility of education in a country can still compete with the outside world. This is undeniably also the case with education in Indonesia. Education is often proclaimed as a milestone of a nation's civilization. One of the keys to a country's success can be seen through the quality of its education. Because in essence education has a role to foster and advance the character, mind and character development of students (Syaparuddin, 2020). In addition, education has a function to help students in social interaction, teach behavior, skills and so on to achieve educational goals (Haderani, 2018). The function of education has also been regulated in the basic law No. 20 of 2003 article 3 concerning the national education system which functions to develop the abilities possessed by each citizen and form a character and civilization of the nation to educate the nation's life. Through this law, the Indonesian government wants education to prioritize the formation of attitudes, character, and the

transformation of philosophical values of students so that they can strengthen their sense of nationalism and be able to compete with the world (Sujana, 2019). Therefore, as an effort to maintain the quality of education, we need to work extra to prosper the facilities and infrastructure that support learning activities.

During the pandemic, education in Indonesia experienced various problems related to learning effectiveness solutions. Therefore, the Kementerian Pendidikan dan Kebudayaan (Kemendikbud) decided to regulate learning with a blended learning system that is implemented in all schools in Indonesia. According to Yusuf (Yusuf, 2020) blended learning is a learning model that combines online and offline learning. The blended learning model has many advantages including increasing student motivation and learning outcomes when compared to conventional learning models. Even learning with this blended learning model is also considered a practical model to be applied in schools (Anggreni et al., 2020). However, after being evaluated together, the problems in education do not only stop at the learning system but also include the media used by teachers in teaching. We need to know together that schools have a function to improve the quality of education, so that a teacher is also required to always learn and upgrade abilities or skills in order to create better quality learning for students. Then, schools also have a role to train teachers to be more competent, professional and able to overcome the problem of boredom factors in students' learning by making interesting media.

Learning media is often interpreted as a tool to convey a message. According to Daryanto (via Hamid et al., 2020) learning media is a tool used to provide messages, stimulate thoughts, interests and attention of students in learning activities so that learning objectives are achieved. A medium is usually created to facilitate the way of communication between students and their teachers and one form of learning media is gamification. Gamification is a learning technique or method inspired by a game. Gamification uses a learning approach in the form of games or video games to motivate, interest and inspire learners to always do learning activities. Gamification as a concept of game-based mechanics is used to promote learning and become a solution to solve problems in teaching and learning activities. By using gamification, learners will be required to fully participate in the game so that it can motivate learners to carry out complete learning activities (Jusuf, 2016). We can design this gamification media independently in the form of an android-based application. Android is an operating system on a linux-based cell phone that has a place for people to develop an application that has been designed. The application can be used as a medium to carry out various activities such as education, learning media, social media and others. Android is used in this study because people are generally familiar with android media. Apart from that, the ease of using Android is also felt by everyone starting from an open source system, many applications are free, easy to access and download, have many variations, and have many supporting features (Khairul et al., 2018). By using learning media in the form of this application, it can make it easier for students to access learning media so that learning activities can be carried out both in class and outside the

The gamification application is also one of the efforts to utilize media that we can use in the digital learning process. In its use, students can use devices, laptops, computers and so on to access the application. The selection of this media was made because of the urgency and demands of an all-digital era and competition in the world of education which requires every student and teacher to be literate in developing technology. This gamification media also presents a fun, concise and easy-to-understand learning process for students and as a solution to the problem of making interesting media at the junior high school level in the world of education. In addition to the ease of accessing media, this application can also provide a fun learning effect because the model used in this learning is a game model or game that is in great demand by students. Therefore, the use of this application is expected to be the right choice to be used as a way out of Indonesian learning problems. Because the core or subject of Indonesian learning problem is learning that tends to be boring, uninteresting, monotonous and does not provide any benefits or benefits. The factor causing the problem is because students' interest in learning Indonesian subject is very low. This is evidenced by the number of students who consider Indonesian lessons trivial because they are considered easy and not too important. In fact, if we dig deeper the many benefits we get when learning Indonesian, such as the ability to speak, write, listen, and read in order to interact with the outside world (Sujinah, 2020). Therefore, in this study we need an innovation in learning media that can change the perspective of students on Indonesian learning and can attract students to recognize and dig deeper into Indonesian lessons. As explained in Yildirim's research (Yildirim, 2017) That this gamification media can have a positive impact on learning, namely increasing achievement and influencing student attitudes. This is because in its application this media can hone the ability and improve the skills of students in learning. This medium is also very effective in its use and facilitates the understanding of the material because it is presented in the form of a game. Thus, the media can provide attraction to students while still applying aspects of work, aspects of information and aspects of knowledge (Suwarno, 2015).

The reason for choosing the research topic conducted by the researcher was based on observations or initial observations that had been made during the PLP 1 period at SMP Muhammadiyah Piyungan and at SMP Muhammadiyah Sewon, there were several obstacles found in accordance with the problems raised in this study. Obstacles found at SMP Muhammadiyah Piyungan based on the results of an interview with one of Indonesian teachers include the following. 1) Some learning media used by teachers are in the form of LKS, power point and canva, but students' interest in learning is still lacking. 2) The learning media used by teachers is less varied so that students find it difficult to understand the subject matter. 3) Teachers have maximized making learning media that are interesting and not boring for students, but the teacher's difficulty in making interesting learning media is based on lack of training in making learning media. 4) Allocation of time and insufficient budget to conduct training activities for learning media development. 5) The interest in learning students is very low in Indonesian subjects because they are considered boring.

Obstacles that occur at SMP Muhammadiyah Sewon include: 1) The media used by teachers is only limited to power points. 2) In learning activities, students have difficulty being invited to discuss so that the teaching and learning process is less interactive. 3) During the transition of offline learning to online, the government provides a policy for every school to conduct online learning, namely by using gadgets (laptops or cellphones) to access websites or online learning links (Khurriyati et al., 2021). However, as a result of online learning that uses devices, many students are addicted to online games and this has an impact on students' interest in learning, decreased knowledge, to a decrease in achievement. 4) Activities carried out during classroom learning are predominantly active teachers than students. However, teachers still condition students to be more optimal in learning. 5) The transition of the K-13 curriculum to an independent curriculum has caused the implementation of the independent curriculum to not run optimally.

In this research, the author also raised the text material of personal letters and formal letters as an alternative teaching material to be tested. The text of personal letters and formal letters are included in the learning materials of class VII even semester in the independent curriculum teaching module. The use of this material is used as a research subject because of the many obstacles found during learning related to linguistic material such as words and sentences, determining the main idea, determining elements, determining the main idea and vocabulary contained in the text material of personal letters and formal letters, poetry texts and review texts. Although the teacher has provided an explanation of the material using appropriate media, there are still many students who do not understand the material delivered by the teacher. Based on these data, the urgency of this research is to develop an android-based gamification media that is associated with learning the text of personal letters and formal letters of grade VII junior high school. In connection with this, in this study researchers will develop a learning media with the research title "Development of Android-Based Gamification Media Design for Personal Letters and Formal Letters of Junior High School Class VII" as an effort to overcome the problem of developing learning media that is interesting for students.

2. Research Methods

a. Types of Research

The type of research used is research development or Research and Developent (R & D). Development research is an effort to develop and produce a product in the form of materials, media, tools, or learning strategies, used to overcome learning in the classroom (Tegeh, Jampel and Pudjawan, 2015). According to Sugiyono (2016) this method can be used to produce a product and test the effectiveness of the product. Another opinion came from Sukmadinata (via Muqdamien et al., 2021) who explained that R&D is a process or step used by someone to develop a product or perfect a product so that the product can be accounted for. This method aims to be able to produce new products through the development stages and can be used in accordance with the purpose of the development. The steps in research and development carried out for the development of android-based gamification media applied to the text of personal letters and formal letters will be explained as follows.

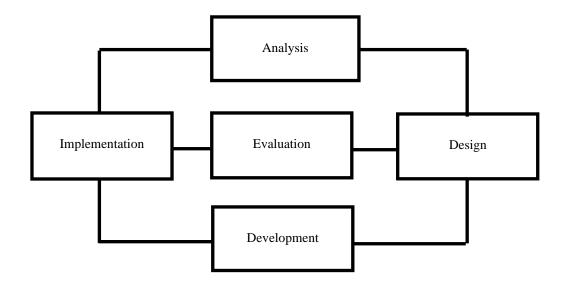


Figure 1. Steps to use the Research and Development (R&D) method

b. Development Procedure

The development procedure in this study uses the ADDIE development model. The ADDIE method is used in designing interactive applications for systematic learning and learning (Sahfitri &; Hartini, 2019). The stages in ADDIE development consist of Analisys, Design, Development, Implementation, and Evaluation which are stages to design and develop an effective and efficient program. These stages will be described as follows.

1) Analysis

The stages of analysis in this study are divided into three, namely the stage of performance analysis, analysis of student needs and analysis of learning outcomes which will be described as follows.

- a) Performance analysis is carried out by identifying problems faced by schools and teachers so far. In this case, researchers select problems to be given a solution, namely related to learning media to be improved and developed in accordance with the obstacles faced by students.
- b) Analysis of the needs of students who are targeted in the use of Android-based gamification media. In this stage, researchers determine feasible media to be developed according to the needs of students in learning in order to increase interest in learning, motivate students and increase learning effectiveness.
- c) Curriculum analysis is carried out by reviewing the characteristics of the curriculum applied in schools. The curriculum review is carried out so that the products developed by researchers can adjust the curriculum applicable in schools. Curriculum analysis is applied to find learning objectives and learning outcomes that will be applied in the classroom.

2) Design

The stages of design or product design in this study will be described as follows.

a) Design creation

At this stage the researcher makes a concept of the overall image that will be displayed in the application. With the concept of design drawing, it can make it easier for researchers to make learning media.

b) Material assignment

At this stage, researchers choose classes and materials that will be the subject of research. In this study, the material that has been set to be tested is the text material of personal letters and formal letters of class VII junior high school. The selection of this material is based on the problems found by researchers, namely students difficulties in language material and determining the elements of the text of personal letters and formal letters. In addition, teachers also have difficulty in making media that is attractive to students. Therefore, the text material of personal letters and formal letters is determined by researchers to overcome these problems.

c) Preparation of materials, questions and answers

The questions and answers in this study are presented in the form of puzzle games and right and wrong. The material discusses the text of personal letters and formal letters such as understanding, linguistic characteristics, functions, elements, examples of personal letters and formal letters, types of greetings,

and types of formal letters. While in the preparation of learning materials, questions and answers are arranged through *Ms. Word files*.

d) Assignment of images, audio, *fonts*, animations and features

At this stage researchers collect and determine images, audio, fonts, animations and features that will be applied in the application. This activity is carried out with the aim of identifying images, audio, fonts, animations and features that are suitable to be presented in learning media to be more interesting and provide effectiveness in learning. Creating an application design using corel draw.

3) Development

At this stage, researchers design the initial media. The steps in this stage of development are as follows.

- a) Creating products in the form of Android-based game applications
 At this stage, researchers create media in the form of *game* applications or games that have been set
 with the Adobe Animate application. The format applied to the android is android *application package*.
 The media developed is also different from the media commonly used in schools in terms of design.
 This is because this media is equipped with puzzle-shaped games and right and wrong.
- b) Product validation by material experts, media experts and teaching experts
 In this process, material experts and media experts will validate and provide criticism, suggestions, input to make improvements or revisions to the material and media to be developed as research products before conducting trials for students. Then, teachers Indonesian as learning practitioners Indonesian will validate and provide criticism, suggestions, input to make improvements or revisions to the media to be developed as research products before conducting trials on students.
- c) Revise or improve learning media in accordance with input and suggestions provided by material experts, media experts and linguists. From these improvements will be found a comparison between the media before revision and after revision or improvement.

4) Implementation

At this stage, research products will be implemented by conducting trials and comparing the effectiveness of products in experimental classes that use gamification media and control classes that do not use gamification media. Furthermore, a pre-test and post-test were distributed to measure and find out the response of students to the media in the trial, namely game applications, text materials, personal letters, and formal letters.

5) Evaluation

At this stage, the product developed in the form of a game application is evaluated and revised at the final stage based on input and suggestions that have been given by students or teachers during the implementation stage.

3. Results and Discussion

Result

The development of Android-based gamification media design is a research aimed at testing the effectiveness and efficiency of time in learning. This research is a form of independent learning transition to meet the needs of students who follow the development of an all-technological era and assist teachers in increasing creativity in managing learning media. Therefore, this research is used to help the problems faced by teachers at SMP Muhammadiyah Piyungan, especially in Indonesian subjects so that students are enthusiastic about learning and make it easier for students to understand the subject matter with the playing method. The type of research used in this study is in the form of Research and Development (R&D) research with ADDIE design which will be described in the stages as follows:

1) Analysis

In the analysis stage that needs to be done by researchers to develop android-based gamification media on the text of personal letters and formal letters, namely reviewing performance, student needs, and curriculum applied in schools.

a) Performance analysis

Based on the analysis conducted by researchers, several problems were found in the Muhammadiyah Piyungan Junior High School related to the learning media used by teachers and the obstacles experienced by students in learning. In this stage, researchers make observations and interviews with teachers in Indonesian subjects related to problems that are usually found in schools. The main obstacle that occurs is that students have many difficulties understanding material related to linguistic material, determining the main idea of a paragraph, determining the elements of the letter text, determining the main idea, one of which is found in the text material of personal letters and formal letters. In addition, teachers also experience obstacles in making interesting

learning media for students. Thus, many students have difficulty in understanding the material presented. Usually, teachers only display power points or canva in learning so that it does not attract students' interest in learning. The presentation of the material used by teachers also tends towards conventional which applies learning with a lecture system. The learning is considered ineffective because it causes students to be passive in learning compared to teachers. In addition, many students experience addiction to online games and this has an impact on students' interest in learning, decreased knowledge, to a decrease in student achievement. Therefore, based on the problem data, researchers developed android-based gamification media on the text of personal letters and formal letters applied in class VII.

b) Learner needs analysis

Based on observations and the results of the analysis of student needs, there are several things that become outline points that are the problem of most students at SMP Muhammadiyah Piyungan, including media that have been used by teachers in monotonous learning and sometimes do not use media at all. Thus, this has an impact on the understanding of student material and reduces the enthusiasm of students in learning. In learning text materials, personal letters and formal letters, many students do not understand the linguistic characteristics and elements contained in personal letters and formal letters. This is because in learning, usually the media used is in the form of student worksheet books and the method of delivering material used by teachers using a lecture system so that the learning process has not been maximized. In addition, in this era of technological development, teachers have never applied learning using applications and the factor of student saturation in learning has an effect on decreasing the value of learning completeness scores. For this reason, a new breakthrough is needed in the use of media using technology to make learning more varied, innovative and the time used more efficient. Therefore, the development of android-based gamification media on the text of personal letters and formal letters is expected to be a solution in learning activities at SMP Muhammadiyah Piyungan so that learning is maximized, increases students' understanding in learning, and students can learn independently by utilizing the applications that have been given.

c) Curriculum analysis

In this stage, the material used is class VII Indonesian material that applies the latest curriculum, namely the independent curriculum. In the independent curriculum, the learning model used is an integrative learning model. The independent curriculum includes the identity of modules containing names, levels or classes, time allocation, number of students, pancasila student profiles, learning models, phases, elements, learning objectives, keywords, general descriptions of activities, lighter questions, facilities and infrastructure, learning outcomes, skills and knowledge, methods, and main learning activities. We can see the appearance of the module identity through the following image.



Figure 2. Identity Informal Letter and Formal Letter Module

The reason researchers use the text of personal letters and formal letters of class VII as research subjects is because in the material of personal letters and formal letters, many students do not understand the linguistic characteristics and elements contained in personal letters and formal letters. Therefore, the results of curriculum analysis can be used to formulate Learning Objectives and Learning Outcomes which will be presented in the following table.

Table 1. Curriculum Analysis Results

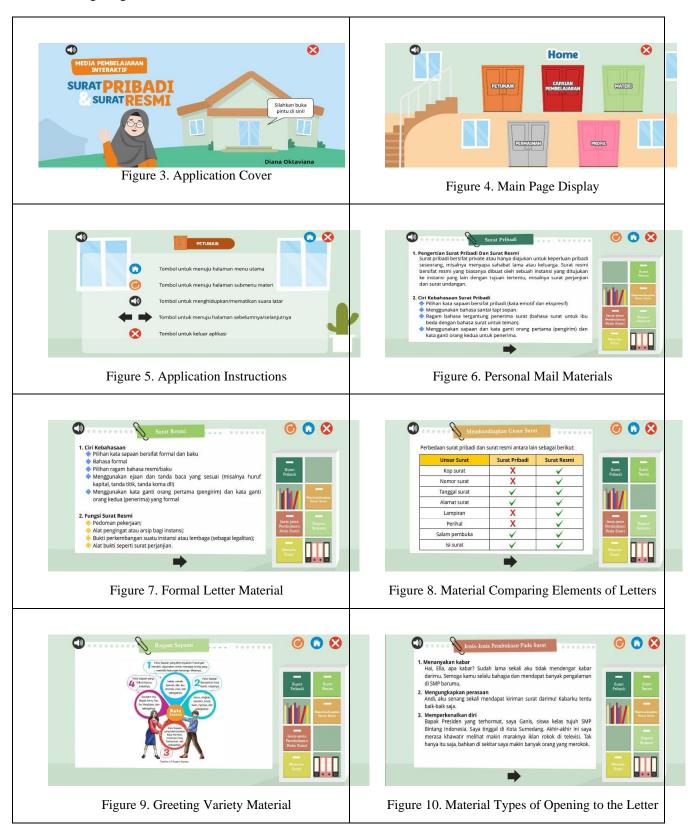
Learning Objectives Learning Outcomes Able to analyze and assess 1. Get to know personal letters appropriately related to the and formal letters, analyze the information presented in the form, content and purpose of personal letters and formal form of ideas, thoughts, letters, and understand the feelings, views, directions or content of personal letters and accurate messages formal letters. personal letters and formal 2. Recognize the difference letters both in the form of between linguistic images, images and sounds characteristics, forms, as well as related to the sense objectives and describe the of hearing with experiences that have been experienced elements contained in personal and formal letters. by students. 3. Make a comparison between Able to assess the use of the elements of a personal letter diction, vocabulary, and data and an formal letter by paying usage in accordance with the close attention to the elements. text of personal letters and formal letters. 3. Able to convey thoughts, views, directions or messages to find solutions to a problem both orally and in writing. 4. expressing opinions, students use also new vocabulary that has denotative, connotative, and figurative meanings paying attention to the norms of politeness and the purpose of communicating.

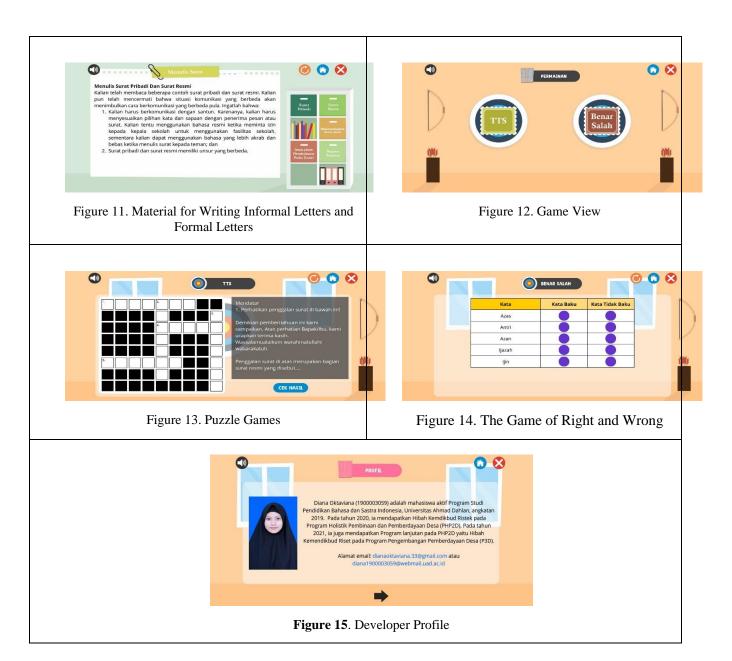
In the independent curriculum, Core Competencies have been changed to Learning Outcomes while Basic Competencies have changed their terms to Learning Objectives. Learning objectives and learning outcomes have been arranged systematically according to the needs of students. The material applied in the media has also been adjusted to the Indonesian textbooks and student competencies. In this learning students will be trained to know, explore, analyze and convey arguments or opinions related to the information obtained by students. Learners can also learn new vocabulary related to the text of personal letters and formal letters.

2) Design

At this stage, researchers design concepts that will be included in Android-based gamification applications that will be applied in junior high schools. The first step that needs to be done by researchers is to make a design. The design of the application includes font assignment, animation used, application title, front page cover, application background, music, application usage instructions, learning outcomes, learning materials, games, and application developer profiles. In the initial design stage, researchers collect game references and concept images that will be applied in the game. Then, the researcher consulted the supervisor regarding the draft learning application that had been determined and the type of game applied in the application. Furthermore, the

researcher determined the material used in this study, namely the text of personal letters and formal letters then compiled the material into the application. The gamification learning application design can be seen through the following image:





3) Development

This stage is carried out after the design stage has been set. At this stage, researchers develop products that have been designed in accordance with the application concept that has been set. In the first part there is an application cover. The cover consists of an animated image, application title, name, and home animation design. The title of the application is Media Pembelajaran Interaktif Surat Pribadi & Surat Resmi by the name of the application developer, Diana Oktaviana. On the homepage or main menu there are five doors consisting of instructions, learning outcomes, materials, games and application developer profiles. First, the instructions are a section that contains instructions for using the application consisting of a button to go to the main menu, a button to go to the material submenu page, a button to turn background sounds on and off, a button to go to the previous or next page, and a button to exit the application. Second, learning outcomes consist of learning objectives and competency achievements that will be completed in learning through applications. Third, learning materials consist of formal letter materials, formal letters, comparing elements of personal letters and formal letters, types of openings to letters, various greetings, and writing letters. Fourth, the game menu consists of two types of games, namely crossword puzzle games containing five questions and right and wrong games containing five questions. Fifth, the developer profile consists of two author identities, namely Diana Oktaviana as an application developer and Dr. Purwati Zisca Diana, M.Pd. as a supervisor. The next step is to conduct validation tests for material experts, media experts, and teaching experts. After getting input, both criticism and suggestions, the researcher then revises the product.

4) Implementation

At this stage, researchers test products in classes that have been determined as experimental classes and control classes. In this case, students who become experimental classes and control classes enter the population of test subjects. The first step taken is to give pre-test questions to two classes, namely class VII B and class VII C. After getting the results of the pre-test score, class VII B with the highest average score is determined to be the control class and class VII C with the lowest average score as the experimental class. Furthermore, researchers provided material to the control class using Power Point media while in the experimental class using learning media in the form of applications. After providing the material, researchers submitted post-test questions to see the average results of the scores obtained from each class. The value of the pre-test and post-test results is then processed to test the effectiveness of application development carried out by researchers. Then, the researcher provided a questionnaire sheet for students' responses to the applications that had been used. The following is the data from student responses:

 Table 2. Student Response Results

No	Assessed Aspects	Student Answer Percentage Results	Information
1.	The material presented in the application is very clear	85%	Very Feasible
2.	The questions given in the application are very clear and easy to understand	77%	Proper
3.	The language used by the application is correct	78%	Proper
4.	The application can increase interest in learning	75%	Proper
5.	I understand the material easily	74%	Proper
6.	The presented application is not monotonous	62%	Proper
7.	The design displayed in the application is very attractive	73%	Proper
8.	The game presented is fun	75%	Proper
9.	The application can improve student understanding	75%	Proper
10.	I feel the benefits of using the application in learning activities	65%	Proper
11.	The application makes me eager to learn	79%	Proper
12.	The application is not boring	73%	Proper

5) Evaluation

At this stage, products that have been developed, validated, and implemented in schools then assess the results that have been done. At this stage, researchers test the results of the data that has been obtained to test its feasibility and effectiveness. This is done so that researchers can revise the product if the product developed still needs to be improved.

Based on the results that have been obtained from validation experts and student responses, the development of Android-Based Gamification Media Design for Personal Letters and Formal Letters of Junior High School Class VII can be categorized as "Very Feasible" products for use in daily learning at school. Any criticism and suggestions given can be used to improve the quality of applications that have been developed by researchers.

4. Conclusion

From the results obtained by the research on Android-based gamification media design development on the text of personal letters and Class VII formal letters, it can be concluded that this research aims to describe the results of the Development of Android-Based Gamification Media Design on Personal Letter and Formal Letters of Junior High School Class VII. At the development stage, researchers use the type of Research and Development (R&D) research with ADDIE research design which includes the stages of analysis, design, development, implementation, and evaluation. In the first stage carried out by researchers is to analyze problems that exist in schools, the needs of students, and analyze the curriculum used in schools. At this stage, researchers make observations and interviews with teachers to find out the problems faced in schools. Furthermore, through the results of interviews conducted with teachers, the results of student needs were obtained. From the needs needed by students, researchers examined the curriculum used in grade VII until from the results of the analysis data researchers developed gamification media to overcome problems in schools. Second, design the application media to be developed. At this stage, researchers design the use of letters, application titles, front page covers, menu backgrounds, music, application usage instructions, learning outcomes, learning materials, games, and application developer profiles. In addition, researchers also conceptualize the material used, questions used for application, prepare modules, make learning objectives and learning outcomes. Third, develop gamification application media that has been designed and conceptualized. At this stage the application is developed in accordance with the form that has been conceptualized by the researcher, then conducts validation tests to material experts, media experts, and teaching experts. Fourth, implement products that have been developed to schools. At this stage, researchers provide pre-test and post-test questions to the class to be tested. The problem is used to determine which class is the control class and the experimental class. The pre-test and post-test activities are used to measure students' understanding before being given material and after being given material using the application. Then, from the pre-test and post-test result data, these values are processed to see the feasibility and effectiveness of the developed media. Fifth, evaluate products that have been developed based on assessments from validation experts and student responses to achieve applications that can provide benefits to students.

References

- Anggreni, N. L., Putu, Subagia, I. W., & Rapi, N. K. (2020). Pengembangan Validitas, Efektifitas dan Kepraktisan Model Pembelajaran Blended Learning untuk Meningkatkan Hasil Belajar Ipa Terapan. *Jurnal Imiah Pendidikan Dan Pembelajaran*, 4(2), 328–337. https://ejournal.undiksha.ac.id/index.php/JIPP/article/view/26109
- Haderani, H. (2018). Tinjauan Filosofis tentang Fungsi Pendidikan dalam Hidup Manusia. *Jurnal Tarbiyah : Jurnal Ilmiah Kependidikan*, 7(1), 41–49. https://doi.org/10.18592/tarbiyah.v7i1.2103
- Jusuf, H. (2016). Penggunaan Gamifikasi dalam Proses Pembelajaran. In Jurnal TICOM (Vol. 5, Issue 1).
- Khairul, K., Haryati, S., & Yusman, Y. (2018). Aplikasi Kamus Bahasa Jawa Indonesia Dengan Algoritma Raita Berbasis Android. *Jurnal Teknologi Informasi Dan Pendidikan*, 11(1), 1–6. https://doi.org/10.24036/tip.v11i1.102
- Khurriyati, Y., Setiawan, F., & Mirnawati, L. B. (2021). Dampak Pembelajaran Daring Terhadap Hasil Belajar Siswa Mi Muhammadiyah 5 Surabaya. *Jurnal Ilmiah Pendidikan Dasar*, 8(1), 91. https://doi.org/10.30659/pendas.8.1.91-104
- Muqdamien, B., Umayah, U., Juhri, J., & Raraswaty, D. P. (2021). Tahap Definisi Dalam Four-D Model Pada Penelitian Research & Development (R&D) Alat Peraga Edukasi Ular Tangga Untuk Meningkatkan Pengetahuan Sains Dan Matematika Anak Usia 5-6 Tahun. *Intersections*, 6(1), 23–33. https://doi.org/10.47200/intersections.v6i1.589
- Sahfitri, A., & Hartini, S. (2019). Metode ADDIE Pada Aplikasi Interaktif Mengenal Bagian Tubuh Manusia Dua Bahasa Untuk Anak Sekolah Dasar. *Information System For Educators And Professionals*, 3(2), 141–152. http://ejournal-binainsani.ac.id/index.php/ISBI/article/view/1085/955
- Sujana, I. W. C. (2019). Fungsi Dan Tujuan Pendidikan Indonesia. *Adi Widya: Jurnal Pendidikan Dasar*, 4(1), 29. https://doi.org/10.25078/aw.v4i1.927

- Sujinah. (2020). Indonesian Learning Challenges and Solutions in the Covid-19 Era. *Stilistika: Jurnal Pendidikan Bahasa Dan Sastra*, 13(2), 256–271.
- Syaparuddin, S. (2020). Peranan Pendidikan Nonformal Dan Sarana Pendidikan Moral. *Jurnal Edukasi Nonformal*, 1(1), 173–186. https://ummaspul.e-journal.id/JENFOL/article/view/317
- Yildirim, I. (2017). The effects of gamification-based teaching practices on student achievement and students' attitudes toward lessons. *Internet and Higher Education*, 33, 86–92. https://doi.org/10.1016/j.iheduc.2017.02.002
- Yusuf, K. (2020). Pengaruh Model Pembelajaran Blended Learning Menggunakan Google Classroom Terhadap Kemampuan Pemecahan Masalah Matematis Siswa Smp. *Skripsi*, 1–38.