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Gamification Based on Android to Improve Comprehension Civics for Deaf Student

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ABSTRAK

Permasalahan yang terjadi dalam proses pembelajaran kelas III SLB B atau siswa tuna rungu bersumber dari cara guru dalam menyampaikan materi dan karakteristik dari siswa. Guru masih mengajar dengan metode yang sederhana sehingga siswa menjadi cepat bosan. Dalam proses pembelajaran diperlukan media yang mengedepankan visual agar memudahkan siswa menangkap materi yang disampaikan oleh Guru. Penelitian ini bertujuan untuk mengembangkan media pembelajaran gamifikasi berbasis android pada materi PKn tema 8. Penelitian ini menggunakan metode Research and Development (RnD) menggunakan pendekatan ADDIE. Partisipan dalam penelitian ini adalah siswa kelas III SLB B sejumlah 20 siswa. Proses pengumpulan data dengan wawancara,kuesioner, dan observasi. Sedangkan instrumen yang digunakan adalah kuesioner dan tes. Teknik analisis data menggunakan SPSS dengan independent t-test. Hasilnya adalah media gamifikasi berbasis andorid layak untuk digunakan dalam proses pembelajaran, pada kelas eksperimen nilai rata-rata post tes 9.10 sedangkan kelas kontrol 8.00. Berdasarkan nilai tersebut penggunaan media pembelajaran gamifikasi berbasis android pada kelas eksperimen lebih efektif dalam meningkatkan pemahaman siswa terhadap PKn dibandingkan dengan kelas kontrol yang tidak menggunakan media pembelajaran gamifikasi. Dengan demikian, gamifikasi mempunyai pengaruh positif terhadap peningkatan pemahaman siswa.

ABSTRACT

The problems that occur in the learning process for class III SLB B or deaf students originate from how the teacher conveys the material and the characteristics of the students. Teachers still teach in a simple method, so students get bored quickly. In the learning process, media is needed that prioritizes visuals to make it easier for students to capture the material presented by the teacher. This study aims to develop android-based gamification learning media on Civics theme 8 material. This research uses the Research and Development (RnD) method using the ADDIE approach. The participants in this study were 20 students of class III SLB B. The process of collecting data with interviews, questionnaires, and observation. At the same time, the instruments used are questionnaires and tests. Data analysis technique using SPSS with independent t-test. The result is that Android-based gamification media can be used in the learning process. In the experimental class, the average post-test score is 9.10, while in the control class is 8.00. Based on these values, the use of Android-based gamification learning media in the experimental class increased students' understanding of Civics compared to the control class, which did not use gamification learning media. Thus, gamification has a positive influence on increasing student understanding.

1. INTRODUCTION

Children with special needs, previously known as extraordinary children, are children who need special education and services, this is intended to achieve their potential as a whole human being (Nakanishi, Sumioka, & Ishiguro, 2019; Pit-ten Cate, et al, 2018). In this case the education sector plays a role in fulfilling the learning needs of children with special needs, by establishing special education or what is often known in Indonesia as Special Schools (Cahyani, 2019; Murray et al., 2020; Toma et al., 2019). There are several conditions for children with special needs, for example deaf students. The characteristic of the deaf is the condition of a person whose hearing is lacking or missing, which causes difficulty in receiving stimuli related to hearing. Because they have certain characteristics, deaf students have difficulty accepting the material being taught and also when the child is in a social environment, the character to become a social human being who helps each other, shares and interacts is lacking (Mantzikos & Lappa, 2020; McKeown & McKeown, 2019). If civics education cannot be given properly to SLB students, then character education to shape the morale of these SLB students will be threatened with failure, especially to form them into Indonesian citizens who have the soul of Pancasila.

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As Indonesian citizens, children with special needs also have the right and obligation to recognize their nation through character education with Pancasila and Civic Education (Kurniawan, 2017; Magdalena et al., 2020; Winataputra, 2016). Pancasila education that is applied to class III SLB B is summarized in core competencies, several core competencies include understanding the material so that students behave honestly, disciplined, responsible, polite, caring, and confident in interacting with family, friends, and teachers to have good behavior. Therefore it is necessary to make efforts to improve and form effective teaching strategies for students with special needs (de Boer et al., 2011; Rosita & Suherman, 2020; Shaukat et al., 2019). Keeping up with the dynamic times, and the rapid increase in the field of technology also demands the ability of teachers to continue to improve and update skills, including skills in developing teaching innovations with digital-based media utilization (Ramadani et al., 2021; Soetan et al., 2021). To provide multimedia-based learning for children with special needs, an understanding of the conditions of each student is required. Learning media is a tool in delivering material so that the message conveyed is easier to accept and students are more active so that learning objectives can be achieved (Gazali & Pransisca, 2021; Tariska Widiastuti, Fadilla, et al, 2022). Learning strategies must be adapted to the special needs of each student because it will determine what features need to be provided specifically for students.

The level of student understanding is strongly influenced by the ability to accept the subject, with increased student understanding, this will make it easier to learn a material. The ability of teachers to master digital technology and classroom management is a collaboration that is needed so that education can be of high quality (Jamalpur et al., 2021; Jones et al., 2021; Ma'rifah et al., 2021). In this digitalization era, we must take advantage of opportunities for technological advances to create digital technology-based learning media. The development of information and communication technology leads to the use of sophisticated technology. Including learning-based games that are one way to provide learning experiences that can make students collaborate with each other (Putri & Muzakki, 2019; Yaccob & Yunus, 2019).

Learning-based games are games that are used in the learning process and contain educational elements or educational values (Andari, 2020; Wardani & Mundilarto, 2021). Educational games are an alternative means of independent learning, because students can use these educational games repeatedly. In addition, because the form is a game, it makes it easier for students to be interested in playing it so that without realizing it, students are actually learning a material at the same time (Y. I. Kurniawan et al., 2022; Muloke et al., 2017; Nawafilah & Masruroh, 2020). With these various limitations gamification can be an alternative in solving the problems of deaf students, gamification is a learning approach by applying elements in games to non-game situations, this can increase student interest in the learning process as a mechanism for increasing understanding of Pancasila material. Some things that can build gamification are games, elements, designs and non-game elements.

Gamification can be said to be the use of game design elements in non-game contexts in making products, services or programs that are increasingly attractive and fun. (Chapman & Rich, 2018; García-Jurado et al., 2021). In recent years, gamification has become an innovative and promising tool that has been adopted very quickly in various sectors and applied in different contexts, such as education (Sousa-Vieira et al., 2016; Wardana & Sagoro, 2019). The concept of gamification is the provision of rewards to students that are expected to motivate and increase student engagement in learning because it has various elements of game. (Groening & Binnewies, 2019; Sailer et al., 2017). Other research found that the use of gamification learning media has a positive effect on students in the form of increased motivation and student learning outcomes (understanding) (Ab. Rahman et al., 2018; Pawlak et al., 2020).

Based on the results of observation activities, the teaching and learning process still used a simple method. Teachers mostly lecture while teaching in class, which causes students to get bored easily in participating in learning activities in class. Students' boredom is shown by the behavior of students who do not pay attention to the teacher's explanation. Students tend to act engrossed in themselves such as running around class, chatting with friends, disturbing friends, and there are also students who eat and drink during learning. If the teacher invites interaction and discussion about learning material, students are only passive, unable to provide feedback or answer questions from the teacher. This makes students bored, the boredom experienced by students while teaching can be seen as a complex problem that must be overcome, it is hoped that this will create more creative teaching. Boredom in teaching is considered a force to stimulate action that can encourage teachers to seek and shape learning that is more innovative, creative and able to make students more active in learning. In addition, the scores of some students are still below the KKM. Based on these observations, it is necessary to find a solution to overcome this, namely developing learning media that can assist teachers in delivering material by utilizing gamification-based technological developments.

Previous research findings state that gamification has the potential to improve learning outcomes, satisfaction, well-being and student discipline (Khenissi et al., 2015; Mascio et al., 2013). Other findings also state that Gamification can be used as a teacher's guide in learning and increasing each student's self-

mastery (Adisti, 2022; Ahmad et al., 2020; Bernik et al., 2019). Based on the problems and solutions developed, this study aims to develop Android-based gamification learning media. The novelty this study is the gamification that researchers have developed in the form of Android-based gamification to improve civics comprehension and can also be accessed through online and offline websites that focus on learning media for deaf students that are user friendly. It is hoped that deaf students can learn easily so that they can increase their understanding of civics.

2. METHOD

This research method uses a Research and Development (Rnd) with the ADDIE approach model. Product development research through the ADDIE model is considered to be effectively applied to develop products for student learning (Adisti, 2022). The ADDIE model provides high-level guidance for development. The stages are sequential, depending on the successful completion of the previous phase (Jonnalagadda et al., 2022). ADDIE provides conceptual phase of systematic training ADDIE model is considered flexible enough to be adapted to learning. Therefore, it is a great model to use in digital learning development (Almelhi, 2021). The 5 phases of the ADDIE model development starting from analysis, design, development, implementation and evaluation (Cornelius & Wilson, 2019).

First, analysis phase is the initial stage in setting goals. The attention of a researcher at this stage is on the target or subject to be studied, namely analyzing the needs of teachers and students. At this stage it is seen how the learning process takes place which describes the student learning environment. This stage will also find out whether there are problems between what is expected in learning and what is achieved in practice in class. Researchers identified how the characteristics of students, prior knowledge of students, and the various resources available in the learning process. The results of observations of learning activities that take place in class can be used as material for analyzing student needs, and alternatives in dealing with gaps in the teaching and learning process. One of them is through learning media according to class needs.

Second, Design phase is the follow-up stage of the initial analysis. After knowing the needs of teachers and students, the researcher will make a media design that is in accordance with the conditions of the target or research subject. The process of designing media must be based on concepts and materials that will be studied further. This phase designs everything related to the learning process. At the design stage, the focus will be on learning design, such as setting learning objectives, material to be discussed, evaluation, learning implementation plans. At this design stage, the design of the learning media that will be developed is carried out. The preparation of the design of Android-based gamification learning media is the result of designing materials and media. The design of the material concept was carried out by the researcher with the help of the class teacher, in designing the material the researcher collected data related to the syllabus of Civics class 3.

Third, development phase is the product or media stage that has been designed, validated and tested. The purpose of the development stage is to develop products that have been validated by experts in their respective fields. In addition, trials conducted on several people will show how the response is to the product being developed. From the product validation and testing activities, a number of useful suggestions will be obtained as a basis for consideration for revising the product, so that in the end a final product will be developed that is ready and feasible to be implemented by students. Fourth, implementation phase is the stage of using the media in a predetermined class. At this stage a test was also carried out to collect data on student scores, so that at a later stage it would be known how effective the use of media was. Fifth, evaluation phase, a test will be carried out to test the effectiveness of the media products that have been developed for the variables that you want to improve. This test is carried out to find out how effective the use of a product is in a class.

This study used a sample of 20 students in class III SLB B and used 2 class groups, namely control and experimental classes. The data collection process used interviews, questionnaires, and observations. While the instruments used were questionnaires and tests. Product testing in this study were carried out by testing instruments, product tests consisting of expert validity tests, product trials with small and large groups. The application was developed using the Construct 2 application with the help of Adobe Photoshop and several other software. Data analysis techniques using SPSS with independent t-test. The independent t-test was not only conducted on the pre-test for the experimental and control classes, but also on the post-test scores of the experimental and control classes. The purpose of the independent t-test on the post test value is to find out whether the experimental class that has received learning with gamification media gets better understanding scores compared to the results of understanding scores in the control class that does not get learning with gamification media. The aspects assessed in the questionnaire consist of display design and content design for media experts which will be presented in table 1 and aspects of content feasibility,

presentation feasibility, language feasibility, contextual assessment for material experts which will be presented in Table 1 and Table 2.

Table 1. Media Experts Questionnaire

No	Aspect	Indicators	Total Item
1	Display Design	a. Layout b. Color c. Font d. Module Cover Illustration	6
2	Content Design	a. Communicative b. Layout Consistency c. Image display d. Neatness, attractiveness and harmony	19
		Total	**25**

Table 2. Material Expert Questionnaire

No	Aspect	Indicators	Total Item
1	Content Feasibility	a. Suitability of Material with SK and KD b. The accuracy of the material c. Up-to-date material d. Encouraging Curiosity	12
2	Presentation Feasibility	a. Presentation Technique b. Presentation Support c. Presentation of Learning d. Coherence and Orderly Flow of Thought	5
3	Language Feasibility	a. Straightforward b. Communicative c. Dialogical and Interactive d. Appropriateness to Student Development e. Conformity with Language Rules	9
4	Contextual Assessment	a. The Nature of Contextualization b. Contextual Components	9
		Total	**35**

The trial of gamification digital learning media products consists of two test stages, namely small group limited trials and large group limited trials. In this study, the validators will be given a validation sheet. The gamification media validation sheet, validators for material experts, media experts, and teacher will provide assessments and notes as revision material. The validation questionnaire sheet assessment consists of 5 assessment criteria with a range of 1-5. The scores that have been given by the validators will be sought for the average and categorized qualitatively using the value conversion guidelines. The score conversion guidelines showed in Table 3.

Table 3. Score Conversion Guidelines

Interval Skor	Kriteria
X > 4.21	Very Good
3.41< X ≤ 4.21	Good
2.60< X ≤ 3.41	Pretty good
1.79< X ≤ 2.60	Less Good
X ≤ 1.79	Very Less Good

3. RESULT AND DISCUSSION

Result

In the early stages of this research, a preliminary study was carried out, to carry out an analysis starting from the implementation before learning, analyzing the needs of teachers and students, to alternative solutions that can be developed according to the needs of the class. This stage includes

observation, interviews and literature study. From the results of observations it is known that the learning activities carried out by the teacher are very monotonous, so that students' attention cannot be focused on learning for a long time. Monotonous learning will make students passive, because they are not involved in active interactions in class. Students who are actively involved in learning will be more focused and pay high attention to learning, so it is important to create active interactions in learning. One aspect that is very important in the learning process is the involvement of students in interactions through behavior related to the actual recognition of each individual's learning talents, so that students will more easily understand the learning material taught in class (Cornelius & Wilson, 2019).

Students who are not enthusiastic about taking lessons will more easily feel bored and cannot pay attention for a long time to learning activities. When observing learning activities in class, students who are bored will tend to do activities that are not related to learning such as disturbing friends, eating food light, to run around in the classroom. Activities like that will certainly disturb other students who still want to learn. Students' active involvement in learning must be increased to prevent disruptive behavior of students towards other students and reduce students' negative emotions such as feelings of anxiety, frustration, and boredom (Sihaloho et al., 2020).

The boredom experienced by students in taking lessons can be used as an opportunity to create better and more interesting learning activities. The boredom experienced by students in learning activities in class can be seen as a complex problem that must be overcome so as to create more creative learning. Students who feel bored in learning in class are considered as a force to stimulate action which can encourage teachers to seek and form learning that is more innovative, creative and able to make students more active in learning (Hanina et al., 2021). From the preliminary study stage it can be analyzed that teachers have obstacles to developing learning media that suit current needs.

At the design stage the developed gamification media. The preparation of the design of Android-based gamification learning media is the result of the design of materials and media. The concept of the material to be used in the development of gamification media was carried out through discussions between researchers and teachers of deaf students. Learning with an integrated thematic nature will greatly help students to classify material on each theme studied. Education currently requires students to be able to connect between lessons or cross-knowledge with the life of the environment around students based on factual knowledge. Student competency can be achieved through integrated thematic learning and there is no overlap between materials and learning will be more effective and efficient. The material must be adapted to the learning activities that will be carried out in class, so that learning objectives and competencies can be achieved by students more optimally.

The design stage of the material concept was carried out by the researcher with the help of the class teacher, in designing the material the researcher collected data related to the civics class 3 syllabus. The design included selecting themes, sub-themes, KI, KD, indicators, and Civics subject matter in this study. At the design stage, the media created has adapted to the characteristics and conditions for students. The game design determines the game concept to be developed. The concept of the game is designed in the simulation genre which describes the activities of daily life. The selection of games with the daily life simulation genre is intended to make it easier for students to understand the subject matter that has been designed, through life simulations that are real and experienced by students every day.

The third stage in this research is development. The development phase aims to create and build all the content and components based on the design phase, build the structure of the teaching and learning program, and make the program available on the delivery media to be developed (Budoya et al., 2019).This stage includes the following stages: product validation (material and media), the trial stage at the trial stage will be revised according to input and needs, and the stage for drafting the final product which is the final product that has been validated, passed the test, and declared feasible to be implemented in students. The development stage is the stage for validating and testing the product. This stage is also part of product revision, suggestions coming from the validator team or test respondents, will be used as a basis for consideration for making improvements so that proper product results are obtained to be implemented on students. Product validation was carried out by 4 experts, consisting of 2 material expert teams and 2 media expert teams. Validation was not only carried out by media experts, but also by two material experts. Material validation made an assessment referring to aspects of content feasibility, presentation feasibility aspects, language feasibility aspects, and contextual assessment aspects.

At the development stage to validate the feasibility of a product, trials were also carried out on gamification digital learning media products. The product test phase includes three stages, namely small group limited trials, large group limited trials, and large group trials. Play-aged children spend a lot of time in front of gadgets, because gadgets provide a variety of interesting entertainment for children (Cornelius & Wilson, 2019). The advice given aims to get students to get a moral message, so they can still act wisely in using gadgets. Some of the suggestions at this stage are used as revision material to make a better product.

The revised product will be tested again at the large group limited trial stage. These results indicate that the product is very feasible to be applied as a learning medium for deaf students. Discussion is the most important part of the entire contents of scientific articles. The objectives of the discussion are: answering research problems, interpreting findings, integrating findings from research into existing sets of knowledge and composing new theories or modifying existing theories.

The product produced in this research is an android-based gamification learning media.. Before becoming a final media that is feasible to be implemented in students, several stages are carried out including: product validation (conducted by media experts and material experts, small group trial stages and large group trials. The trials will be revised according to input and needs. The validation results of the gamification media are explained in table 4.

Table 4. Gamification Validation Results

No	Validator	Average Aspect	Category
1	Media 1	3.12	Pretty good
2	Media 2	5.00	Very Good
3	Material 1	4.46	Very Good
4	Material 2	4.86	Very Good
5	Small Test	3.87	Good
6	Large Test	4.32	Very Good

The final product design is the result of a product that has been revised through the validation stage by experts and the trial stage by the teacher. Each stage will provide suggestions that are used to revise gamification products, so that the product is feasible to be implemented to students in learning. Gamification product showed in Figure 1.

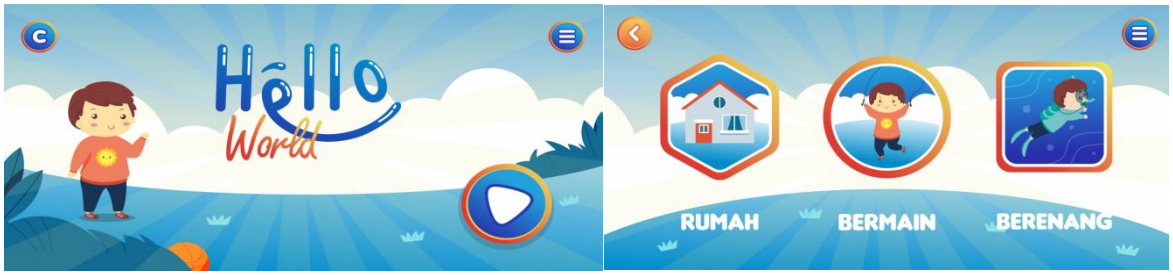

Figure 1. Gamification Final Product

At the implementation stage after the product has been validated, tested, and revised, the media is ready to be applied to students. Before entering the implementation phase, it is expected that the analysis, design and development phases must be adequate so that the implementation process can run in accordance with knowledge construction and promote deep learning and encourage deep learning (Zhang, 2020). Gamification media will be used as learning media in class. Gamification media products are implemented in the experimental class. The class is divided into two, namely the experimental class and the control class. The experimental class received learning treatment using gamification media, while the control class carried out learning without the help of gamification media. Students pay close attention to the explanation given by the teacher, starting from the stage of accessing the game, introducing the game, to using the game. During the learning process students really focus and seriously participate in gamification. One of the purposes of using media is to involve students in learning, so that students' attention is focused or fully immersed in the lesson (Mee, Rita Wong Mee, Pek Lim Seong, 2021).

Implementation of learning in the control class, runs as usual where the teacher uses methods that are commonly used such as the lecture method (doing one-way explanations) without the help of special learning media. Before carrying out learning, the teacher has also prepared a lesson plan. After the preparation was carried out, a pre-test was held to determine the initial abilities of students in the control class. The next stage is the implementation of learning in class. The teacher applies learning as usual by providing explanations about Pancasila values material, even though the class looks passive the learning continues in a conducive manner.

The final step of ADDIE in the evaluation. At the evaluation stage, participants can provide suggestions for system improvement (Yu et al., 2021). The assessment will be conducted to find out and measure the extent of the influence provided by gamification media on student understanding. There are

two classes that become the subject of research, namely the experimental class that gets learning with gamification media, and the control class that conducts learning as usual without the help of gamification media. The data collected for the evaluation stage comes from student test scores conducted at the implementation stage. There are two types of tests, namely pre-test conducted at the initial stage and post-test conducted at the final stage.

The pre-test between the experimental class and the control class was conducted to determine the initial ability of students, whether students have average or different abilities. Before being given treatment in the experimental class, a pre-test was first carried out on both classes, to determine whether or not there was a difference between the average value of the experimental class and the control class, a t-test (independent sample t-test) was carried out on the pre-test values of the two classes. The results of the post-test test between the experimental and control classes were used to determine the effectiveness of using gamification media to improve student understanding. From this test it is known that the data is normally distributed and homogeneous, so it can be continued to conduct an independent t-test.

The purpose of the independent t-test was to find out whether the experimental class that received learning with gamification media obtained a better understanding score compared to the results of understanding scores in the control class that did not receive learning with gamification media. The results of data analysis, obtained the average value in the experimental class is 9.10 and the average value in the control class is 8.00. In the independent t-test test, the test decision is based on two considerations, namely the results of the t value and the probability value (sig). Before comparing t_{count} value with the t_{table} , the first step is to find the value of t_{table}. In the effectiveness test, the hypothesis used is the directed hypothesis, which states the approximate results of using media that are more effective or better in increasing student understanding. If the hypothesis is directed, then the test performed is a one-tailed test. As in testing the pre-test values, in the post-test values the first initial step is to determine the ttable value with a df value of 18 and α 0.05. Unlike the two-way test where the value of α must be divided by two, in the one-way test the value of α does not need to be divided by two . Value t_{table} is 1.734. df (N-2) = 18. Once the t_{table} value is known, the t_{count} value is searched using the SPSS independent t-test. Independent t-test results showed in Table 5.

Table 5. T-Test Independent Test Results

Comprehension Results	Criteria		Test Decision
	Value (t)	Probability (sig)	
Result test t	(2.703 > 1.734)	(0.007 < 0.05)	H_0 rejected, H_1 accepted
Conclusion	$T_{count} > t_{table}$	$P_{value} < \alpha$	

Based on the data in table 5, the results of the t-test will be used to determine a decision on the hypothesis that has been tested. There are two considerations for making a decision on test results. First by comparing the tcount value with the t_{table} value, 2,703 > 1,734. The $t_{count,}$ value is greater than the t_{table} value. Based on the test criteria, H_0 is rejected and H_1 is accepted. The second consideration is by comparing the results of the probability value test (sig) with a significance level of α of 0.05. In table 9 the probability value (sig) is 0.007 which is less than the α value of 0.025, so H0 is rejected and H_1 is accepted. Based on the consideration of the comparison of the tcount value with the ttable value and the comparison of the one tailed (sig) value with α 0.05 simultaneously rejects H_0. If H_0 is accepted and H_1 is rejected, it means that the use of gamification learning media in the experimental class is better (effective) to increase student understanding compared to the control class which does not use gamification learning media.

Discussion

The findings in this study found that gamification is effective in improving students' comprehension. Gamification is a learning approach by applying elements in games to non-game situations, so as to increase the attractiveness of students' enthusiasm for learning and the final result is to increase motivation and learning outcomes from these students (Ab. Rahman et al., 2018; Rivera & Garden, 2021; Sousa-Vieira et al., 2016). One alternative to create learning that suits the needs of teachers and students is to develop gamification digital learning media (Sailer & Homner, 2020; Sari et al., 2019; Toda et al., 2019). The development of gamification media help increase understanding of civic values for deaf students.

Life simulation games are games that are in great demand by users and continue to be produced by commercial game development companies (Landers, 2019; Saputra, 2015). The game concept that has been created is then designed into a flowchart, which describes the flow of users into the game system. The flowchart provides an illustration of game use starting from starting the game, playing the game from level 1 and level 2, to ending the game. If a flowchart has been made, the next step is to create a storyboard that

provides an overview of the design of the game's appearance in each part, from start to finish. The stage that is carried out after making flowcharts and storyboards is to make a prototype, which is a representation of the product idea design in the form of a real product. Virtual simulation as an effective learning strategy. Virtual simulation can provide a real picture of learning material (Chang et al., 2021; Herbert et al., 2021; Verkuyl & Hughes, 2019).

The teacher assisted students in using the game, the teacher also asked students several times regarding the obstacles experienced when using the game. But in general, there are no obstacles that prevent students from using game media in learning. The use of games in learning activities can improve learning outcomes and student activeness because student learning motivation increases (Lestari & Prima, 2017; Nisa & Susanto, 2022; Pratama & Setyaningrum, 2018). Students are very enthusiastic in participating in the lesson, when the teacher asks several questions and invites students to draw conclusions from the material that has been learned, students are more active in responding to questions and case illustrations given by the teacher. Students who often practice questions or get practice questions will have better thinking skills (Ibam et al., 2018; Kusuma et al., 2017; Ramadani et al., 2021). Students who are accustomed or trained to hone skills in thinking, it will be easier to digest and understand a material.

4. CONCLUSION

The result is that android-based gamification media is feasible to use in the learning process, where media experts, materials and teachers show suitability with the basic competencies taught according to the material and learning objectives. Based on the explanation of the results, the use of android-based gamification learning media in experimental classes is more effective in increasing student understanding of Civics subjects compared to control classes that do not use gamification learning media.

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