Design Game Design "Introduction of National Hero Figures For Children"

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KEYWORDS	ABSTRACT
Educational Games; National Hero Figures; Unity; Game Design	This research aims to design *an attention-grabbing and educational* design game about *National Hero Figures,* Hero Figures including in history lessons where now history is a compulsory subject that needs to be studied by all children. By studying history, it is hoped that students can know history and appreciate the services of previous heroes and draw subjects from the values contained in it. Through history, values and social skills can be developed for students in the form of democratic values, nationalism, patriotism, responsibility, independence and the importance of education for the progress of a nation. On the other hand, games for children are able to accelerate the occurrence of myelination which can improve cognitive and motor skills and can provoke interest in learning. Researchers designed educational games accompanied by interesting audio, animation and graphics to increase interest and help children learn to get to know national heroes. This design game was designed using Luther Sutopo's multimedia method. The luther sutopo multimedia method consists of several stages, namely concept, design, material collecting, assembly, testing, and distribution. The results obtained in the assessment through a questionnaire that has been tested at Mis Azrina, Jalan Marelan Raya No. 287 B, Rengas Pulau, Kec. in learning to get to know national hero figures that have been proven in the results of *the pre-test* and *post-test.*

1. Introduction

The use of learning media in schools has not been maximized. Learning media has not been widely used in the learning process in the classroom or independent learning. This research aims to make a valid and practical educational game as a medium for learning heroic history (U. Kurniawan, 2016; Puspitarini & Hanif, 2019; Siahaan et al., 2021). However, most applications are available in the form of games that are less educational. In fact, it often has a negative impact on users, especially for children who still cannot distinguish between positive and negative things. Almost the average school

child today prefers to spend time playing games rather than taking advantage of his time to study and ironically many of them do not even know and know the names of national heroes from Indonesia. With educational games with the theme of Indonesian national heroes, it is hoped that it will increase the values of patriotism and nationalism among children, as well as increase knowledge about heroic figures in Indonesia (M. A. Kurniawan et al., 2023).

Gaming has become one of the industries that has grown very fast lately. From the rapid development of the gaming world. The advancement of technology has made games no longer a game for certain groups. However, not everyone is interested and wants to play it. There are also people who want to make game design. Game design is an art of bringing and implementing real-world life into a game (Ulva & Akbar, 2021).

National Heroes so far are mostly unknown to children and parents, because history subjects are identified as boring learning in the classroom. Both strategies, methods and learning techniques rely more on a monotonous teacher-based approach. Teachers are positioned as the main source of information, using a rote teaching method with the book and lecture method. As a result of this learning process, students seem less enthusiastic about participating in learning and often become bored because they are not stimulated to be involved in activities with various variants that teachers should do in order to create a conducive learning atmosphere, where students can involve themselves in activities and creativity.

In this work, the author will make an educational design game to introduce national heroes for children as a learning goal for them. Heroes are included in history lessons, where now history is a compulsory subject that needs to be learned by all children's students. By studying history, it is hoped that students can know history appreciate the services of previous heroes and draw subjects from the values contained in it. Through history, values and social skills can be developed for students in the form of democratic values, nationalism, patriotism, responsibility, independence and the importance of education for the progress of a natio .

Boredom can cause laziness in learning for children which is the attraction of the creator to make this design game by utilizing it can improve the learning mood in children, children play can easily remember what they are playing, in other words, children are easier to memorize the subject while playing (Willingham, 2021). Games can also make memorization not easy to forget and not boring so that laziness does not arise in the children. This game also has parental guidance warnings, to always be under parental supervision when children play games so that children do not play for a long time to reduce the radiation radiation in children (Wibawanto, 2018).

Seeing the current conditions that have also developed well, the author will make an educational game to introduce national hero figures to elementary school children. Educational games are games that are specifically designed to teach a certain learning, develop concepts, understand, and guide players to practice their abilities and motivate players to be more interested in learning activities (Purwatiningsih, 2014; Wahana Komputer, 2021). Early childhood education stages tend to be interested in games that are easy to play and have an attractive visual display with a variety of colorful displays and images that are varied and attention-grabbing (Ardini & Lestariningrum, 2018). This stage will also make it easier to remember the lesson. Therefore, the educational game designed by this artist contains quizzes and puzzles. Quiz is a game like multiple choice with the content of guessing the hero character with a picture of the hero in each quiz (Isammudin et al., 2021). Puzzel is a puzzle game on a picture that has been cut into several parts to be arranged into an image, which with a variety of pictures of heroes, makes children even happier (Fatimah et al., 2017). So that it can help children get to know national hero figures more fun through games that run on android digitally offline. This game is designed with Unity 2D, in this game requires at least using the Android version 8.0/8.1 Oreo to the Android 13 version, which requires a minimum of 500Mb of memory (Adistya et al., 2023; Pramuditya et al., 2018).

The goal given by the author is to create interactive Game Design innovations as a learning medium for children. Help children to memorize national hero figures more easily and fun through game media. Gain new knowledge about the game Educational Design Game about hero characters.

2. Materials and Methods

Data collection techniques are the most strategic step in the research, this research aims to design quiz and puzzle games as learning media to increase learning and social enthusiasm in elementary school children. This design game was designed using Luther Sutopo's multimedia method. The Luther sutopo multimedia method consists of several stages, namely concept, design, material collecting, assembly, testing, and distribution. Because the main purpose of the research is to collect data. The data used in this study were obtained through literature studies. The data collection method is carried out in several ways, namely: This primary data collection is carried out through a field observation process through direct observation around Mis *Azrina Elementary School,* and the implementation of interviews as the main method, an interview with one of Mis Azrina elementary school teachers. Secondary data collection is obtained through various sources such as literature in the form of books, *online* sources, as well as relevant previous research. The author made a book entitled "Making Various Android Games with Adobe Animate", E-book source: wahana computer, 2012 entitled "Various Educational Game Designs with Adobe Flash cs5", E-book Didik Adi Sukmoko, (2007) "The Story of 124 Heroes and Warriors of the Archipelago By Komandoko", as a secondary media in the design of Design Games, Educational Games for the Introduction of National Hero Figures.

Data analysis is a systematic process to decipher and present data in order to gain a deeper understanding of the phenomenon being studied. The data that has been collected will be processed through 5W+1H analysis (*What, Who, Why, When, Where, and How*) to support the development of design concepts and creative solutions that will be a solid foundation for designing an informative, interesting, and in accordance with the needs and interests of the intended audience.

Table 1 Table 5W+1H Game Design "Educational Game Introduction."

5W+1H	Question	Answer
What	What is *a Design* Game?	*Game Design* is the art of applying the design and aesthetics of making *games* for entertainment or for educational, practice, or experimental purposes.
Who	Who is the target audience of a design *game* about hero character recognition?	The target audience of this book is children of elementary school age to teenagers who want to understand more deeply about the figures of National Heroes, and stories about all the histories of National Heroes.
Why	Why choose Hero characters as the subject of Game Design design?	National Hero figures were chosen because Hero figures are rarely studied in elementary schools which causes children to hardly recognize the National Hero figures. In fact, not only do elementary school children hardly know the figures of National Heroes, some of adults also do not recognize the figures of National Heroes who can make the Warriors forget
When	When will this Design *Game* plan be launched?	*This Design Game* will launch in early month 4 of 2024.

Where	Where will this Design Game be available or distributed?	*This Design Game* will be *uploaded* to *the Playstore* or *a separate* website.
How	How can we get children interested in the *Design Games* we make?	We will make a design that is very attractive for elementary school children, namely the appearance of Animation, Music Sounds and also *Character* Sounds that can make children interested and not boring when playing.

3. Result and Discussion
Main Media

The main medium in this design is Game Design which is expected to be able to attract the attention of children to play it. Game design provides learning about Hero characters in the form of games with various kinds of motion animations that can make children not only play and learn but can enjoy some of the motion animations made by the creator.

Figure 1 Game design "National hero figure recognition educational game" menu display

(*Source*: Renaldi Febriansyah, 2023)

From the game menu, where there is a logo from the game and also a game character that gives the impression of a warrior hero and also displays several animations ranging from running tanks, passing helicopters and also fighter planes. For the buttons on the display of this Menu there are several, namely:
- Button Quiz to enter into the Quiz game.
- Button Puzzle to enter into the Puzzle game.
- Button material to enter into the history of heroes for children to know about heroes as well as their history.
- There is a Setting button in the upper left corner to set the sound effects, music, and animations.
- Button how to play to learn how to play from the game, how to play the Quiz game and also the Puzzle game.
- And finally, there is an Exit button, which functions to exit the game.

The *design game* has the following specifications:

Dimensions/size	: Fullscreen Handphone (1520 x 720, 2048 x 1080, 1280 x 720)
Version	: 2023.1.0
Illustration	: Introduction of national heroes
Number of Button Functions	: Quiz (quiz game about Heroes) Puzzle (Hero Image Puzzle Game) Material (history – history of heroes) Exit (exit game) How to Play (game playing procedure)
Typography	: Radio A Treqer, Poppins
Software Visualisasi	: Coreldraw, Photoshop, Adobe Ilustrator, Adobe After Effect, Unity.
Realization	: Game Digital

Supporting Media

The author develops supporting media that can effectively increase public awareness of the *design game* that has been made, as well as disseminate information about the work. In order to achieve this goal, the author explored several supporting media that were considered optimal, namely: t-banners, infographics, screenads, keychans, book borders, mugs, bracelets and stickers.

Discussion
Documentation

All of these merchandise items are designed by taking inspiration from major media, creating an interesting alignment. In addition, the author engages elements of supporting information media, including *T-banners* and infographics, which synergistically support conceptual explanations.

Figure 2 Documentation of game design work
(*Source*: Renaldi Febriansyah, 2023)

Figure 3 Documentation of game design work
(*Source*: Renaldi Febriansyah, 2023)

Implementation of Work

By referring to the work that has been made, it has carried out the implementation of her work at Mis Azrina Elementary School and measured achievement through questionnaires given to children. The questionnaire serves to assess the extent of achieving the goals of this work. The data obtained by the author as the author comes from the results of filling out the questionnaire by the

respondents. The following is documentation of the implementation of the work that has been carried out:

Figure 4 Documentation (Photo is conducting a questionnaire about the design game "Educational Game for the Introduction of National Hero Figures" to students of Mis Azrina)
(Source: Renaldi Febriansyah, 2023)

Figure 5 (Photo with students and teachers at Mis Azrina)
(Source: Renaldi Febriansyah, 2023)

Questionnaire

The data obtained from filling out the questionnaire by the respondents, the author describes the data in the form of percentages, which will make it easier to understand the results of the questionnaire for the assessment of *this Game Design media* . The details of the questions given by the author and the results of the data received by the author from the questionnaire that have been given by the respondents are as follows:

1. Do you know the figures of National Heroes?
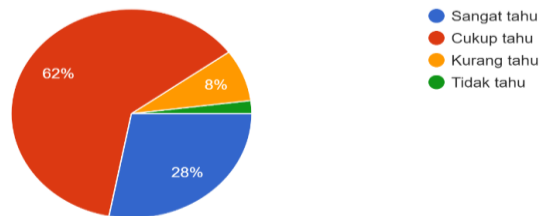
Figure 6 Diagram of Respondents to Design Game Players
(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 14 respondents (28%) stated that they knew very well with national hero figures. Meanwhile, there were 31 respondents (62%) who knew quite well about national hero figures, 4 respondents (8%) who did not know about national hero figures, and 1 respondent (2%) who did not know about national hero figures.

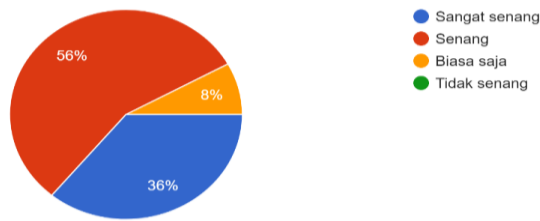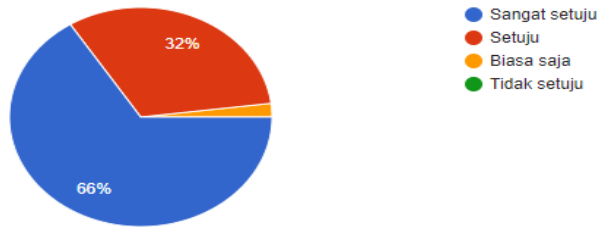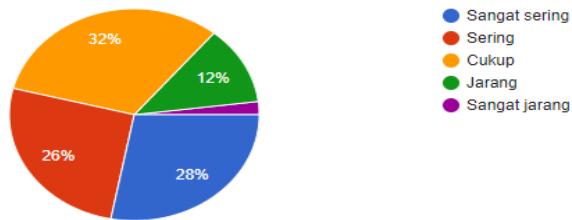2. Apa Kamu merasa senang dengan pembelajaran tentang pahlawan nasional? .

Figure 7 Respondent Diagram to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 18 respondents (36%) stated that they were very happy, 28 respondents (56%) stated that they were happy, and 4 respondents (8%) stated that they were ordinary. Determining that learning about heroes is a lot of fun to learn.

3. Do you think the learning of Indonesian hero history in your school is interesting?
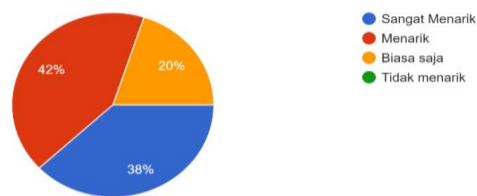
Figure 8 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 19 respondents (38%) stated that it was very interesting, as many as 21 respondents (42%) stated that it was interesting, and as many as 10 respondents (20%) stated that it was ordinary. It is certain that learning the history of this hero is interesting for children to learn.

4. Do you agree if there is a game for the introduction of National heroes?

Figure 9 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 33 respondents (66%) stated that they strongly agreed, as many as 16 respondents (32%) stated that they agreed, and as many as 1 respondent (2%) stated that it was ordinary. Stated that the respondents agreed with the existence of a national hero recognition game for a positive learning field and made a comeback by remembering the history of the heroes' struggles.

5. How often do you play games?

Figure 10 Respondent Diagrams to Design Game Players
(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 14 respondents (28) stated very often, as many as 13 respondents (26%) stated frequently, as many as 16 respondents (32%) stated quite often, as many as 6 respondents (12%) stated rarely, and 1 respondent (2%) stated very rarely. From the statement of the diagram above, many respondents often play games and also quite often, which ensures that the target of our educational games is suitable for respondents who play a lot of games.

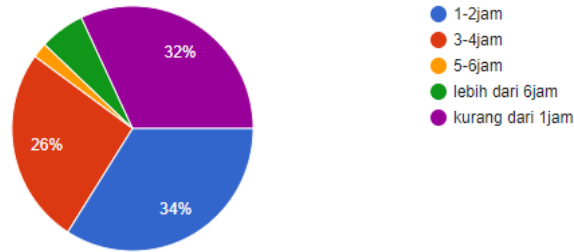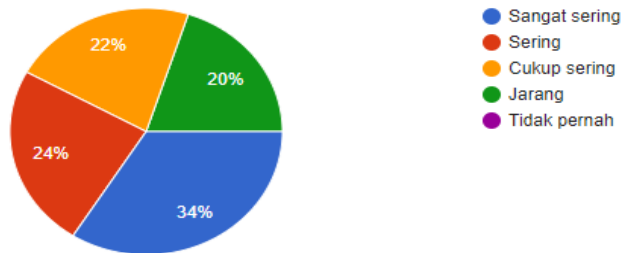6. How long do you use your phone for games in a day?

Figure 11 Diagram of Respondents to Design Game Players
(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 17 respondents (34%) stated 1-2 hours, as many as 13 respondents (26%) stated 3-4 hours, as many as 1 respondent (2%) stated 5-6, as many as 3 respondents (6%) stated more than 6 hours, and as many as 16 respondents (32%) stated less than 1 hour. From the statement of the diagram above, it is explained that many respondents played games for up to 1-2 hours and even some still played games for more than 6 hours, and here the game design "Educational Game for the Introduction of National Heroes" made a warning for the audience to play with parental guidance, so that things that make children play the game past the time period do not happen.

7. How often do you use your phone to study?

Figure 12 Diagram of Respondents to Design Game Players
(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 17 respondents (34%) stated that they were very frequent, 12 respondents (24%) stated that they were frequent, 11 respondents (22%) stated that they were quite frequent, and 10 respondents (20%) stated that they were rare. Here we know that there are still many people who use mobile phones for positive things, namely using mobile phones for learning media.

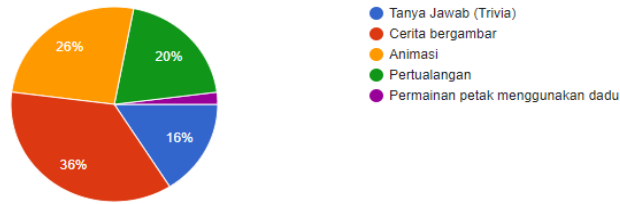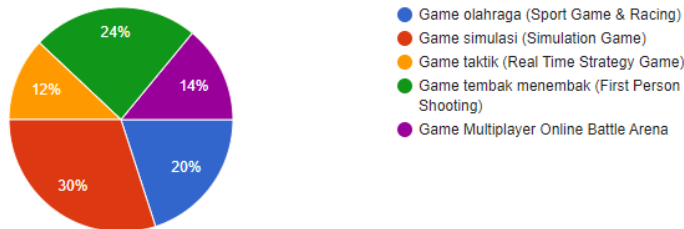8. What kind of Game model do you like?

Figure 13 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 8 respondents (16%) stated Q&A (Triva), 18 respondents (36%) stated illustrated stories, 13 respondents (26%) stated animation, 10 respondents (20%) stated adventure and 1 respondent (2%) stated a tile game using dice. From the statement of the diagram above, respondents chose more picture stories, as well as the design game "Educational Game for the Introduction of National Heroes" which featured a quiz game that had pictures, and there was material that could read about the history of Indonesian heroes.

9. What types of games do you play often?

Figure14 Diagram of Respondents to Design Game Players
(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 10 respondents (20%) stated sports games (sports games & Racing), 15 respondents (30%) stated Simulation Games, 6 respondents (12%) stated Tactical Games, 12 respondents (24%) stated Shooting Games and 7 respondents (14%) stated Multiplayer Online Battle Arena Games. From the above statement, the respondents preferred to choose simulation games.

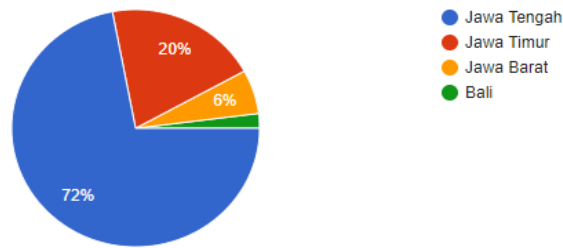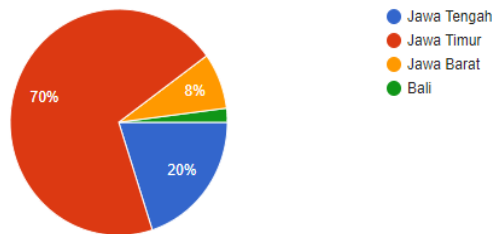10. From which province is the Indonesian Phlawan named " R.A Kartini" Comes?

Figure 15 Diagram of Respondents to Design Game

Players (Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 36 respondents (72%) chose Central Java, 10 respondents (20%) chose East Java, 3 respondents (6%) chose West Java, and 1 respondent (2%) chose Bali. From the above statement, many respondents know the province of origin of the hero R. A. Kartini.

11. From which province is the Indonesian Phlawan named " Soekarno" Comes?

Figure 16 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 10 respondents (20%) chose Central Java, 35 respondents (70%) chose East Java, 4 respondents (8%) chose West Java, and 1 respondent (2%) chose Bali. From the above statement, there are still many respondents who know the origin of our hero province and our first president, Mr. Ir. Soekarno.

12. From which province did the Indonesian National Hero named "Mohammad Hatta" come?
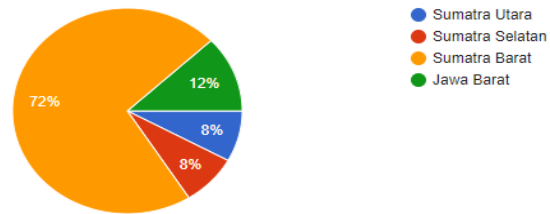
Figure 17 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 4 respondents (8%) chose North Sumatra, 4 respondents (8%) chose South Sumatra, 36 respondents (72%) chose West Sumatra, and 6 respondents (12%) chose West Java. From the above statement, there are still many respondents who know the origin of the province of our hero "Mohammad Hatta".

13. From which province did the Indonesian Hero named "Fakhuruddin come from"?
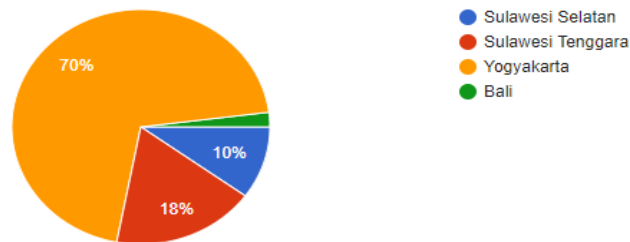

Figure 18 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 5 respondents (10%) chose South Sulawesi, 9 respondents (18%) chose Southeast Sulawesi, 35 respondents (70%) chose Yogyakarta, and 1 respondent (2%) chose Bali. From the above statement, there are still many respondents who answered correctly but there are still some respondents who do not understand and are wrong in answering questions about national heroes.

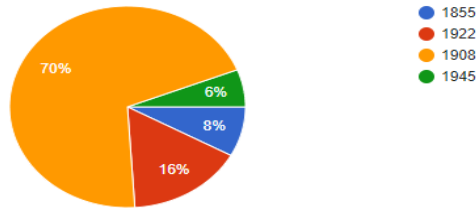14. What year did the Indonesian Hero Named "Cut Nyak Dien" die?

Figure 19 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 4 respondents (8%) chose 1855, 8 respondents (16%) chose 1922, 35 respondents (70%) chose 1908, and 3 respondents (6%) chose 1945. From this diagram, there are also many who answer correctly and there are still those who answer incorrectly in the question.

15. After you play the game "Gepetopana", do you think the game with the theme of Indonesian heroic history is interesting?
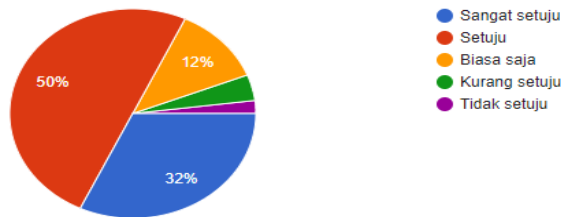

Figure 20 Respondent Diagrams to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 16 respondents (32%) stated that they strongly agreed, 25 respondents (50%) stated that they agreed, 6 respondents (12%) stated that they were ordinary, 2 respondents (4%) stated that they did not agree, and 1 respondent (2%) said they disagreed. From the above diagram statement, the design game "Educational Game for the Introduction of National Heroes" got the most agreeing statements, which means that the author's game succeeded in making respondents interested.

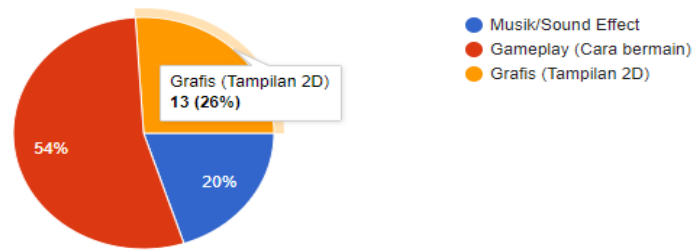16. What do you think makes this game "Gepetopana" interesting?

Figure21 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 10 respondents (20%) chose Music/Sound Effects, 27 respondents (54%) chose Gameplay, and 13 respondents (26%) chose Graphics. In the diagram above on the author's game, the respondents were most interested in choosing their Gameplay (How to Play).

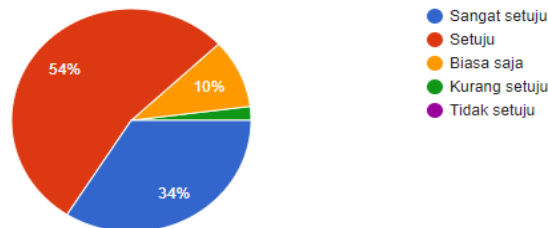17. Do you think the game "Gepetopana" can make learning the history of heroes more fun and interesting?

Figure 22 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 17 respondents (34%) voted strongly agree, and 27 respondents (54%) voted in favour. 5 respondents (10%) chose ordinary, and 1 respondent (2%) voted to disagree. From the diagram above, it is stated that many respondents strongly agree and also agree that the game that makes the author succeed in making the respondents play very fun and interesting.

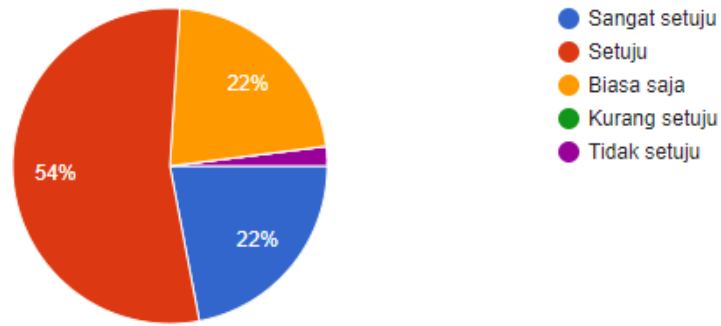18. Do you like the game "Gepetopana"?

Figure 23 Diagram of Respondents to Design Game Players
(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 11 respondents (22%) stated that they strongly agreed, 27 respondents (54%) stated that they agreed, and 11 respondents (22%) stated that it was ordinary. And 1 respondent (2%) stated that they disagreed. In the diagram above, it is stated that many people like the game that the author created.

19. Do you get new knowledge about heroes that you didn't know about after playing the game "Gepetopana"?
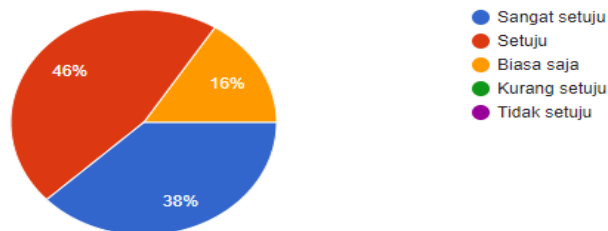

Figure 24 Diagram of Respondents to Design Game Players

(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 19 respondents (38%) stated that they strongly agreed, 23 respondents (46%) stated that they agreed, and 8 respondents (16%) stated that they were ordinary. From the diagram above, the game created by the author succeeded in making the respondents gain new knowledge about national heroes that they had never known.
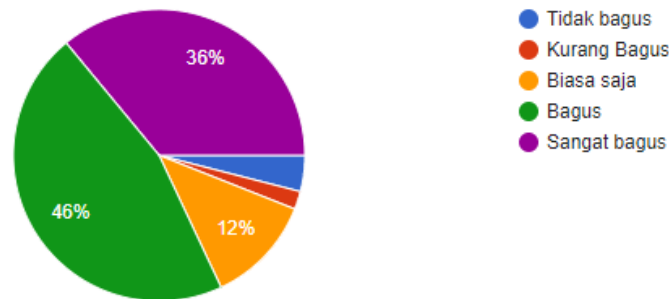
20. Write your thoughts about "Gepetopana" in.

Figure 25 Diagram of Respondents to Design Game Players
(Source: Renaldi Febriansyah, 2023)

Based on the diagram above, out of a total of 50 respondents, as many as 2 respondents (4%) stated that it was not good, 1 respondent (2%) stated that it was not good, 6 respondents (12%) stated that it was ordinary, 23 respondents (46%) stated that it was good, and 18 respondents (36%) stated that it was very good. In the assessment of the diagram above, the game created by the author received a rating of 46% good and 36% very good, which means that the game created by the author succeeded in making the respondents satisfied with the game created by the author.

4. Conclusion

The design of this game is a manifestation of concern for the importance of an alternative learning medium for heroic history for children. with the use of Android technology, it is expected to be able to support technological developments in early childhood education. The reappointment of the old history of the Heroes is also one of the introductions of heroes to the current generation. It is hoped that this media can attract children's interest in learning the History of Heroes. There is a lot to know and learn to produce this game as expected. The first thing to know is the theory of the hero guess quiz, this is the main content of the game. Therefore, creativity in this media is the main concern in design. Design theories and methods, especially game design, must be mastered, and manufacturing techniques and basic requirements for designing an Android game must be met. All of these theories and methods are adapted to the idea and theme of the game that adapt the history of heroes. A review of the history must also be done in order to produce a memorable experience when playing in the game. The next step is to create a design concept. All elements in the game are conceptualized according to the theme and design goals. The concept of media goals and creative goals must be achievable through media strategies and creative strategies. The strategy must be supported by a visual concept to produce the expected visuals. The game concept of this game must also be considered because the success of this game is determined by the success of the strategy in this part of the concept. The next process is to produce the concept into game assets and arrange them into a single game with a program. The production process of game assets goes through the stages of searching for visual ideas, sketching, layout, and maturation. The author uses a predetermined technique. Each asset must be able to be made according to its respective function into an interactive media system. The end result of this production process is an Android game that is ready and can actually be used as it should be.

5. References

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