

Analysis of the linearity of the story on the creation of the game "Elephant Rescue."

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ABSTRACT

Keywords: Game; Education; Way Kambas; Elephant rescue. Media is an intermediary that can convey information or messages in learning to achieve learning outcomes. Many types of media are used in the learning process. One of the media used in learning is games as educational media, called educational games. Educational games are formed to hone thinking power, including increasing concentration and solving a problem. Educational stories based on local wisdom also strengthen character education so that they can be well received without reducing the playing experience gained by players. Through the results of game testing, 40% of respondents strongly agreed that the understanding of conserving animals, especially elephants in Way Kambas Lampung National Park, was sought to be raised through the Elephant in Rescue Game, and 24% agreed that the understanding of conserving animals, especially elephants in Way Kambas Lampung National Park, was sought to be raised through the Elephant in Rescue Game. 60% of respondents agreed with the educational element presented in the game Elephant in Rescue, and 56% agreed that the application of the story in this game was appropriate. Based on the results of testing on respondents, it can be concluded that the application of stories and education about the importance of preserving animals, especially elephants in Way Kambas National Park, Lampung, can be conveyed well by what has been designed before.



Introduction

Games or applications contained in game-based learning models have the potential to be developed. Game-based learning is expected to improve the ability of the imagination to think (Ambarwati et al., 2021). There are several types of game-based learning, ranging from conventional (without using gadgets) and video game-based ones, both using desktop and mobile devices. Today, learning media has experienced many variations along with technological developments (Nugraheni, Husain, & Rohani, 2022). Using computers in various learning media is one form of educational and technological development. Ariesto (Nugraha et al., 2017) stated that computer-based learning media

is a learning media that uses computers as the primary tool in delivering material in the learning process. One of the computer-based technologies being developed today is games or games. (van der Beek et al., 2013) Games as a learning medium could make the learning atmosphere more pleasant and reduce the saturation of information or material teachers deliver to students/students (Rahmanda, 2020).

Game-based learning is one solution to reducing boredom in the learning process. Education or Education is a human need and the process of self-development as an individual and social being (Qodr, 2020). Education is constantly changing, improving and developing. Preserving the potential existence of local wisdom is limited to conventional space and National Parks (TN). Currently, the existence of National Parks is an inseparable part of people's lives (Trijayanti, Ernawati, & Budiarto, 2017). National Park as a means to store, preserve and introduce the existence of biological creatures. In addition, the existence of the National Park is also an effort to introduce culture to the surrounding community (Saurik, Yuniarno, & Susiki, 2015). The existence of the National Park is essential, as is the value of character education and the story surrounding it (Wibawa, Mumtaziah, Sholaihah, & Hikmawan, 2021). However, public awareness, especially the younger generation, regarding the existence of the National Park still needs to grow. Hence, the benefits of its existence in the National Park should be addressed. National Park is a nature conservation area with an original ecosystem, managed with a zoning system used for research, science, education, supporting cultivation, tourism, and recreation. One of the national parks in Indonesia is Way Kambas National Park, located in Lampung.

Way Kambas National Park is famous as a conservation place for Sumatran elephants native to Sumatra Island (Mustafa et al., 2019). Data from the Director General of PHKA of the Ministry of Forestry of the Republic of Indonesia (2007) published that the estimated population of Sumatran elephants ranges from 2400-2800 individuals; in Aceh, it is estimated that 500-530 elephants remain comparable to 25% of Sumatran elephants inhabiting Aceh forest areas and spread across 20 districts of 23 regencies/cities. Law of the Republic of Indonesia No. 5 of 1999 concerning the conservation of biological natural resources and their ecosystems must be protected and conserved. Elephants are one of the endangered animals whose existence on earth is decreasing due to the narrowing of their natural habitat and various disturbances to this animal, such as hunting and slaughter due to conflict with humans. In this modern era, education about nature conservation, such as Way Kambas National Park, is rarely known by the public. Especially for elementary school children, Indonesia is also being hit by a pandemic that requires online schooling (online) to make the teaching and learning system ineffective. This can be done in various ways in the increasingly sophisticated world of technology. These efforts can be made by creating game-based learning through storytelling. The creation of this work is a way to overcome several learning problems and instil character education in the younger generation. The creation of works is not only focused on gameplay aspects but also trying to create a story that can be unified (linear) in the game. Digital game-based learning can be played on Android smartphones.

Through the creation of a work entitled "Analysis of Linierity Story on the Creation of the Game Elephant in Rescue,". Game-based learning with an emphasis on linear aspects of the story can be used as a means or medium in education and nature preservation of Sumatran elephants to users and is one solution for reducing saturation in the learning process.

Research Methods

The creation process began with developing a game idea in the form of a permit about a game that discusses elephants. Developing game ideas is done by researching games similar to the mechanics you want to apply in the Elephant in Rescue game. The research examined journals discussing Sumatran elephants' habitat and Way Kambas National Park. At the production stage, every concept documented in the Game Design Document begins to be implemented; this stage includes creating visual assets, programming, and selecting audio in the game.

After the production stage is complete, the creation process goes into the post-production stage. At this stage, checks and adjustments are carried out to reduce or add features to the game. Then, the testing proceeded with a group of people to get feedback data or related responses.

Results and Discussion

Analysis of the creation of the Elephant in Rescue game production work focused on linear storytelling, which was applied through a series of stories about Way Kambas National Park and Sumatran Elephants to design game mechanics. The Elephant in Rescue game was made to simulate the importance of preserving animals, especially elephants in Way Kambas National Park Lampung. However, no information in the Elephant in Rescue game can be used as a new guideline without considering other aspects. In addition to the mechanics, several other components helped build the Elephant in Rescue game; here is the explanation:

Game Type

The game "Elephant in Rescue" is included in the puzzle-education-casual game genre. It has simple game mechanics and does not require a long time during play. This game can be categorised into the casual genre, and during play, players need the right thinking power and accuracy of time to complete it. Then, this game can be categorised into the mechanical puzzle genre.



Figure 1 Character Mechanics

The character moves by swiping up, right, left, and down. The position of the hand to move the character is in the elephant character; this is made to make it easier for players to swipe the screen in the desired direction, namely right, left, up and down.

Reverse time mechanic



Figure 2 Reverse time mechanics

When playing, there is a timer that counts down the duration of playing time in one stage. This time will later be accumulated according to what has been determined in the table above. When the time is up, the game will finish, and the player will lose.

Minak aldo monologue mechanics



Figure 3 Minak Aldo monologue at each level

Monologues containing information about Way Kambas National Park and Sumatran Elephants by Minak Aldo will be found at the beginning of each level 1, 2 and 3. Players are expected to understand about Way Kambas National Park and Sumatran Elephants.

Mekanik slide box



Figure 4 Mechanical Slide Box

The slide box mechanic is a reference to the Sokoban tap game mechanic. Players must slide the box that blocks the elephant character from finding a way out by clicking the box. A light will appear as a clue as to which box will be shifted in which direction. Then, click on the light, and the box will shift.

Tree mechanics are different colours.



Figure 5 Mechanics of Different Color Trees

Different-colored tree mechanics are puzzle mechanics applied in this game. To use them, click the cleaver inventory and click on a tree different in color from most trees. After that, when you have cut down trees, the wood inventory will increase, and it can be used to build bridges if there are river obstacles. This different-coloured tree will also save players when they cannot find a way out by making new roads.

Mechanical Batu



Gambar 6 Mekanik Batu

The game includes large rocks in addition to trees of different colours. These large stones can be used to add small stones to the inventory and to hoard obstacles, holes, and spikes.

In-game Elephant in Rescue



Figure 7 In-game Elephant in Rescue

Here is what it looks like for the game Elephant in Rescue. At the beginning of each level, players will be shown a mink aldo monologue containing information about Way Kambas National Park. After that, players will play with a predetermined backward time. After the game enters the prototype production stage that can be played, it is done Game testing of 25 respondents revealed the shortcomings and responses from a group of players to the game that had been made. Testing is carried out by providing links to respondents to try the game; then, the players are asked to answer several questions related to the game that has been played. The data found are as follows:

**Table 1
Respondent Assessment**

Assessment Aspect	Respondent Scores				
	1	2	3	4	5
Educational Elements in Games	-	-	-	60%	40%

Minak Aldo's monologue about Way Kambas National Park and Sumatran Elephants	-	-	40%	44%	16%	
Education Nature Conservation Rarely Known Due to the Pandemic Gameplay	-	-	20%	56%	24%	
	12%	16%	16%	48%	8%	
Respondent Scores						
Overall Value	1 - 5	6	7	8	9	10
	-	-	19,2%	26,9%	34,6%	19,2%

Table 2
Value Description

Angka	Information	
Skala 1 - 5	Skala 1 - 10	
5	9 - 10	Excellent
4	7 - 8	Good
3	5 - 6	Enough
2	3 - 4	Less
1	1 - 2	Fail

Conclusion

The story played in Elephant Rescue is a form of game-based learning that emphasises linear stories. The information conveyed through the story is one of the essential parts of the life of a society. The story has inspired and become an experience for players about preserving biological creatures, especially elephants, as protected animals. The story formulated through game-based learning is informative and can shape the player's character through the experience gained through the game. Based on the testing process, the game "Elephant in Rescue" successfully presents an educational puzzle game with the theme of providing lessons about the importance of conserving animals, fascinating elephants with stories about Way Kambas National Park and Sumatran Elephants, which are the main attractions. This is evidenced by 96% of respondents stating that the understanding of conserving animals, especially elephants in Way Kambas National Park Lampung, which are trying to be raised through the Elephant in Rescue Game, is conveyed well, 28% of respondents stated that the game "Elephant in Rescue" is too complicated to play and 100% of respondents also stated that after playing the game "Elephant in Rescue" they became more aware of the importance of preserving

animals, especially elephants because it included Endangered species whose existence on earth is decreasing caused by hunting and slaughter due to conflict with humans.

Based on the test results from the respondents, the level of complexity at each level is made even easier by balancing levels and playing procedures in more detail. Then, in terms of gameplay, the countdown timer on each level needs to be faster because each level has different obstacles and levels of success. For the mechanical side, it is more detailed by looking at similar gameplay references, so that players will play the game "Elephant in Rescue" varied.

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