

Educational Board Game to Increase Elementary School Students' Interest in Learning Javanese Script

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Abstract

Javanese is one of the languages in Indonesia. In Surabaya, Javanese is taught from elementary school. Currently, children are more interested in foreign languages, so they become less interested in learning Javanese script, especially because Javanese script has a high level of complexity. One way to increase elementary school students' interest in learning Javanese script is by designing educational games about Javanese script. The design of educational games aims to increase children's interest in learning Javanese script. Data collection regarding the Javanese language curriculum, educational games, Javanese script, board games, visual communication design theory and other theories was carried out by conducting interviews with the Head of Elementary School Curriculum, elementary school regional language teachers and in-depth searches via the internet, books and journals. This game is designed using a number of methods such as looking for ideas, determining the age of the players, the goal of the game, how the players win, and writing down the basic rules. This design produces media in the form of the educational game Raja Aji Saka, which is a board game that includes Javanese script material, namely nglegena script, sandhangan, and pair script, which can be played in stages. This game is adapted from the legendary story of Aji Saka, which is the origin of the creation of Javanese script.

Keywords: Board Games, Javanese Script, Elementary School, Board Games, Education

Introduction

Language is something that every individual uses to communicate and interact with other individuals. The language in each place can certainly be different. One country that has so many languages is Indonesia. "From 1991 to 2017 we have mapped and verified regional languages in Indonesia. "The number is currently 652 regional languages, which, of course, can change over time," said Dadang Sunendar, as Head of the Ministry of Education and Culture's Agency for Language Development and Cultivation (Kemendikbud, 2018). One of the languages in Indonesia is Javanese. Javanese has a script that is used for writing and it is widely known as "*Javanese Aksara*" or "*Hanacaraka*". Javanese script, known as *Hanacaraka (Carakan)*, is a derivative script originating from the Brahmi script. Javanese script is a script used by Javanese people in writing traditions. *Hanacaraka* comes from *Devanagari* letters, India. There are 20 *Hanacaraka* letters, namely *ha, na, ca, ra, ka, da, ta, sa, wa, la, pa, dha, ja, ya, nya, ma, ga, ba, tha, and nga* (Hidayat, 2018).

As time goes by, Javanese script is increasingly abandoned by the millennial generation. The assumption that Javanese script is old-fashioned and out-dated is the cause of millennial generation children have lost their interest in Javanese language and they even unwilling to learn Javanese script. In addition, the complexity of the Javanese script compared to the Latin letters used daily is at a different level. The complexity of Javanese script is also the reason why Javanese script is starting to be abandoned. Umar Priyono as the Head of the DIY Culture Office (AKA, 2018) acknowledged that Javanese language lacks appeal, especially for young people. It is feared that the Javanese language could quickly become extinct. Now what can be seen, children, the new generation, tend to speak Indonesian, they no longer care about Javanese. This is quite dangerous (Priyono: 2018).

For this reason, the Government has long established a policy regarding Regional Language Subjects as Compulsory Local Content in Schools/*Madrasahs*, which has been regulated in East Java Governor Regulation Number 19 of 2014 that aims to ensure that the Javanese language can be preserved. In accordance with the 2013 Javanese language curriculum, Javanese script begins to be studied by grade 3 elementary school students. In accordance with the Javanese language syllabus in the 2013 curriculum, the Javanese script material in third grade class is taught *nglegena* script, in fourth grade class it is taught *sandhangan*, and in fifth grade class it is taught pair script.

Although it has become a compulsory subject in school, students still find it difficult to learn Javanese, especially in learning Javanese script. Rayuti (2018) wrote that during class learning, students experience difficulties in learning to read and write Javanese script. This is because students do not memorize the letters of the Javanese script. Apart from that, students have to deal with one of the obstacles, which are the procedures for writing Javanese script. This situation has obviously decreased the students' interest in studying Javanese script.

Kalam Kudus Surabaya elementary school is one of the schools that include Javanese language and script as its local content subject. Javanese script is one of the materials contained in Javanese language subjects. The Javanese script learning system in the classroom still uses conventional learning methods and learning media. How to learn with materials provided by teachers to students as a learning guide? In the textbooks used, only a little Javanese script material is used, the Javanese script only displays the *Hanacaraka* letters. After the teacher provides the material, students are given questions to practice their Javanese language and script both at school and for homework.

Given this situation in school, this research aims to design educational games to increase the students' interest in learning Javanese script for elementary school students. It is hoped that this Javanese script educational game can increase elementary school students' interest in learning in grades 3-5 of elementary school towards Javanese script material and can become an alternative medium in the Javanese script learning process for elementary school students. According to Hans Daeng in Barbara (2017), games are an absolute part of life and an integral part of the process of forming a child's personality. Educational games are those that are of educational in nature and have learning elements that are inherent and are part of the game itself. Agus Mahendra, from the Publishing Centre, Open University (Thobroni, and Mumtaz, 2013) proves that by actively playing, children are able to develop their potential in everyday life. Child development also determines the playing process. Several factors such as physical, cognitive, emotional and social factors cause differences in children's development.

Research Method

This research uses a qualitative approach. The research subjects are students in third to fifth grade of Kalam Kudus Surabaya elementary school. Primary data collection was carried out using interview techniques. Interviews are two-way communication to obtain data from respondents (Hartono, 2018). The interviews for data collection were held with the Head of Elementary School Curriculum, local language teachers at Kalam Kudus Surabaya elementary school and in-depth searches making use of resources in the Internet, books and journals. This game design method is developed based on a number of considerations such as looking for ideas, determining the age of the players, the goal of the game, how the players win, and writing down the basic rules.

Discussion

This board game is designed for children aged 8-11 years or students in grades 3-5 of elementary school. This board game uses characters from the story of Aji Saka in its game that has a theme about Javanese script.

Design Stage

a. Board game specifications

Specifications for educational board games to increase interest in learning Javanese script for elementary school students are as follows:

Table 1. Board game specifications

No	Type	Size	Information
1	Board Game	75 cm x 55 cm	0.2 cm Duplex Cardboard, Graftax, Matte Lamination
2	Cards Game	6 cm x 8 cm	Art paper 260 gr, Matte Lamination
3	Pawn	t: 5 cm and 6 cm	Acrylic
4	Dice	1,5 cm x 1,5 cm x 1,5 cm	2 dice
5	Token	2,5 cm x 2,5 cm	Acrylic
6	Javanese Script Guide Card	12 cm x 8 cm	Art paper 260 gr, Matte Lamination
7	Guidebook	14,8 cm x 21 cm	Art paper 210 gr
8	Packaging	30,5 cm x 40,5 cm x 5 cm	0.2 cm Duplex Cardboard, Graftax, Matte Lamination

Source: Author's materials

b. Supporting Media Specifications

Supporting media (promotional media and merchandise) used in designing educational games to increase interest in learning Javanese script for elementary school students are as follows:

Table 2. Supporting Media Specifications

No	Type	Size	Information
1	Poster	25 cm x 42 cm	Art paper 260 gr
2	Brochure	12,5 cm x 21 cm	Art paper 150 gr
3	X-Banner	60 cm x 160 cm	Lusther
4	Key chain	Height: 5 cm	Acrylic
5	Packaging	18 cm x 26 cm	Art paper 260 gr
	Pencil (Stationery)	2,7 cm x 17,4 cm	Bontax
	Notes (Stationery)	6,8 cm x 11,2 cm	Art paper 260 gr
	Ruler (Stationery)	15,1 cm x 2,1 cm	Bontax
	Eraser (Stationery)	2,7 cm x 6 cm	Art paper 260 gr
	Sharpener (Stationery)	2 cm x 3,5 cm	Art paper 260 gr
6	Sticker	25 cm x 20 cm	Sticker, Cutting Sticker
7	Lesson timetable	29,7 cm x 19,6 cm	Art Paper 260gr
8	T-shirt	S, M, L	Sabloin Poliflex
9	Notebooks	16,25 cm x 20,5 cm	Art paper 260 gr
10	Colouring Sheet	29,7 cm x 21 cm	HVS 80 gr

Source: personal documentation

c. How to play

1. Preparation:

- Open the game board in the centre of the play area.
- Place King Dewata Cengkar's pawn in the Medang Kamulan kingdom.
- Shuffle the word cards and Javanese script cards according to the level you want to play and place them in a closed area on the game board.
- Shuffle the lucky cards and place them face down on the game board area.
- Arrange the word cards openly on the game board area. The image position is at the top.
- Distribute character cards to all players randomly. The character card will determine which pawn will be used.
- Take 5 tokens according to the pawns used.
- Roll the dice to determine the role of the first player; the highest number is the first player. The role of the first player is the player who goes first at each stage of the game. The turn of play will be clockwise or to the player on the left side.

2. Game Flow

(a) Phase 1 of the Game

- Deal 4 Character-cards from the deck to each player.
- Starting from the first player, players match the Javanese script cards they have with the open word cards. Match the Javanese script from the word cards and pictures. The turn to play starts with the first player.
- Place the Character-card on top of the Word card with the image stacked on top of the Word card. Then place the token on the card as a marker. Each player has one chance at each turn.
- If the player does not have a matching card, then the player takes one Character card from the pile of cards.
- After the turn ends, move to the next player on the left. Do the steps above until the entire open word cards match.

(b) Stage 2 Play

- Starting from the first player, players can move according to the number of tokens they own which are used as markers.
- If the player stops on a square with an asterisk, then the player takes a Luck-card on the pile and carries out the action written on the card.
- After the turn ends, move to the next player on the left side.
- After all players have their turn, the game returns to the first stage with the role of the first player moving to the player on the left.
- Do stages 1 and 2 until one of the players arrives at the Medang Kamulan Kingdom.

3. Fight with King Dewata Cengkar

- Players who arrive at Medang Kamulan kingdom will fight against Prabu Dewata Cengkar. The form of the battle is by throwing two dices simultaneously representing the player (white dice) and Prabu Dewata Cengkar (red dice).

- If the number of the player's dice is smaller than Prabu Dewata Cengkar's dice, then the player takes 2 steps back.
- If the number of the player's dice is the same or a tie with Prabu Dewata Cengkar's dice, then the player remains in the kingdom and will roll the dice at the next stage of the road.
- If the number of the player's dice is greater than Prabu Dewata Cengkar's dice, then the player wins and the game ends.

4. End Game

The game ends when one of the players has reached Medang Kamulan Kingdom and defeated Prabu Dewata Cengkar. The player who first arrives at the Medang Kamulan kingdom and is able to defeat Prabu Dewata Cengkar will be the winner.

Main Media Design

- Logos



Figure 1. Logo of King Aji Saka
Source: Alex (2019)

The logo design includes a ribbon or ribbon-shape material that resembles a scroll. The layout of the typography is changed to flat so that it can be in the form of a band or ribbon. The use of Javanese characters, which have meaning according to the name of the logo, gives the impression of playing with Javanese characters in the logo.

- Packaging



Figure 2. Guidebook
Source: Alex, (2019)

The packaging is a box shaped form measured 30.5 x 40.5 cm. To make it more convenient when storing, inside the packaging box there is a divider, which is useful for storing each part of the board game.

- Game Board



Figure 3. Game Board
Source: Alex (2019)

The game path is made more curved because it is adapted to children aged 8 to 11 years, and avoids elements that look stiff. On the board there is an illustration of Plaosan Temple, which is a legacy of the Medang Kamulan kingdom. This illustration was chosen to depict the Medang Kamulan kingdom, which would later be inhabited by the figure Prabu Dewata Cengkar. Add elements to the game board in the form of trees, rivers, bridges, grass and rocks as shown in the picture above. The “Initial” plot is placed far from the royal plot to avoid cheating or shortcuts. The place where the cards are stacked is marked with symbols of stacked cards and discarded cards. Apart from that, the open card places are also lined based on word cards or Javanese script cards.

- Javanese Script-Card



Figure 4. Javanese Script Cards 1,2,3
Source: Alex, (2019)

Javanese script-cards are cards that contain Javanese characters that correspond to the words on the word cards. The Javanese script cards will later become playing cards to match the word cards. The contents of the word cards include Javanese script, images or symbols, and tendril elements.

- Word Cards



Figure 5. Level 1,2,3 Word Cards
Source: Alex (2019)

Word cards are cards that contain words, which will later be used as a reference for players when matching cards. The contents of word cards include Latin letters or words, images or symbols, and tendril elements.

- Lucky Cards



Figure 6. Lucky Card
Source: Alex (2019)

Lucky cards can help players reach the final goal more quickly or can also slow players down from reaching the final goal.

- Character Cards



Figure 7. Character Cards
Source: Alex, (2019)

Character-Cards are cards that depict characters from the Aji Saka story, which players will use to determine the pawns they will use during play. This character card contains the name of the character and an illustration of the character. The background of the card is illustrated with the Plaosan temple, which is a relic of the Medang Kamulan kingdom.

- Javanese Script Guide-Card



Figure 8. Javanese Script Guide Card
Source: Alex, (2019)

The Javanese Script Guide Card contains Javanese script material found in the game. The material included includes the *Nglegana* script, *Sandhangan*, and the Pairing script. The shape of the frame on the Javanese script guide card is adapted from the shape of the Javanese script card and word cards.

- Pawn



Figure 9. Pawn
Source: Alex (2019)

Players use pawns in the play. Pawn uses illustrations taken from the characters Aji Saka, Sembada, Dora, Jugul Muda, and Prabu Dewata Cengkar.

The only pawns used were Aji Saka, Sembada, Dora, and Jugul Muda, while Prabu Dewata Cengkar would reside in the Medang Kamulan kingdom. The pawns use acrylic material with a height of 5 cm for Aji Saka, Sembada, Dora, Jugul Muda and 6 cm for Prabu Dewata Cengkar.

- Tokens



Figure 10. Token
Source: Alex (2019)

The tokens in this game use the four pawn characters, namely Aji Saka, Sembada, Dora, Jugul Muda. Tokens are designed to display the head of each existing character.

- Guidebook



Figure 11. Guidebook
Source: Alex (2019)

The Guidebook is used as a guide to start the game. The guidebook contains instructions for playing and also important information about the game. Although the Guidebook contains a lot of information, it should remain concise and easy to read.

Supporting Media



Figure 12. Supporting Media
Source: Alex (2019)

Apart from the main media, there is a supporting media design as a means of promotion that introduces as well the educational game Raja Aji Saka. Supporting media consists of promotional media and merchandise by adapting the design of the main media so that it has similarities with the supporting media and can produce distinctive colours. Promotional media consists of posters, brochures and x-banners. Meanwhile, merchandise includes key chains, stationery, stickers, lesson schedules, t-shirts, notebooks and colouring sheets. It is hoped that supporting media can become a brand image and can remind consumers about the Raja Aji Saka board game.

Trial Test Phase

The author did a trial on third and fourth grade students at Kalam Kudus Elementary School, Surabaya. For the third grade students the goal is to measure the level of difficulty of the game to see how far the third grade students as the target audience can understand it. The aim for the author is to find out whether the game Raja Aji Saka can still be understood by the 3rd grade elementary school students as the youngest age included in this trial.

The author conducted a trial during the time local language subjects were in progress. While playing, students are still able to understand the rules of the game, but they often look and check for the Javanese script because they still find it difficult to memorize 20 words at once. The students' difficulties made the duration of play during the trial reach approximately one hour. The game cannot be played as a whole game as the time allocated for the Javanese subject has ended. During the game, there are several rules of the game that need to be improved to optimize the game. The large number and types of cards also confuse students when preparing. There are also too many running tiles on the game board, making the game take too much time.

Experimental Test Results

From the trials carried out on students at Kalam Kudus Elementary School Surabaya, the author obtained the following results:

1. The number of lane tiles on the game board is changed to 15 tiles.
2. On the Javanese script cards and word cards, pictures or symbols are given to help students focus on several Javanese scripts.
3. On level 2 and 3 cards, change from constructing sentences to matching sentences.
4. The number of cards in a player's hand is not limited.
5. Javanese script guide cards are required.
6. Time for playing is adjusted to the subject hours (30-45 minutes)

Conclusion

In designing this educational game, you need lots of interesting ideas obtained from books, the Internet, local language teachers and other sources. To decide on the game play and game concepts requires creative ideas and often playing board games so you can find out which game play is suitable for elementary school students. Apart from that, you have to think about a design that has characteristics and uniqueness so that public will remember it. The main media for this design is the educational game Raja Aji Saka. Raja Aji Saka's board game uses Javanese script material in its game such as *nglegena* script, *sandhangan*, and pair script. While playing, children are invited to memorize, read and even write Javanese script.

Raja Aji Saka's board game uses an approach from the origin story of the creation of the Javanese script. The story has a main character named Aji Saka, which is the reason the board game was named Raja Aji Saka. In this design there is also supporting media as a means of promotion and introducing the educational game Raja Aji Saka. Promotional media consists of posters, brochures and x-banners whereas the merchandises include key chains, stationery, stickers, lesson schedules, t-shirts, notebooks and colouring sheets. Hopefully, the supporting media can become a brand image and able to remind consumers about the Raja Aji Saka board game.

It is hoped as well that the design of this educational board game will make it easier for grade 3-5 elementary school students to learn Javanese script and regional language teachers in elementary schools can teach Javanese script to their students using new media that is more fun and can attract students' interest in learning Javanese script.

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