BUDDHIST SNAKES LADDERS PORTABLE AS LEARNING MEDIA FOR BUDDHIST SUNDAY SCHOOL’S STUDENTS

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ABSTRACT

This study aimed to develop a game of snakes and ladders as a learning media through the 4-D Thiagarajan model (Define, Design, Development, and Disseminate). This study’s data was collected using an interview guide and questionnaires. The data was analyzed using Aiken’s V, Gregory, and descriptive statistics. Aiken’s V analysis showed that all of the questions were valid. Gregory’s analysis showed that the game’s manual book had an excellent readability level with an interrater agreement index of 0.857. The test results showed that the games developed were practical and can be used as learning media.

Keywords: Snakes Ladders; Learning Media; Buddhist; Sunday School

INTRODUCTION

Buddhist Sunday School (SMB) is a non-formal education in the vihara. SMB aims to instil children’s faith and kindness to improve their morale. The process is held through a learning process. In addition, SMB also covered the shortage of students who do not have Buddhist Education teachers or do not understand Buddhist education subjects. The lack of Buddhist Education teachers or even their absence in schools can cause students to lack knowledge about the teachings of the Buddha. So, through the learning process at SMB, it is hoped can increase and strengthen students’ understanding of Buddhist Education. The learning process in SMB is held by separating children according to education level from elementary to senior high school. The learning process emphasizes activities that involve students’ intellectual, emotional, and social aspects. The learning process in SMB tends to be carried out more through playing. The learning materials are generally delivered using some media, such as puppets, PowerPoint presentations, and animated videos.

Based on the observations, some students are passive during their learning. The teachers cannot invite their students to be involved in the learning process. In addition, the methods and learning media used do not demand the students’ activeness in learning. As previously narrated, the learning media commonly used by teachers in SMB are puppets, PowerPoint presentations, and animated videos. At the same time, the cone of experience by Edgar Dale stated that 90% of understanding would be obtained by students from playing, doing real things, or doing simulations (Huda, 2016; Syamsidar, Ma’ruf & Hustim, 2018; Sari, 2019). Therefore, learning media is needed to support learning optimization in SMB.

Yaumi (2018) stated that learning while playing is essential for educators because it can refresh the learning atmosphere. Games in the learning process can create a dynamic learning atmosphere. It can attract the children’s attention, bring up their interactions and cooperation, encourage enthusiasm for learning, and create an energetic atmosphere. Sanjaya (2012) said that learning while playing is held by using games to find their answers through procedures, steps, and rules during the learning process. Games also can be used in the learning process.
in non-formal education, such as in SMB. The game can motivate Sunday school students to obtain and understand the information in-depth, especially if the game presents a problem or question to challenge the students to learn and understand the material.

"Media" comes from the Latin "medium", which means "intermediary" or "introduction". Furthermore, the media is a means of channelling messages or learning information to the target or recipient. The learning media can help students to achieve their learning successfully (Mahnun, 2012). The media can be interpreted as anything that is used as a tool to channel messages or information (Asnawir & Usman, 2002; Aryad, 2003; Hamalik, 2003; Sanjaya, 2007; Miftah, 2014). Association for Education and Communication Technology (AECT) defines media as all forms and channels used to process information. According to the National Education Association (NEA), media is everything that can be seen, manipulated, heard, read, or discussed for information processing (Muhson, 2010).

In the context of learning, according to Gagne, media are various types of components in the student's environment that can stimulate them to learn (Sadiman et al, 2003). Romiszowski formulated teaching media as the carries of massages, from some transmitting source (which may be a human being or an intimate object) to the receiver of the massages (which in our case is the learner) (Hamalik, 2003). According to Djamarah and Zain (2002), media is a tool to distribute learning information or messages to achieve learning objectives. In the context of media as a learning resource, the media can be interpreted as humans, objects, or events that allow the students to gain knowledge and skills. Generally, learning media can convey messages or information for instructional purposes to stimulate students' thoughts, feelings, concerns, interests, and willingness (Arsyad, 2003; Suki man, 2012).

One form of the game which has the potential to be used as a learning media is snakes and ladders. Snakes and ladders use dice to determine how many steps a player's pawn must take. It is included in the "board game" category or board games, such as monopoly, ludo, etc. The board contains pictures in the form of plots consisting of 10 rows and columns where each box is numbered from 1 to 100 and contains snakes and ladders (Husna, 2009). Mulyani (2013) stated that the game of snakes and ladders is a means of playing that consists of a piece of board or thick paper with pictures of certain boxes and small dice. Vitianingsih (2016) suggested the advantages of playing with snakes and ladders, namely: (1) snakes and ladders can be used in teaching and learning activities, (2) snakes and ladders can grow and increase students' learning motivation, (3) snakes and ladders can create a pleasant atmosphere in learning process, (4) snakes and ladders can stimulate students to solve the simple problems, (5) students can involve into the learning activities directly, (6) snakes and ladders can be used as stimulation on aspects of the development both of language and social knowledge of children.

Based on the conditions and potentials narrated in the previous section, the snakes and ladders game can be applied in the learning process to grow students' social interaction. It is very familiar and easy to play. Therefore, this research aimed to develop a practical, portable Buddhist snakes and ladders game. The game can be played indoors or outdoors.

**METHOD**

This research was a research and development using the 4-D Thiagarajan model, which includes the following stages: (1) define, (2) design, (3) development, and (4) disseminate. Research data were collected using questionnaires and interview guidelines for potential product users. All data were analyzed using percentage form using Aiken's V, Gregory, and descriptive statistics.
RESULTS AND DISCUSSION

1. Define phase

The results of student analysis provide information that the age of Sunday school students is 7 to 14 years. However, most Sunday school students are elementary school students in the upper grades. Their understanding of Buddhism is very diverse. Some of them are still very lacking. They do not receive Buddhist Education subjects because they do not have Buddhist Education teachers in their schools. They expect Sunday school teachers can teach well, supported by various media and learning methods. They also expect learning to be more fun, such as using various ice-breaking or games. The results of the teacher analysis provide information that Sunday school teachers lack the experience to provide varied and innovative learning media. They also lack the experience to select the teaching methods and games in learning. The games used are simple games to enliven the learning process. Based on these conditions, a practical game is needed to help students understand the learning materials at SMB. At the same time, the results of the material analysis based on the document study informed that the material taught by Sunday school teachers refers to the book on Pendidikan Agama Buddha dan Budi Pekerti published by the Ministry of Education and Culture of the Republic of Indonesia. It is also used in their respective schools.

2. Design phase

Buddhist snakes ladders portable was developed by adopting and modifying the traditional snakes and ladders game, which contains 100 game boxes. The size of each box is 50 cm x 50 cm. Each player will act as a pawn by standing on the game board. Buddhist snakes ladder Portable is designed by providing modifications by giving questions and commands in several game boxes. Unlike the game of snakes and ladders in general, Buddhist snakes ladders portable is played in pairs. It can develop the togetherness and social skills of children. The initial sketch of the game board can be shown in Figure 1.

The questions in this game were developed based on the material for an upper grade in primary school. The questions are also equipped with the answer in the manual book to make them easier to use. The results of the validation data analysis by six experts using Aiken’s V showed that all the questions were valid. The complete results are shown in Table 1, Table 2, and Table 3.

Figure 1 Board Game Sketch Process
Table 1 Validation Result of Questions for Fourth Grade

| Item | Validity Coefficient | Decision | Item | Validity Coefficient | Decision |
|------|----------------------|----------|------|----------------------|----------|
| 1.   | 0,833                | Valid    | 19.  | 0,833                | Valid    |
| 2.   | 0,833                | Valid    | 20.  | 0,778                | Valid    |
| 3.   | 0,944                | Valid    | 21.  | 0,667                | Valid    |
| 4.   | 0,778                | Valid    | 22.  | 0,778                | Valid    |
| 5.   | 0,833                | Valid    | 23.  | 0,833                | Valid    |
| 6.   | 0,833                | Valid    | 24.  | 0,889                | Valid    |
| 7.   | 0,722                | Valid    | 25.  | 0,889                | Valid    |
| 8.   | 0,778                | Valid    | 26.  | 0,778                | Valid    |
| 9.   | 0,833                | Valid    | 27.  | 0,833                | Valid    |
| 10.  | 0,944                | Valid    | 28.  | 0,722                | Valid    |
| 11.  | 0,833                | Valid    | 29.  | 0,833                | Valid    |
| 12.  | 0,944                | Valid    | 30.  | 0,833                | Valid    |
| 13.  | 0,833                | Valid    | 31.  | 0,889                | Valid    |
| 14.  | 0,833                | Valid    | 32.  | 0,833                | Valid    |
| 15.  | 0,778                | Valid    | 33.  | 0,778                | Valid    |
| 16.  | 0,889                | Valid    | 34.  | 0,889                | Valid    |
| 17.  | 0,889                | Valid    | 35.  | 0,889                | Valid    |
| 18.  | 0,833                | Valid    |

Table 2 Validation Result of Questions for Fifth Grade

| Item | Validity Coefficient | Decision | Item | Validity Coefficient | Decision |
|------|----------------------|----------|------|----------------------|----------|
| 1.   | 0,833                | Valid    | 19.  | 0,833                | Valid    |
| 2.   | 0,778                | Valid    | 20.  | 0,833                | Valid    |
| 3.   | 0,778                | Valid    | 21.  | 0,722                | Valid    |
| 4.   | 0,944                | Valid    | 22.  | 0,889                | Valid    |
| 5.   | 0,889                | Valid    | 23.  | 0,944                | Valid    |
| 6.   | 0,778                | Valid    | 24.  | 0,833                | Valid    |
| 7.   | 0,833                | Valid    | 25.  | 0,667                | Valid    |
| 8.   | 0,778                | Valid    | 26.  | 0,889                | Valid    |
| 9.   | 0,889                | Valid    | 27.  | 0,889                | Valid    |
| 10.  | 0,833                | Valid    | 28.  | 0,833                | Valid    |
| 11.  | 0,833                | Valid    | 29.  | 0,889                | Valid    |
| 12.  | 0,944                | Valid    | 30.  | 0,889                | Valid    |
| 13.  | 0,889                | Valid    | 31.  | 0,778                | Valid    |
| 14.  | 0,833                | Valid    | 32.  | 0,944                | Valid    |
| 15.  | 0,722                | Valid    | 33.  | 0,833                | Valid    |
| 16.  | 0,778                | Valid    | 34.  | 0,778                | Valid    |
| 17.  | 0,833                | Valid    | 35.  | 0,833                | Valid    |
| Item | Validity Coefficient | Decision | Item | Validity Coefficient | Decision |
|------|-----------------------|----------|------|-----------------------|----------|
| 18.  | 0.833                 | Valid    | 16.  | 0.889                 | Valid    |
| 19.  | 0.778                 | Valid    | 17.  | 0.833                 | Valid    |
| 20.  | 0.778                 | Valid    | 18.  | 0.778                 | Valid    |
| 21.  | 0.833                 | Valid    | 19.  | 0.778                 | Valid    |
| 22.  | 0.833                 | Valid    | 20.  | 1.000                 | Valid    |
| 23.  | 0.889                 | Valid    | 21.  | 0.778                 | Valid    |
| 24.  | 0.833                 | Valid    | 22.  | 0.889                 | Valid    |
| 25.  | 0.778                 | Valid    | 23.  | 0.667                 | Valid    |
| 26.  | 0.889                 | Valid    | 24.  | 0.833                 | Valid    |
| 27.  | 0.778                 | Valid    | 25.  | 0.833                 | Valid    |
| 28.  | 0.889                 | Valid    | 26.  | 0.889                 | Valid    |
| 29.  | 0.778                 | Valid    | 27.  | 0.778                 | Valid    |
| 30.  | 0.833                 | Valid    | 28.  | 0.833                 | Valid    |
| 31.  | 0.778                 | Valid    | 29.  | 0.778                 | Valid    |

Table 3 Validation Result of Questions for Sixth Grade

The manual book was developed to help the users while using and playing the game. The game manual book contains several things, including a cover page, an inside page containing the logo, game developer, foreword, an overview of the game, how to play, a list of questions, and a list of challenges. Before being used, two experts in Bahasa validated the entire contents of the manual book. They assessed the level of readability, including the use of language rules, straightforwardness in presentation, ease of understanding, communicative level, information delivery, presentation techniques, and spelling accuracy. The results of the validation data analysis according to Gregory’s interrater formulation gave an agreement index of 0.857. It indicates that the manual book has a good level of readability.
3. Development phase

At this phase, the Buddhist snakes ladders portable was developed, including a small-scale trial involving four students, a second-phase trial involving eight students, and a third-phase trial involving 12 students. Based on the initial sketch in Figure 1, the researchers then made a second design of the game board, as shown in Figure 3.

After assessing the second design of the board game, several inputs were: (1) the use of foreign words (Pali language) has to be reduced in the implementation or violation of the Pancasila Buddhis. Containing the real examples according to the children's daily lives will be better; (2) determination of substitution boxes was not included yet in the second draft; (3) the distribution of questions, tasks/orders, and substitutions box have to be considered; and (4) add a motivational word in the box number 100. Based on the input, the final game board is displayed in Figure 4.
Small-scale trials were carried out involving four students. They were divided into two groups (each group consisted of two students). Based on the interviews, the results of the small-scale trial were: (1) the game were fun, interesting, sharpened skills and understanding, and have the potential to become a learning media; (2) the dice can be denser; (3) the size of the box makes it easier for players to stand on the box; (4) the color composition was attractive; (5) the pictures and writings are clear; and (6) the rule needs to be clarified. The second-phase trial was carried out involving eight students. Based on the distributing questionnaires to the respondents in the second-phase trial, the assessment results were shown in the Table 4.

| No. | Components            | Results  |
|-----|-----------------------|----------|
| 1.  | Board game size       | Very good|
| 2.  | Dice size             | Very good|
| 3.  | Board game color      | Very good|
| 4.  | Dice color            | Very good|
| 5.  | Image clarity         | Very good|
| 6.  | Font size             | Very good|
| 7.  | Game rules clarity    | Very good|
| 8.  | Ease of playing       | Very good|
| 9.  | Questions             | Very good|
| 10. | Challenges            | Very good|
| 11. | Potential use of the product | Yes |

The third-phase trial was carried out involving 12 students. Based on the distributing questionnaires to the respondents in the third-phase trial, the assessment results were shown in the Table 5.

| No. | Components            | Results  |
|-----|-----------------------|----------|
| 1.  | Board game size       | Very good|
| 2.  | Dice size             | Very good|
| 3.  | Board game color      | Very good|
| 4.  | Dice color            | Very good|
| 5.  | Image clarity         | Very good|
| 6.  | Font size             | Very good|
| 7.  | Game rules clarity    | Very good|
| 8.  | Ease of playing       | Very good|
| 9.  | Questions             | Very good|
| 10. | Challenges            | Very good|
| 11. | Potential use of the product | Yes |

4. Disseminate phase
Based on the results obtained, the distribution is carried out by handing over the products directly to the monastery, the head of the high school, and the Buddhist Sunday School. Dissemination was also done by utilizing technology, such as WhatsApp and Instagram.

CONCLUSION

Based on the results of the analysis, several conclusions are obtained, including Buddhist snakes ladders portable can be developed by using the 4-D Thiagarajan model (Define, Design, Development, and Disseminate), Buddhist snakes ladders portable is very possible to be used practically in SMB, as well as Buddhist snakes ladders portable is very possible to be used by all users of various educational levels.

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