This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).

**THE IMPLEMENTATION OF SCAFFOLDING GAME MEDIA
TO IMPROVE STUDENT LEARNING OUTCOMES
IN SDN 27 PONTIANAK**

Lidia Muri

SDN 27 Pontianak, Pontianak, Indonesia

E-mail: lidi4.muri@yahoo.co.id

Abstract

The study aimed to describe the implementation of scaffolding game media to improve learning outcomes of thematic learning in VI-grade at SDN 27 Pontianak (Pontianak 27 State Elementary School). The research method used by researchers was descriptive. The form of research was Classroom Action Research. Data collection techniques in this study were observed and questionnaire responses of students. Research collection tools in the form of observation sheets. This research was conducted for two cycles. The results of this study included the ability of teachers to plan learning using scaffolding game media, namely cycle I (85.81%), increased 9.94% in cycle II (95.75%) with an average value of 87.41% (category very good). The ability of teachers to implement learning in the first cycle (76.19%) increased by 16.27%, and the second cycle to 92.46% with an average value of both cycles of 92.46% (very good category), an increase of 16, 27%. The first cycle learning activities with an average of 76.45% increased by 14.84% in the second cycle with an average value of 89.07%, the average score of the second cycle learning activities 81.65% (once category) and the questionnaire response positive students as much as 85.93% (very good category). The first cycle learning outcomes test with an average value was 76.45, and the second cycle was 79.48%, the average value of the learning outcomes test was 77.97% (good category), and an increase of 30.3%. Based on data analysis of student learning outcomes, shows that the use of Scaffolding Game media can improve student learning outcomes.

Keywords: *Learning Media, Learning Outcomes, Scaffolding Games*

Introduction

Thematic learning is learning that contains several subjects and has an authentic assessment that is inseparable from the assessment of attitudes, knowledge, and skills. Each theme requires aspects of the teacher to achieve the learning objectives that have been determined at the beginning of the meeting.

In connection with the thematic learning that has been implemented for three years in SDN 27 Southeast Pontianak, the application of the 2013 elementary school curriculum is an effort for an educational institution to educate the public in the formal and non-formal fields. One of the challenges in this global era, namely formal education, especially in schools, both primary and secondary schools, is not only aimed at creating a generation of knowledge literacy but also requires skill to strike a balance between knowledge (cognitive), attitude (affective) and skills that have a more dominant influence on the success of students when they go to the field of work in the community.

In general, education in elementary schools is an educator required to be able to take care of all subjects and act as class teachers in their respective classes. One of the challenges faced by elementary school teachers, mainly VI-grade teachers of SDN 27 Southeast Pontianak is the implementation of thematic-based learning in the 2013 Curriculum that uses digital media or IT because so far teachers tend to focus on the delivery of material widely without regard to the learning activities that take place still relevant or not in class. The application of this curriculum should be demanded to use classroom management in the form of the method used by the teacher. During this time, teachers who teach in SD / MI (when implementing KBK and KTSP) have difficulty to understand about applying thematic learning with all the constraints and limitations faced in the field (Prastowo, 2015: 19). To be able to achieve the ability of students who can have high reasoning in the 2013 Curriculum, teachers play an essential role in improving the quality of learning to encourage students to develop students' creativity and competence.

So far, the teacher as a researcher feels that he has not used enough IT-based learning media and is focused on a wide range of material so that the improvement of learning is not optimal as a classroom teacher and affects the motivation and learning outcomes of students. Therefore, teachers should be able to present effective and efficient learning with methods in accordance with the curriculum and mindset of students in the age of student development.

As stated by Baharuddin & Wahyuni (2015: 34) so that teachers can make a positive contribution to the learning activities of students, the teacher must master the material with a variety of teaching methods that can be applied in accordance with the conditions of students. In the study, it was reported that without immediate implementation and efforts to strengthen it, only 5% of the lessons in the class are kept in mind. Still, with the immediate application and proper guidance and support, 90% of the lessons will remain attached (Daryanto & Rahardjo, 2012: 27). Therefore, creativity is needed in the learning process at school.

The 2013 curriculum contains guidance on attitudes, skills, and knowledge that is accommodated in thematic learning. The 2013 Curriculum Domain is useful so that students learn more broadly and thoroughly in the learning outcomes. For this reason, researchers also prepare learning media for students in class VI at SDN 27 Southeast Pontianak in the 2019/2020 school year using the 2013 Curriculum. In addition, students are required to work on questions that contain HOTS (High Order Thinking Skills) so that students' skills that are fostered more deeply and continuously can help students solve story problems related to thematic learning.

Problem-solving is related to the 2013 Curriculum learning model, which is a problem-based learning model, where students are asked questions that require solutions/problem solving with the teacher as a facilitator in directing and guiding answering questions. Problem-solving done by students is evidenced by self-efficacy (Bandura, 1997) with the ability of individual self-organizing accompanied by a number of actions to achieve the goals quoted from Safaria (2016: 157). The teacher guides the steps to solve the problem by using the principle from easy to difficult based on the game (game), so it is interesting to be followed by students and to improve the quality of learning in the classroom. Expectations by using this game-based IT can carry out interesting and fun thematic learning, helping teachers make it easy to convey material widely in thematic learning. Thus, these skills can build new knowledge through old knowledge and practice it in everyday life.

Research Method

The research method used in this research was action research. According to I GAK Wardani (2003: 1-4) argues that classroom action research is research conducted by teachers in their classes through self-reflection to improve teacher performance so that student learning outcomes improve. This research aimed to improve the quality of the learning process.

Descriptive research method as follows: a method in examining the status of a group of people, an object, a set of conditions, a system of thought, or a class of events in the present. The descriptive method is a way of explaining research objects based on facts that occur or appear after a research activity is carried out so that the results that appear or are obtained are based on the data as it is.

Solving problems (action research) is an approach to improving education through change, by encouraging teachers to think about their teaching practices, to be critical of the practice, and to be willing to improve it (Uno, Lamatenggo & Koni, 2014: 54). The right approach involves setting research, as stated by Wimbari & Novitasari (2015: 50), the use of space to keep children psychologically comfortable and familiar at school.

Another opinion about the understanding of Classroom Action Research (CAR), according to Suyanto (1997), as cited in Muslich (2016: 9) CAR is a form of research that is reflective by taking specific actions to improve teaching practices in the classroom in a professional manner. McNiff (1992: 2) in Uno, Lamatenggo & Koni (2014: 40) states "Action research is a form of self-reflective undertaking undertaken by participants (teacher, student or principal, for example) in social (including education) situations to improve the rationality and justice of (a) their own social or educational practices, (b) their understanding of these practices, and the conditions (and institutions) in which practices are carried out. " This means that classroom action research is a reflective form carried out by the teacher himself, the results of which can be used as a tool for the development and improvement of learning.

The study was conducted in VI-grade at SDN 27 Southeast Pontianak in July to August 2019 odd semester of the 2019/2020 school year. The research subjects were 21 students consisting of 13 male students and eight female students. The research procedure followed several stages: planning, implementation, observation/reflection phase with two cycles consisting of four meetings.

Planning Phase (action)

The teacher, as a researcher, formulated an action plan that will be carried out to improve and enhance the learning process, behavior, attitudes, and student learning achievement. The steps taken by the teacher at the planning stage, namely: 1) analyzing documents in the form of learning tools in the 2013 curriculum; 2) designing a learning implementation plan with learning media (scaffolding games application); 3) consulting and asking for opinions with collaborators/colleagues on the Lesson Plan (RPP) that has been made by researchers; 4) conducting classroom action research in accordance with lesson plans that are already feasible for field trials.

Implementation Stage

The teacher implemented the action based on the planned action plan as an effort to improve and enhance or change the learning process, behavior, attitudes, and desired student learning achievement. Implementation of two cycles of action, which was one cycle consisting of two times face to face/meeting. Researchers used thematic learning in VI-grade at SDN 27 Southeast Pontianak. The activities of conducting action research with scaffolding games, namely: 1) students were grouped in games; 2) the group determined the spokesperson in the game; 3) each group was given the opportunity to make group yells; 4) reading of game rules; 5) students were given questions or make answers based on the icon of the selected image; 6) group members discussed to provide solutions / make questions based on instructions from the game; 7) collecting scores.

Observation Stage

The teacher observed the impact or results of the actions imposed on students. Whether based on the actions carried out gives a convincing influence on the improvement and improvement of the learning process and student learning outcomes or not.

The steps of observation in the scaffolding game as follows. 1) Observing the behavior of each individual during learning takes place with the assessment aspects in the observation sheet. 2) collaborating with colleagues who observe the learning process carried out by teachers and students. 3) making a note about the behavior from the observations of peers. 4) taking action on individuals who lack evaluation aspects.

Reflection Stage

The teacher examined and considered deeply the results or effects of the actions carried out by basing on various criteria that have been made. Based on the results of this reflection, the teacher can make the initial repairs he has made if there are still shortcomings so as not to have a convincing effect of improvement and improvement. The reflection steps undertook by the researchers, namely: 1) recording the behavior that has not been seen based on the observation sheet from the observed and colleagues/collaborators; 2) making actions against students who are still less active in the first cycle for improvement in the second cycle; 3) asking colleagues for advice on the actions of researchers and students that have not been optimal as improvements in teaching and learning activities.

Data Collection Techniques

Data collection techniques used in this study were observation with the help, measurements, and questionnaires for VI-grade students at SDN 27 Southeast Pontianak.

Data Analysis Technique

Qualitative instrument feasibility analysis techniques described the results of observations from the observation sheet. Quantitatively the data was converted into a data tabulation. Research scores were analyzed in the form of tabulated data (Arikunto, 2013: 279). The data was calculated based on the score of positive statements and negative statements. Data processing from students' positive questionnaire calculated the average percentage of responses using the formula Nurgiantoro, Gunawan, & Marzuki (2015: 71) as follows.

$$X^- = (\sum x) / N$$

X^- = The calculated average is sought

$\sum x$ = Number of scores

N = Number of subjects

The formula uses a percentage of a scale from 0 - 100 (Arikunto & West Java, 2014: 35)

Score = $B / St \times 100\%$

B = Number of items answered correctly

s_t = theoretical score

100 = Constants

Guide criteria: very good (80% - 100%), good (66% - 79%), sufficient (56% - 65%), poor (40% - 55%), not good (0% - 40%).

Result and Discussion

Result

Based on preliminary observations and consultations with colleagues regarding research planning in class VI, it can be concluded that the use of IT-based media has not been optimally carried out by classroom teachers because of the limited time to submit curriculum materials in 2013, such as the application of questions that require problem-solving. Therefore, researchers use thematic learning media in the classroom. The purpose of learning by using scaffolding game media in SDN 27 Southeast Pontianak was students carried out interesting learning processes and thought creatively by increasing questioning skills.

Researchers conducted the research after consulted in the first and second cycles. Consultation with colleagues can provide positive input on whether or not feasible planning that includes the implementation of learning. Researchers hope that the process of implementing learning using scaffolding game media can provide learning motivation, fun,

practice the ability to solve problems to improve student learning outcomes. Next, the planning in the form of a two-cycle learning implementation plan was trialed in the field. The results of the planning and implementation assessment from collaborators over the two cycles can be seen in Table 1 below.

Table 1 Description of Collaborator Assessment Data on Base Line

Information	Percentage
Lesson Plan assessment	90,78 %
Implementation Assessment	84,33 %

Assessment of Learning Implementation Plan (RPP), and implementation of learning is necessary to determine the average percentage criteria. The criteria guidelines were: very good (80% - 100%), good (66% - 79%), sufficient (56% - 65%), poor (40% - 55%), not good (0% - 40%) %).

Discussion

Data collected in this study were observation data, student-teacher questionnaire, and Learning Outcomes Test using scaffolding game media in VI grade at SDN 27 Southeast Pontianak. The use of media was carried out for two cycles. The implementation of the media aimed to improve the quality of thematic learning with aspects of the process and learning outcomes of students. Data obtained from the meetings of each cycle were analyzed and become guidelines to improve plans, implementation, observations, and given action after reflection classically. Learning activities were conducted from the introduction, core activities, and closing activities. Learning activities based on project-based learning stages. During the learning process, the evaluation of the process and the results with direct observation of the learning process carried out by students with the teacher while evaluating the results, see in writing the learning outcomes of students through test questions given to students. The research was conducted from September 7th 2019 to August 23rd 2019. The summary of research data from the baseline can be seen in Table 2 below.

Table 2 Student Questionnaire Data Description, Learning Processes, and Results on the Base Line

Information	Percentage
Average of learning activity	81,65 %
Average of student questionnaire	85,93 %
Average of students learning outcomes test	76,72 %

To make it easier to analyze the data above, both relating to student questionnaires, and Learning Outcomes Test, it is necessary to determine the average percentage criteria. Guide criteria: very good (80% - 100%), good (66% - 79%), sufficient (56% - 65%), poor (40% - 55%), not good (0% - 40%). Recapitulation of the assessment of learning activities and student questionnaires in the range of grades 80% - 100% (good category once) as well as the two-cycle learning outcomes test in the good category. The increasing percentage of planning, implementation, and learning outcomes tests can be described as follows.

a. Lesson plan

In the first cycle, the 1st and 2nd meetings had an average value of 85.81% and the second cycle of the 3rd and 4th meetings, namely 95.75%. Cycles I and II increased by 9.94%.

b. Learning Implementation

Teachers carrying out learning in the first cycle obtained an average value of 76.19% and the second cycle with an average value of 92.46%. An increase was 16.27%.

c. Learning Observation

Group activities were observed with the criteria of compactness, activeness, courage, and cooperation obtained with an average value of 74.23% in the first cycle, then increased by 14.84% in the second cycle with an average value of 89.07%. Every time an observation is made, it is reflected by the teacher every cycle.

d. Learning Outcomes Test

Each cycle consisting of two meetings is given a final test for students. Cycle I, the average value was 76.45% and increased by 30.3% in the second cycle to 79.48%.

From the above research data exposure, each cycle with two meetings experienced a significant increase and was strengthened with the learning outcomes used can be seen from the student learning outcomes test. It reached more than the Minimum Completeness Criteria (KKM) of the school, and the score was 75. It means that learning by using the scaffolding game media, and student activity dominates in the learning process. Student learning is not just focused on passively receiving information from the teacher. Still, students play an active role in exploring learning information in accordance with learning objectives, but there is help in processing new information that they find.

Education quality improvement from the researcher in implementing learning models using scaffolding game media are actions taken at the classroom action research stage so that the direction of improving the quality of learning appears in the process and the outcome of learning. The achievement of the results of the research activities that have been designed shows that learning using scaffolding game media makes it easy for teachers and students to use thematic learning using scaffolding game media and is equipped with steps of learning activities carried out by students in groups. In addition, students can more easily understand the material contained in the contents of the 2013 Curriculum and apply learning steps with innovative, creative, and fun learning concepts.

Important notes of researchers in using scaffolding game media in VI grade at SDN 27 Southeast Pontianak, namely: (1) creating enjoyable learning between students and teachers in class, (2) creating a conducive learning atmosphere not only happening in the classroom but by making interesting learning and utilizing learning resources inside or outside the classroom, (3) helping students to be more responsible, active, courageous, and independent with their curiosity by involving the ability of students, (4) fostering better collaboration with collaboration between learning groups in the thematic learning process, (5) improving students' skills, attitudes and knowledge in solving problems related to their daily knowledge with quick-thinking skills.

Conclusions and Suggestions

Conclusions

Based on research results obtained through research on the use of scaffolding game media s in Pontianak, public elementary schools can be concluded as follows.

1. Planning efforts to improve the process and learning outcomes using scaffolding games at SDN 27 Southeast Pontianak based on the preparation of the RPP by developing the use of learning resources and learning methods used by teachers by making scaffolding game media for students in elementary schools, mainly in VI-grade at SDN 27 Southeast Pontianak. The results of the assessment of lesson plans from collaborators in the first and second cycles obtained an average value of 87.41 (87.41%) in the very good category. Therefore, researchers expect later learning processes and outcomes can improve the quality of thematic learning so that it can motivate and assist VI-grade teachers in improving the quality of learning in their classrooms. Equipment and learning resources, as well as fellow teachers involved in it, were planned carefully.

2. Scaffolding game implementation from the assessment of collaborators in the first and second cycles with an average of 92.46 (92.46%) category was very good. Scaffolding game consists of making groups with yells, obeying the agreement/rules of the game, answering or asking questions according to scores, writing, and calculating scores.
3. The learning process/learning activities above were in accordance with the flow of constructivism, i.e., students build their new knowledge by linking their daily knowledge. Based on observations of group activity in the first cycle, 74.23% and the second 89.07% with an average value of 81.65% with a very good category. The role of learners is complex in learning to obtain new knowledge through interactions in the form of cooperation, cohesiveness, activeness, and courage with other students (group members) and other groups as a manifestation of interaction with their environment. Form of student appreciation for learning scaffolding games with questionnaires obtained an average of 85.93 (85.93%) very good category.
4. Student learning outcomes test after following the learning process using scaffolding games obtained from the first cycle was 76.45 (76.45%) and the second cycle with an average of 79.48 (79.48%) was good category.

Suggestion

Based on the above conclusions, then a few things need to be suggested, as follows.

1. Improving the quality of learning by applying interesting methods and learning techniques in the digital-based 4.0 revolution can meet the demands of the teaching profession itself so that students feel happy and interested and find new things, for example in planning and implementing learning can be done by developing RPP. RPP uses a detailed learning model including core activities by emphasizing learning steps that involve students developing IT skills as a whole.
2. For educational institutions that are authorized to be able to train teachers to make teaching aids/game implementation so that motivating teachers to conduct research continuously can contribute to improve the quality of education.
3. The study focuses on thematic learning implementation, for further researchers can develop approaches, models, strategies, methods, and learning techniques with other materials so that more for students to improve problem-solving skills by applying IT-based skills from teachers and students.

References

- Abd. Kadir & Hanun, Asrohah. (2014). *Pembelajaran Tematik*. Jakarta: RajaGrafindo Persada.
- Alizamar. (2016). *Teori Belajar & Pembelajaran*. Yogyakarta: Media Akademi.
- Andi, Prastowo. (2015). *Menyusun Rencana Pelaksanaan Pembelajaran (RPP) Tematik Terpadu (Implementasi Kurikulum 2013 untuk SD/MI)*. Jakarta: Prenadamedia Group.
- Alihamdan. (2017). *Pengertian Scaffolding*. <https://alihamdan.id/scaffolding/>. Diakses pada tanggal 22 April 2019.
- Ahmad, Rohani. (2010). *Pengelolaan Pengajaran (Sebuah Pengantar Menuju Guru Profesional)*. Jakarta: Rineka Cipta.
- Ahmad, Yani. (2014). *Minset Kurikulum 2013*. Bandung: Alfabeta.
- Arief, S. Sadiman, dkk. (2009). *Media Pendidikan (Pengertian, Pengembangan, dan Pemanfaatannya)*. Jakarta: Rajawali Pers.
- Asep Henry, Hernawan, dkk. (2007). *Pengembangan Kurikulum dan pembelajaran*. Jakarta: Universitas Terbuka.
- Atwi, Suparman. (2014). *Desain Instruksional Modern (Panduan Para Pengajar dan Inovator Pendidikan)*. Jakarta: Erlangga.

JP2D (Jurnal Penelitian Pendidikan Dasar) UNTAN

Volume 3 | Number 2 | May |2020, Page 61-68

e-ISSN: 2613-9723 dan p-ISSN: 2613-9715

- Baharruddin & Esa Nur Wahyuni. (2015). *Teori Belajar & Pembelajaran*. Yogyakarta: Ar-Ruzz Media.
- Burhan N, Gunawan & Marzuki. (2015). *Statistik Terapan untuk Penelitian Sosial*. Yogyakarta: Gajah Mada University Press.
- Daryanto. (2014). *Pembelajaran Tematik, Terpadu, Terintegrasi (Kurikulum 2013)*. Yogyakarta: Gava Media.
- Masnur, Muslich. (2016). *Melaksanakan PTK Itu Mudah*. Jakarta: Bumi Aksara.
- Ridwan Abdullah, Sani. (2016). *Penilaian Autentik*. Jakarta: Bumi Aksara.
- Safaria, Triantoro. (2016). <https://www.e-jurnal.com/2017/03/peran-efikasi-diri-pola-asuh-otoritatif.html>.
- Suharsimi, Arikunto & Cepi Safruddin Abdul, Jabar. (2014). *Evaluasi Program Pendidikan*. Jakarta: Bumi Aksara.
- Trianto Ibnu Badar, al-Tabany. (2015). *Desain Pengembangan Pembelajaran Tematik*. Jakarta: Prenadamedia Group.
- Waminto, Rajagukguk. (2015). *Evaluasi Hasil Belajar Matematika*. Yogyakarta: Media Akademi.
- Wimbarti S & Novitasari R. (2015). <https://www.e-jurnal.com/2016/05/kemampuan-theory-of-mind-anak-usia-3-5.html>