Improving Student Learning Outcomes Using Crossword Based Worksheet In Primary Schools

Mitra Oktavia[1], Cecil Hiltrimartin[2], Destiana Wati[3]
[1]Faculty of Teacher Training and Education, Sriwijaya University, Sumatera Selatan, Indonesia
[2]Elementary School 07 Palembang, Sumatera Selatan, Indonesia

Article Info	ABSTRACT
	Purpose of the study: This research aims to improve student learning outcomes by using TTS-based LKPD in the learning process. **Methodology:** This research was carried out in class IV.B of Elementary School 7 Palembang in the science and sciences subject. The research method used is classroom action research. The population and sample in this study were all class IV students at SDN 07 Palembang. The data collection techniques used by researchers are observation and tests. The data analysis technique used is qualitative analysis and quantitative analysis. **Main Findings:** The results of research using TTS-based LKPD in science and science subjects in class IV can improve student learning outcomes with results in cycle I as much as 45.4%, cycle II as much as 81.8%, and cycle III as much as 88.4% as well as post-test 95.4% with a student completion target of 85%. **Novelty/Originality of this study:** TTS-based LKPD can improve student learning outcomes in class IV science and science subjects at Elementary School 7 Palembang *This is an open access article under the CC BY-NC license*

Corresponding Author:
Cecil Hiltrimartin,
Faculty of Teacher Training and Education, Sriwijaya University, Sumatera Selatan, Indonesia
Jl. Masjid Al Gazali, Bukit Lama, Kec. Ilir Bar. I, Kota Palembang, Sumatera Selatan 30128
Email: hiltrimartincecil@yahoo.com

1. INTRODUCTION

Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, personality self-development, noble morals, and the skills possessed by themselves, society, nation and state (Law No. 20 of 2003 article 1, point 1) [1], [2]. Education is an effort and plan to realize the learning process so that students actively develop their potential for self-control, personality, intelligence, noble character and control of personality and intelligence for themselves, society, nation and state [3], [4]. Meanwhile, according to Suprapto in [5], [6], Education is a process that contains various kinds of activities that are suitable for individuals to live in the stages of development towards their level of maturity. In education, of course, it cannot be separated from the teaching and learning process which involves students' learning activities, students' way of thinking in analyzing hot problems in learning and collaboration in groups so that learning runs systematically and achieves the desired learning goals.

In current learning, elementary schools are starting to implement learning using the independent curriculum for grades I and IV. The Merdeka Curriculum carries the concept of "Freedom of Learning" which gives freedom to schools, teachers and students to freely innovate, learn independently and be creative, where this freedom starts with the teacher as the driving force [7], [8]. In implementing this new paradigm curriculum, the Ministry of Education and Culture and Higher Education provides a number of supports to schools. The

Ministry of Education and Culture and Higher Education provides teacher books, teaching modules, various formative assessments, and examples of educational unit curriculum development to assist students in implementing learning [9]. In class IV science learning, it discusses natural and social sciences such as parts of plants, benefits of plants, benefits of plants for the surrounding environment and others. Therefore, it is important to study science and technology which can improve students' learning outcomes in terms of knowledge at school and the surrounding environment.

Learning outcomes are results achieved by an individual in developing their abilities through a process that is carried out with efforts using their cognitive, affective, psychomotor and mixed abilities to gain an experience over a relatively long period of time so that the individual experiences a change and knowledge of what is observed either directly or indirectly will stick with him permanently, learning outcomes can be seen from the evaluation scores obtained by students [10], [11]. Based on the knowledge value in the previous learning process, many students' learning outcomes are still below the KKM. So far, the teacher has explained the material well using lecture and question and answer methods. However, students are less actively involved in the learning process, students just sit quietly and listen to explanations and answer the teacher's questions. This will cause students to lack understanding of the subject matter, resulting in low student interest and learning outcomes, especially in the cognitive domain [12], [13]. To improve student learning outcomes, several changes can be made in the learning process, including the use of educational LKPD which can attract students' interest in the learning process. There are various LKPD in learning, including TTS (Crossword Puzzle) based LKPD which can be used in learning.

Crosswords are a game where we have to fill in the empty spaces (in the form of white boxes) with letters that form a word based on the clues given. Instructions are usually divided into "Horizontal" and "Descending" categories depending on the position of the words to be filled [14], [15] Crossword Puzzle LKPD is an approach packaged in the form of a game that can stimulate students' thinking power in the learning process. In the crossword puzzle game, it can have an influence on students' knowledge by creating active, fun learning, generating enthusiasm for learning, fostering students' sense of creativity, sharpening students' memory. From previous research conducted by Susanti, it was found that TTS LKPD can increase student learning motivation and student learning achievement by providing Student Worksheets in the form of TTS in social studies lessons implemented in class IX-D of SMPN 4 Probolinggo [16]. Then according to (ucisulistia) the use of TTS media can improve student learning outcomes because it is hoped that the learning process will be more enjoyable so that it can improve student achievement [17].

The topic of TTS LKPD has attracted the interest of researchers in Indonesia, but as explained above there has been no research that has paid attention to the contribution of TTS LKPD applied to elementary school students. Based on the problems above, it is necessary to conduct in-depth research on "Efforts to improve student learning outcomes using TTS-based LKPD at Elementary School 7 Palembang. The author hopes that the use of LKPD for learning crossword puzzles in science and science subjects can improve student learning outcomes. This research aims to determine the use of crossword puzzle worksheets in improving student learning outcomes in science and science subjects at Elementary School 7 Palembang.

2. RESEARCH METHOD

The type of method used in this research is the classroom action research method (PTK). Classroom action research is research that refers to actions that can be carried out directly in an effort to improve the learning process [18], [19]. In carrying out classroom action research, there are four stages carried out, namely: (1) planning, (2) implementation, (3) observation, and (4) reflection. The four stages in action research are elements to form a cycle, namely a round of consecutive activities that return to the beginning. So one cycle includes the design preparation stage up to reflection, the other is just evaluation, [20], [21]. The following are the four stages of classroom action research in Figure 1.

Figure 1. Classroom Action Research Design Steps

Planning

The planning stage is the stage where the researcher develops the techniques used to collect data in the form of documentation and tests. The test is carried out in the form of a post-test to measure student learning outcomes through the Crossword Puzzle LKPD. Then the researcher prepares the class and learning materials that will be delivered to students, compiles teaching modules/RPP, and prepares learning evaluation tools.

Implementation

The implementation stage is the stage where the researcher takes action to achieve the goals or plans made, namely implementing a TTS (crossword puzzle) based LKPD. At this stage the researcher carried out observation, documentation and test learning activities during the learning process, documentation in the form of photos of learning activities and post-tests in the form of questions given at the end of the lesson.

Observation

This observation stage is in the form of activities carried out by students in class learning. The researcher made observations in each cycle that the learning went through. The aim of this stage is for researchers to obtain accurate data for improvements in each cycle that will be carried out.

Reflection

This reflection stage takes the form of an assessment that has been carried out to obtain information from the activities that have been carried out in each cycle. Reflection is an activity to correct deficiencies during learning so that subsequent learning can be even better. This research was conducted in mid-June to mid-July 2023 with a sample of class IV.B students.

The sampling technique used by the author in this research was nonprobability sampling technique. According to Sugiyono [22], "nonprobability sampling is a sampling technique that does not provide equal opportunities for each element or member of the population to be selected as a sample." One of the sampling techniques that will be used by the author of nonprobability sampling is purposive sampling. By using purposive sampling, the sample is determined deliberately by the researcher based on certain criteria or considerations so that it does not go through a selection process as is done in random techniques [23]. The author chose class IV.B students from a predetermined population as samples for research.

The data collection technique used in this research used tests and observations. The test was carried out using data collection instruments to determine the level of students' knowledge on the cognitive aspects of science subjects. In this research, the instrument used by researchers is in the form of multiple-choice evaluation questions on plant material that is the source of life on earth. Observations were carried out by researchers to collect data by directly observing learning activities in the field and recording the gains seen during learning. This observation activity aims to see the learning outcomes of students during the learning process using TTS-based LKPD, then the data that has been obtained is then analyzed descriptively qualitatively, namely presenting the data in the form of descriptions and discussions of the research results obtained. This is done to collect information according to facts and explain the existing signs clearly and in detail [24].

The data needed for research is data on student learning outcomes during the learning process. Data on student learning outcomes were analyzed using the following percentages according to Sudijono [25]:

$$p = \frac{f}{N} \times 100\%$$

Where :
P : The percentage you are looking for
F : Frequency of students completing
N : The total number of students

To see the effectiveness of using TTS-based LKPD, it can be determined according to the minimum completeness criteria used by the school. This reference is used to find out whether students have completed or not completed their learning. Students are said to be complete if they get a score of 65% or exceed the limit determined by the teacher or school.

3. RESULTS AND DISCUSSION

There are 22 students in class IV.B at SDN 7 Palembang. In the science and science learning activities, it can be seen that there are still many students who do not understand the learning material and have difficulty working on learning questions. In this condition, researchers want to use crossword puzzle-based LKPD in science learning, because using TTS LKPD can increase students' understanding in learning, increase knowledge in critical thinking with hot questions presented in TTS LKPD and create learning. active and fun. The following are the results of research from cycle I to cycle III which shows an increase in learning outcomes for class IV students at Elementary School 7 Palembang.

Cycle 1

The learning outcomes of students in the first cycle were a percentage of 45.4% for student learning outcomes above the minimum completeness criteria. Meanwhile, the percentage of student learning outcomes below the minimum completeness criteria is 54.5%. And the average value of learning outcomes in cycle I is 52.7%.

Cycle II

Student learning outcomes in cycle II had a percentage of 81.8% for student learning outcomes above the minimum completeness criteria. Meanwhile, the percentage of student learning outcomes below the minimum completeness criteria is 18.1%. And the average value of learning outcomes in cycle II is 73.6%. In cycle II there was an increase of 36.1%.

Cycle III

Student learning outcomes in cycle III have a percentage of 95.4% for student learning outcomes above the minimum completeness criteria. Meanwhile, the percentage of student learning outcomes below the minimum completeness criteria is 4.5%. And the average value of learning outcomes in cycle III is 78.8%. In cycle III there was an increase of 13.6%.

The following is a graphic table showing an increase in learning outcomes and the average value of students in science and science subjects from cycle I to cycle III:
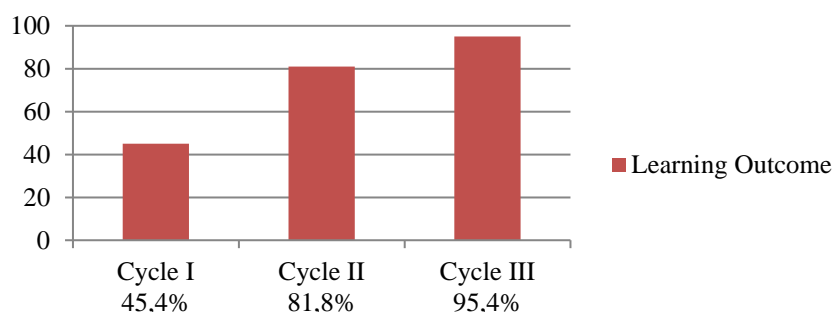
SCIENCE LEARNING RESULTS

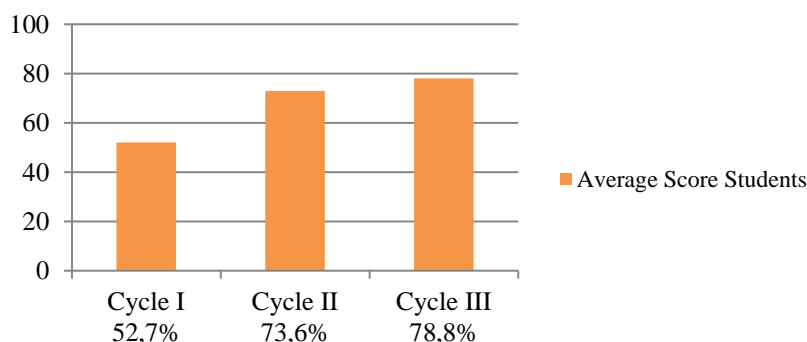Figure 2. Student learning outcomes

AVERAGE VALUE OF STUDENTS

Figure 3. Average student scores

Based on the data above, researchers have been able to improve student learning outcomes through TTS-based LKPD which were used as indicators during the research process. To improve students' science and science learning outcomes, teachers need to innovate in learning such as using TTSS LKPD, learning media, methods and approaches that suit the problems experienced by students. In achieving learning goals and outcomes, appropriate innovation in learning is needed. In the learning process there are several words that support the achievement of learning outcomes such as: learning resources, teacher and student abilities, learning media, and teaching materials [26].

Figure 2 shows an increase in student learning outcomes in cycle I by 45.4%, cycle II 81.8%, and 95.4% in cycle III. From cycle I to cycle III there was an increase of 13.6%. Meanwhile, in Figure 3, the average value of student learning outcomes increased by 26.1% from cycle I to cycle III. This shows an increase in the learning outcomes of class IV students at Elementary School 7 Palembang in the science subject. This

improvement is a form of the result of the learning process using TTS-based LKPD in the form of individual learning results and group learning processes.

The results above show that the application of the TTS LKPD can improve student learning outcomes, including students being able to work on the TTS LKPD as well as evaluation questions given individually in the process. In learning, students can be seen enthusiastically who are active in the learning process, collaborate and are enthusiastic about following the learning provided. However, in the success of an educational process, there are certainly obstacles in it. This was seen during group discussions when working on the TTS LKPD. At first, they were confused about writing the answers in the boxes provided. As time went by, in the next cycle meeting, students were very enthusiastic in working on the TTS LKPD provided. in class IV at Elementary School 7 Palembang.

4. CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that the use of Crossword Puzzle LKPD can improve the learning outcomes of class IV.B students at Elementary School 7 Palembang. This is shown by an increase in the percentage of student learning outcomes from cycle I of 45.4%, to 81.8% in cycle II and cycle III 95.4%. Overall, the average class score increased by 13.6%. In the learning process, students can develop students' knowledge and increase their thinking power in learning.

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