IMPROVING THE FIFTH-GRADE STUDENTS' ACTIVENESS AND ACHIEVEMENT IN SCIENCE LEARNING FOR WATER CYCLE MATERIALS USING TEAM GAME TOURNAMENT LEARNING MODEL ASSISTED WITH CROSSWORD PUZZLE MEDIA IN STATE ELEMENTARY SCHOOL LEDUG

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Abstract: This study aims to increase students' activeness and achievement using the Teams Games Tournament learning model assisted with Crossword Puzzle media. This classroom action research covered two cycles with planning, action, observation, and reflection of each. This study involved 27 fifth-grade students at State Elementary School Ledug. Data were collected through test and non-test techniques. The test was to assess students' achievement, while the non-test technique, namely observation sheets and documentation was to assess students' activeness. Data were analyzed qualitatively and quantitatively. The results of the study showed an increase in students' activeness and achievement indicated by an increase in students' activeness from 69% in cycle I and to 80% in cycle II. Besides, the achievement increased from 66% in cycle I to 100% in cycle II. It can be concluded that the Teams Game Tournament learning model assisted with Crossword Puzzle learning media can increase the fifth-grade students' activeness and achievement.

Keywords: activeness, achievement, teams game tournament, crossword puzzle.

INTRODUCTION

Education is to help people to pursue a good future. Referring to Article 3 of Law No. 20 of 2003, the goal of education is to "develop potential and build noble character and civilization for the nation." This means that education focuses to develop the capacity of students so that they can become knowledgeable, skilled, creative, and democratic-minded individuals who believe in God Almighty.

The curriculum plays an important role in helping the country achieve its educational goals. Meanwhile, students are responsible for learning and teachers function as educators. Susanto (2015: 185) defines learning as a process of conveying new information to those who do not know it. The curriculum includes all learning opportunities for students that have an impact on their personal development not limited to certain subjects, including science subjects.

We often experience science illustrations in our daily lives. In elementary school, students have to learn about science not only for scientific achievements but also for cultivating cycle skills to think fundamentally, imaginatively, and logically which can later impact the learning cycle and learning items. Now, many students think that science is a difficult and boring subject. As a result, they become passive during the learning process.

State that active learning is described by ideal inclusion, both scientifically and physically. Students are involved in dynamic learning when they participate in activities to improve their knowledge and skills while inside or outside the classroom Ulun, (2013: 12). Some observable signs of activeness are enthusiasm in participating in learning, courage to ask questions during the learning process, courage to provide answers to questions, and courage to convey their understanding in a presentation in the class Rikawati & Sitinjak, (2020).

Learning activities have to be designed to build student potential to meet learning objectives. Active students will grow and develop their knowledge and skill, while those who are inactive will be left behind. To have good achievement, participation in the learning process is important.

Istaran and Intan Pulungan (2018: 36) state that student changes as a result of participating in the teaching and learning process determine the level of achievement. Positive change is planned changes from lethargic to diligent, from mischievous to fair, and from shy to playful. Moh Zaiful Rosyid et al. (2019:9) define learning achievement as changes that take place in individuals as a result of their participation in learning activities. Pratiwi & Meilani (2018) defines learning achievement as the number of student ratings for learning outcomes across cognitive, emotional, and psychomotor. However, in this study, the indicators used are cognitive. Successful completion of

learning activities leads to personal growth, which can be seen as learning achievement which can largely represent students' mastery of a subject or behavior.

The 2013 curriculum requires students to actively participate in the learning process and the teacher only functions as a facilitator or guide. However, in the field, many students are less engaged in learning activities, especially during the study of nature. The study of nature and all its components, including humans, animals, and plants, is known as natural science subjects or IPA in Indonesia.

Simanjorang (2018) emphasizes that natural science is related to the use of approaches to discover natural phenomena. Thus, inventions and knowledge are formed through the process of mastering information in the form of data, concepts, or principles. Based on this perspective, the ideal time to introduce children to scientific inquiry and education starts from elementary school levels, scientific learning must be inquiry and action-oriented in order to help students gain deeper experience and understanding of the natural environment around them. Students are asked to take notes and do their experiments. They are also instructed to develop scientific mindsets, such as honesty, during their science education. Teachers have to be able to influence their students' thinking and learning. Besides, learning about science gives students an acceptable reason to make sense of the extraordinary events in their daily life.

In this study, the fifth-grade teacher at State Elementary School Ledug was interviewed to find out the problems faced in the class. The interview revealed unique difficulties in the classroom such as the low number of students who responded to the questions; hesitate to ask questions; were always satisfied with the material provided by the teacher; were reluctant to give their opinion; and easily forget the material presented as they only accept the concept of the material presented by the teacher without actively looking for their own concepts. In the mid-test in the second semester, only 10 out of 27 students passed the minimum completeness criteria. To strengthen the conclusions of the interview findings, the researcher also observed learning activities in the fifth-grade students at State Elementary School Ledug. The researcher and the fifth-grade teacher at State Elementary School Ledug collaborated to apply the Teams Game Tournaments learning models and assisted with the crossword puzzles to increase students' involvement and performance.

The Teams Game Tournament learning model includes training for all students regardless of status and contains assignments, games, and supporting components. Defines the Teams Game Tournament (TGT) learning model as a learning method that collaborates study teams to compete in teams and can be used to learn more about various facts, ideas, and skills. Students compete against other team members with similar previous academic achievements in a quiz-based academic competition with an individual progress score system Slavin, (2015: 163). A study by Veloo, A., R. Md-Ali, and S. Chairany (2016) revealed that the focus of TGT is cooperation between members of each group and how the level of cooperation affects group and individual scores simultaneously. Students learn to take personal responsibility, respect each other, and complete group tasks in teams to achieve common goals. In this study, academic tournaments involve students of all abilities, gender, and ethnic or racial backgrounds. This model would be ideal if supported by relevant media.

The word "media" has a Latin root, namely "medius" which means "in the middle" or "introduction" (Arsyad, 2013: 3). Media are tools used to transfer messages from the source to the recipient. Puspitarini, Y.D., and Hanif, M. (2019) define instructional media as hardware or software tools that educators use to teach student content during the learning process. A study by Sabilla, A.F., Irianto, S, and Badarudin, B. (2020) stated that learning media include anything from physical objects to virtual worlds to carefully orchestrated activities intended to facilitate the transmission of learning information to students. In the context of education, media are expected to increase the effectiveness and efficiency of something in accordance with educational goals. All fields benefit from learning media (Ilmi & Sunarno, 2020). The utilization of learning media greatly influences the learning materials obtained by the students.

Instructional media are important for learning science because science content is abstract so it must be adapted to students' cognitive. Instructional media such as puzzles can be utilized in learning. In the word crosswords puzzle, players try to make words by connecting clues provided in the box. Crosswords can be used as useful and fun learning tools without compromising the essential nature of sustainable education. A crossword puzzle is a guessing puzzle that needs to be filled in with empty spaces by using the letters from the scholastic questions to frame words in a white box. These

clues usually fall into horizontal categories and descend based on the words that need to be answered.

Referring to Wasgito, M. A. (2014), crossword puzzles can be used as learning media because they can provide dynamic and fun learning, generate enthusiasm for learning, foster a sense of inspiration, encourage student creativity, and sharpen student memory. The crossword puzzle game requires students to fill in the blanks. Instructions (academic problems) are in the form of white squares containing the letters that make up a term. Depending on whether the conditions are met, they are usually divided horizontally or downwards. It's easy for teachers to create questions that students of all skill levels can use, from beginners to experts. Selectable material can also be modified to meet predefined needs for learning. The focus of the discussion in this study is the aim of evaluating the effect of applying the TGT model with the help of crossword puzzles on the process of increasing the level of fifth-grade students' involvement and achievement at State Elementary School Ledug.

METHODS

This classroom action research was conducted from April to May in the 2022-2023 Academic Year involving the fifth-grade students at State Elementary School Ledug, Kembaran Sub-district, Banyumas District. This research was based on four cycles, namely two meeting cycles and two non-meeting cycles. The researcher collaborated with the fifth-grade teacher at this school. This study involved 27 students from the fifth grade of State Elementary School Ledug as subjects.

This study is a classroom Action Research. It refers to Kemmis and McTaggart's model, where the model is repeated in which the longer the wait, the better the normal achievement. The first stage of this study was planning in which the researcher and the class teacher planned or made preparation for the implementation process. The next stage was the action stage to implement everything that has been prepared during the planning stage. The learning time for each cycle was recorded. The observation was complemented by re-reading the initial observation sheet to get information about what the teacher and students did during the debriefing. The last step in the learning process was reflection which includes data analysis and evaluation of results to find out to what extent the learning media used in the process are successful. This research used both test

and non-test techniques. Non-test techniques used observation sheets and documentation to evaluate students' activeness, while the test method was used to see students' achievements.

RESULTS AND DISCUSSION

This research involved fifth-grade students at State Elementary School Ledug in the academic year of 2022-2023. The water cycle material is prepared according to the stages of the TGT learning model which has the aim of increasing the students' activeness and achievement in science subjects. This learning was practiced for two cycles using the Teams Game Tournament model with crossword puzzles. At the end of each cycle, students took an evaluation test to see how well they understand the material.

Cycle	Highest Score	Lowest Score	Mean Score	Criteria
Pre-cycle	80	20	59 %	Not active
I	85	40	69 %	Quite active
II	90	65	80 %	Active

Students' activeness increased from cycle I to cycle 2. In cycle I, students had a sufficient category (69) with the lowest score of 40 and the highest score of 85. Meanwhile, in cycle II, students had active category (80%) with the lowest score of 40 and the highest score of 85. Referring to the data collected, students participate in the learning process.

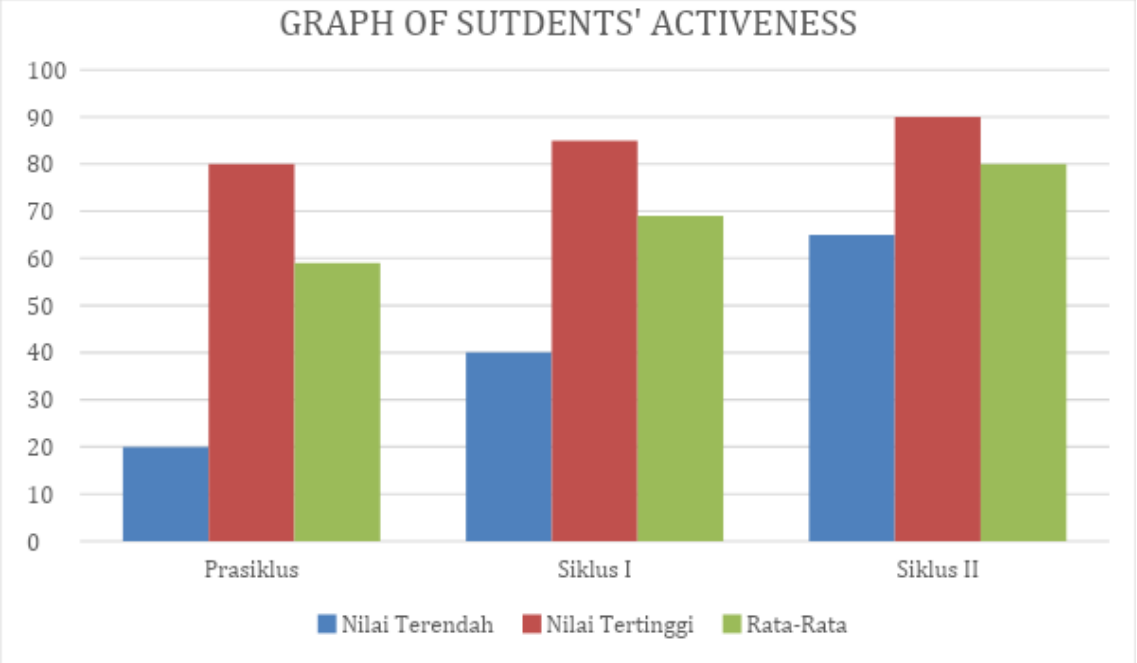

Figure 1. Graph of Students' Activeness.

The graph above shows students' achievement The percentage of students who mastered the water cycle material in cycle I was 59% which is considered sufficient but still below the minimum limit of 75%. Meanwhile, in cycle II, the level of students' activity reached 80% indicating that the average value of activity in developing experiences had far exceeded the minimum limit, namely 75% for the total number of students. Students actively participated in learning activities, even became attentive listeners who pay attention to the teacher's explanation. They also learned to ask questions, give good answers, and participate in group discussions. They recorded the lessons, expressed their thoughts, and presented their group work.

Table 2. Recapitulation of Students' Achivement

Cycle	Lowest Score	Highest Score	Mean	Passed	Relative Frequency
Pre-cycle	40	80	61	9	9/27 x100% = 33%
I	50	80	71	18	18/27 x 100% = 66%
II	80	90	82	27	27/27 x 100% =100%

With the use of the Crossword Puzzle as part of the Team Game Tournament learning model, students' performance ranged from 33% (9 students) in the pre-cycle to 66% (18 students) in cycle I and 100% (27 students) in cycle II. The percentage of students who met or exceeded expectations before, during, and after each cycle is presented in Figure 2 below.

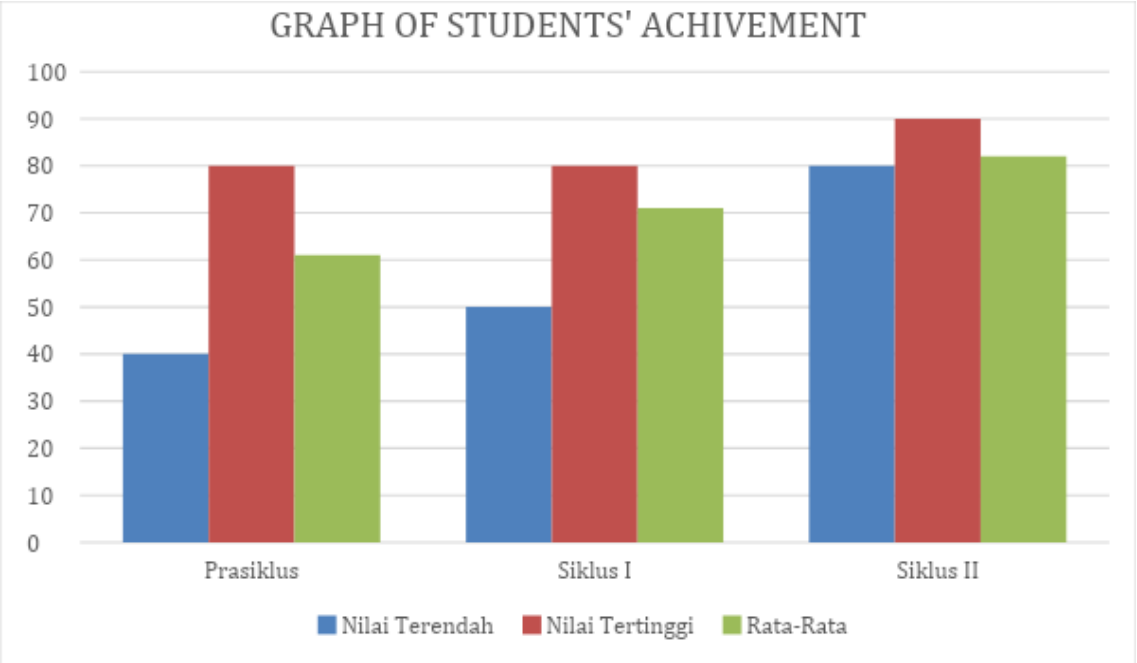

Figure 2. Graph of Comparison of Learning Achievement

Figure 2 shows that the use of the TGT learning model can help increase students' achievement continuously the participants of this study have a great dominance of learning achievement.

CONCLUSION

The fifth-grade students at State Elementary School Ledug can benefit from a more collaborative mindset by applying the Team Game Tournament learning model with Crossword Puzzle media in their classes throughout the 2022-2023 academic year. Students can collaborate with other students through the Teams Game Tournament learning style. Students' achievement increases when they are actively engaged in learning, playing games and organizing tournaments to encourage cooperation among them, discussing task completion without bias with group members, and playing games

and tournaments. The use of the Team Game Tournament learning model has a positive impact on students' activeness in learning and achievement.

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