



The Influence of STAD Model Assisted with ALPIN Media Towards The Understanding of Students' Concepts

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ABSTRAK

Kurangnya pemahaman konsep berdampak pada rendahnya hasil nilai siswa dalam muatan pelajaran Bahasa Indonesia dan IPA. Tujuan penelitian ini adalah untuk mengetahui pengaruh model pembelajaran STAD berbantuan media ALPIN terhadap pemahaman konsep tema 6 cita-citaku kelas IV. Penelitian ini merupakan penelitian kuantitatif dengan desain *Pre-Eksperimental Design* dengan bentuk *The One-Group Pretest-Posttest Design*. Populasi dalam penelitian ini yaitu siswa kelas IV SD. Pengambilan sampel dilakukan dengan teknik sampling jenuh. Sampel dalam penelitian ini yaitu seluruh siswa kelas IV SD yang berjumlah 29 siswa. Teknik pengumpulan data dalam penelitian ini meliputi observasi, wawancara, dokumentasi dan tes. Teknik analisis data yang digunakan dalam mengolah data penelitian yaitu uji normalitas sebagai uji prasyarat. Pada pengujian hipotesis penelitian yang digunakan adalah uji paired sampel t-test dan uji N-gain. Hasil

penelitian menunjukkan rata-rata nilai siswa setelah menerapkan model pembelajaran STAD berbantuan media ALPIN mencapai 74,8% lebih baik dibandingkan sebelum diberi perlakuan yang hanya mencapai rata-rata 60,9%. Terdapat pengaruh model pembelajaran STAD berbantuan media ALPIN terhadap pemahaman konsep tema 6 cita-citaku kelas IV. Dapat disimpulkan model pembelajaran STAD berbantuan media ALPIN dapat meningkatkan pemahaman konsep tema 6 cita-citaku kelas IV.

ABSTRACT

Lack of understanding of the concept has an impact on the low value of student scores in Indonesian language and natural science content. The purpose of this study was to examine the differences in the average ability of students' understanding of concepts between before and after the STAD learning model-assisted ALPIN media and measure the increase in students' understanding of concepts after being taught using the STAD learning model-assisted ALPIN media. This research is a quantitative study with a Pre-Experimental Design in the form of The One-Group Pretest-Posttest Design. The population in this study was a student of class IV SD. Sampling is done by a saturated sampling technique. The sample in this study was class IV SD, which amounted to 29 students. Data collection techniques in this study include observation, interviews, documentation, and tests. The data analysis technique used in processing research data is the normality test as a prerequisite test. In testing the research hypotheses used were paired sample t-test, N-gain test. The results showed that there were differences in the average ability of students' understanding of concepts after applying the Student Teams Achievement Division learning model-assisted ALPIN media, there is an increase in the ability to understand the concepts of students after using the STAD learning model-assisted ALPIN media.

1. Introduction

21st Century Learning is designed to form students who have lifelong learning characters and are ready to face all changes. Because of this, P21 invites teachers, experts, and successful business people to define and illustrate the skills student's must-have in the world of work, daily life, and as a society. After that these things are conveyed in the 21st-century education rainbow. One of them is 4C (creativity, critical thinking, communication, collaboration). Critical thinking is important for students to have so that in life and the world of work, students can analyze problems and find solutions to problems. If students do not have this ability when students encounter problems, it will be more difficult to determine solutions, besides that students will easily be led by their thoughts even though these thoughts can be detrimental to themselves or many people. In addition to critical thinking or critical thinking, students must also have good communication skills. Important communication skills are owned by students so that students can convey the results of their thoughts, this also aims so that students in the community later can convey positive thoughts and ideas and benefit the surrounding community.

Based on the explanation above, what is considered to fulfill all of these things is the 2013 Curriculum. The 2013 curriculum creates students who have good attitudes in society, can find and solve problems that are around and convey the results of their thoughts. The 2013 curriculum has a theme that is divided into several sub-themes which contain several lessons (Widyanto, 2017). Based on this statement and adjusting to the explanation above, the focus at this time is to make students have critical thinking skills and communication skills.

Each of these abilities can be reflected in science and Indonesian subjects. BSNP in states that Indonesian language learning is learning that is directed at increasing the ability of students to communicate in Indonesian properly and correctly, both orally and in writing, as well as fostering an appreciation of the work of Indonesian human literature (Susanto, 2016; Sumayasa et al., 2015; Susanto, 2013). With the abilities they have, they can enrich and expand their abilities in literary works. Four language skills must be possessed by students, including listening, speaking, reading, and writing (Susanto, 2016). These four skills should be possessed by students and can be applied. Apart from Indonesian, science is also included in the material being taught. Science is a science that discusses nature and the universe and its contents (Susanto, 2016). In science learning, teachers should realize that the purpose of learning science is not only to provide opportunities for students to learn about facts and theories but also to develop habits and scientific thinking attitudes (Aryana et al., 2016).

Based on the descriptions above, so that all the things needed can be achieved, the teacher needs to design effective learning for students. The learning must be student-centered, this will make students active in thinking and communicating with friends. When students actively communicate at that time there will also be a process of exchanging thoughts, at that time there will also be a thought process for students. Seeing this, the teacher is expected to be able to trigger the development of student knowledge and understanding by choosing to use a learning model that can involve students optimally so that students become active (Alizar, 2016).

In contrast to this, the implementation of the learning process in elementary schools often encounters various kinds of obstacles. Teachers have not applied innovative learning models in the learning process in schools. So far, students only memorize material, they have not been able to connect the material received with problems that exist in everyday life. This statement is supported by observations and interviews conducted at SD 2 Panjunan in September 2019. The results of observations and interviews show that the teacher has applied several learning models, but has never applied the STAD (Student Team Achievement Division) learning model so that there is no known influence on understanding the concept of students. A similar problem was also encountered by (Marzi, 2019), in the research carried out, he found that learning in elementary schools was still not centered on the activeness of students. Only the teacher explains and without concrete examples. Research conducted by (Winaastari, 2020) also found something similar, namely that learning was not centered on students and a lack of competition in the classroom which resulted in students becoming lazy and feeling unmotivated. Furthermore, research conducted by (Harsanti, 2018) found that learning in elementary schools still uses conventional models. The teacher begins learning by explaining the material then gives examples of questions and ends with questions and answers, in this way it will make students passive and lazy to learn. The next research, namely research conducted by (Prastya, 2017), found that students are very slow in understanding the material and have not been active in learning. This is because the learning model

used by the teacher is still conventional; the teacher has not used an innovative learning model that is centered on the activeness of students.

However, on the other hand, students also lacked knowledge of basic competence in Indonesian and natural science subject content, especially in the material of the human circulatory system and natural resources. Students find it difficult to understand because of the large amount of material that must be studied or remembered and most students just memorize without understanding the concept so that students easily forget the material that has been studied. Then the learning process has used media, but it is still rare and the learning media used are available from schools. The results of the preliminary study obtained data that the level of conceptual understanding of learning materials, especially in Indonesian and science subjects, was categorized at a low level. The low understanding of students' concepts can be seen from the results of preliminary studies using questions of understanding the concepts of Indonesian and natural science that the researchers did before the research. Of the 29 grade IV students of SD 2 Panjunan, an average of 56.96 was obtained with a percentage of 26 or 89.655% of the students had not yet completed it, while only 3 or 10.344% of the students had completed it. Based on this explanation, it was concluded that a learning model was needed that could increase the activeness of students and the students' understanding of the concept of Science and Indonesian.

One solution to overcome this problem is to apply the STAD (Student Team Achievement Division) learning model to the learning process in class IV SD 2 Panjunan. STAD model is one type of model that can increase curiosity and activate students in learning can be the right model for implementing Indonesian and Natural Science learning (Runtu, 2015). According to (Fadhilaturrehmi, 2018), the STAD learning model is cooperative learning that places students into learning teams consisting of four to five people who have mixed work levels. Meanwhile, STAD method students are grouped into learning types with 4-5 members who are a mixture according to the level of achievement, gender, and ethnicity (Arniah, 2017). Members of the group learn from each other and teach. The focus emphasized is that the success of a group member will affect the success of his group. Thus, the success of the group will affect the individual success of students, to obtain maximum learning achievement. This is supported by research conducted by (Sudana & Weswana, 2017) which shows that the STAD learning model can improve science learning outcomes for grade IV A students in the odd semester of the 2016/2017 school year at SD No.3 Dalung. The research of (Dharma et al., 2018) stated that the understanding of the mathematical concepts of students who learn with the STAD learning model is better than those who learn with conventional learning.

In addition to using the right learning model, the use of instructional media is also very helpful in the learning process and can support the success of learning activities in the classroom. Instructional media is a tool that can help facilitate the learning process and serves to clarify the meaning of the message conveyed so that it can achieve learning goals better and more perfectly (Kustandi & Sutjipto, 2011; Cahyani & Yermiandhoko, 2018). The media used and applied to elementary school children must be based on the ability or potential of the child (Setyanugrah & Setyadi, 2017). One of the medias that can be used in learning concepts, especially in Indonesian and Natural Sciences lessons for grade IV SD 2 Panjunan students, is the "ALPIN" or Smart Album. Alpin is a visual learning medium in the form of an album in which there are several pictures of animal life cycles and material about poetry. The image is magnetized so that students can sequence the correct animal life cycle by sticking or removing the picture. The successful use of image media has been proven by research conducted by (Yuliana et al., 2015) showing that the understanding of the concept of students in the experimental group after being treated in the form of floor plan image media and photo fishing cards was 14.4 with a difference of 4.6 greater than the understanding of the control group concept. amounted to 9.8.

What distinguishes this research from previous research lies in the place and time of implementation, the content of the material being studied, and the media used. Based on the description above, the researcher intends to carry out research aimed at analyzing the effect of the Alpin Media Assisted STAD Model on Students' Concept Understanding of Theme 6 Goals in Class IV SD 2 Panjunan ". The existence of the STAD learning model assisted by ALPIN media will help students to improve understanding of the given science material which will affect the overall learning outcomes and with this model students will be more assisted in solving the problems they face independently.

2. Methods

In this study, the experimental unit was in the form of a class. The experimental design used in this study was the Pre-Experimental Design with The One-Group Pretest-Posttest Design. This design was used in a class that was given a pretest and then given treatment, then it intended to compare the conditions before and after being given treatment. Thus, the results of treatment could be found to be

more accurate because they can compare with the situation before being treated (Sugiyono, 2016). The research design of The One-Group Pretest-Posttest Design was carried out by giving a pretest to grade IV SD 2 Panjunan students in the form of a set of test questions to measure the initial conditions of students' knowledge of conceptual understanding. Furthermore, the research sample would be treated with the STAD learning model assisted by ALPIN media during the study. To see the effect, students were then given a posttest at the end of the study. The difference between the pretest and posttest is assumed to be the effect of the treatment or experiment carried out.

This study involved two variables, namely the independent variable and the dependent variable. The independent variable in this study was the STAD (Student Teams Achievement Division) learning model assisted by ALPIN media and the dependent variable was the understanding of concepts and student learning activities. The population in this study was SD 2 Panjunan class IV in the 2019/2020 academic year. Sampling was done by using a saturated sampling technique. The sample in this study was class IV SD 2 Panjunan, amounting to 29 students. Data collection techniques used in this study were interviews, observation, documentation, and tests. Interviews were used to conduct a preliminary study in finding problems that must be researched and to find out more in-depth matters of respondents. Observations were made to observe the problems and obstacles experienced by schools, both teachers and students in the learning process. Observations were made using the observation sheet. The documentation in this study was carried out as evidence of research implementation, the evidence is in the form of photos during the learning process. The test used in the study was subjective in the form of a description. The test was given in three stages, namely the initial test (preliminary study) which was used to obtain initial data before the study, then the pretest to measure the initial ability of students before being treated using the Student Team Achievement Division model assisted by ALPIN media and the final test (posttest) given after research to measure students' understanding of concepts after being given treatment. Before being used, the test was analyzed for validity and reliability first. This test was used to obtain quantitative data in the form of values that describe the achievement of the target concept understanding on theme 6 My goals on the content of Indonesian and Natural Sciences. The data analysis technique used was the normality test as a prerequisite test.

Hypothesis testing was carried out to answer the problem formulation that has been proposed. Before testing the hypothesis, first, the normality test is carried out as a prerequisite test for data analysis. Based on the results of the normality test, it was found that the data on the pretest and posttest scores of students' conceptual understanding were normally distributed. Hypothesis testing to be analyzed in this study is the paired t-test (Paired Sample t-test) and the conceptual understanding enhancement test (N-Gain). The paired t-test aimed to test whether there was a difference in the average understanding of concepts before and after applying the STAD learning model assisted by ALPIN media. In testing the research hypothesis used were the paired sample t-test, N-gain test, and descriptive t-test.

3. Result and Discussion

This study aimed to determine the effect of the Student Team Achievement Division model assisted by ALPIN media on understanding the concept of theme 6 my goals in grade IV SD 2 Panjunan. The purpose of this research could be achieved by three formulations of the proposed problems, namely: (1) Are there differences in students' conceptual understanding between before and after the implementation of the STAD learning model assisted by ALPIN media? (2) Is there an increase in students' conceptual understanding after being taught using the STAD learning model assisted by ALPIN media?

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Table 1. Result of Paired Sample t-Test Calculation

	Pre-test	Post-test
	60,9	74,8
Sig.	0,000	

Based on Table 1, the results of the paired sample t-test showed that the understanding of the concept obtained the pretest average score of 60.9 and the posttest average score of 74.8. The significance value (2-tailed) is 0.000 < 0.05 so that H_0 is rejected and H_a is accepted. Thus, it can be interpreted that there is a difference in the average understanding of students' concepts between before and after the implementation of the STAD learning model assisted by ALPIN media in grade IV SD 2 Panjunan students in the 2019/2020 academic year.

Table 2. Results of the N-gain test of the pretest and posttest

Indicators	Pre-test	Post-test	N-Gain	Category
Translating Concepts with Your Language	61,63	78,01	0,42	Moderate
Interpreting the Relationships between the Concepts Obtained	58,18	68,53	0,24	Low
Takes into account data by involving concepts	64,22	76,29	0,33	Moderate
Applying Knowledge and Understanding in Solving a Problem in a New Situation	63,36	77,15	0,37	Moderate
Analyze or Break the Concept into Parts and Demonstrate Understanding the Relationship	60,77	79,31	0,47	Moderate
Combining Ideas into a New Form with Their Language	61,63	77,58	0,41	Moderate
Assessing and Making Decisions Based on Obtained Facts	56,89	67,24	0,24	Low

The results of the N-gain test of the pretest and posttest scores on each indicator of concept understanding said that there was an increase in students' concept understanding skills after using the STAD learning model assisted by ALPIN media. This is evidenced by the increasing average value of the results of the pretest and posttest understanding of the concept of each indicator. On the indicators of translating the concept with their language, the pretest average score was 61.63 and the posttest average score was 78.01 with an N-gain value of 0.42 on the criteria for moderate improvement. In the indicator of interpreting the relationship between concepts, the pretest average score was 58.18 and the posttest average score was 68.53 with an N-gain value of 0.24 on the low increase criteria. In the indicator of calculating data by involving the concept, the pretest average score is 64.22 and the posttest average score is 76.29 with an N-gain value of 0.33 on the criteria for moderate improvement. On the indicators of applying knowledge and understanding in solving a problem in a new situation, the pretest average score was 63.36 and the posttest average score was 77.15 with an N-gain value of 0.37 on the criteria for moderate improvement. On the indicators of analyzing or breaking the concept into several parts and showing an understanding of the relationship, the pretest average score was 60.77 and the posttest average score was 79.31 with an N-gain value of 0.47 on the moderate improvement criteria. In the indicator of combining ideas into a new form with their language, the pretest average score is 61.63 and the posttest average score is 77.58 with an N-gain value of 0.41 on the criteria for moderate improvement.

In the indicators of assessing and making decisions based on facts, the pretest average score was 56.89 and the posttest average score was 67.24 with an N-gain value of 0.24 on the low increase criteria.

The results of the descriptive analysis showed that the average understanding of the concept of students after being treated was higher than before being treated. The average score of students after implementing the STAD learning model assisted by ALPIN media reached 74.8% better than before being treated which only reached an average of 60.9%. Based on this average, it is known that after being given treatment, the average score of students increased by 13.9%.

The increase in students' understanding of science and Indonesian learning has increased due to several things that were encountered by researchers, namely, First, the learning steps that the STAD learning model emphasizes on the activeness of students while participating in learning. Students in groups are more active in building their knowledge through communication activities in groups. In groups of students who have less knowledge will get knowledge from group friends who are invited to discuss. These results are supported by the results of research conducted by (Putra, 2015), he found that the STAD type of cooperative learning model has the main objective of accelerating the understanding of all students with group work activities. When in a group, students will indirectly exchange ideas and communicate. Furthermore, research conducted by (Zahro et al., 2018) shows that the average value of student learning outcomes who apply the STAD and Mind Mapping learning models is superior to the average scores of students who apply conventional learning and there is a significant influence on the STAD learning model and Mind Mapping on student learning outcomes. This influence is influenced by the learning process that focuses students on thinking together and communicating in groups. The last research conducted by (Wicaksono, 2018) which states that the social studies learning outcomes of students after getting a learning model cooperative STAD increased, besides that students become more interested when learning. Improvement occurs because students are invited to be active in building their knowledge through group activities that force students to exchange ideas with their friends.

Second, during the learning process, students become tutors with their group friends. Through these activities, students' understanding of a concept or material will complement each other, before students take the quiz students will ask each other to ensure the knowledge they have. Furthermore, if there is one concept that students have not understood they will ask their group friends, this will make students' understanding more complete. This statement is supported several studies, namely, research conducted by (Taufik, 2018) which states that each participant will become peer tutors and work together to complete their academic assignments, for those who can understand the concepts or material taught by students will guide the group friends. they. Likewise, vice versa, when students are not able to understand the concepts or material being taught, they will ask questions and try to understand them. Agree with this, (Setianingsih, 2017) explains that the STAD type cooperative learning model will encourage students' interest in learning, students will feel the material being learned is clearer, because in learning students are formed in learning groups, then students communicate to ensure the knowledge they have, then the students are given a quiz. Furthermore, (Nurbaiti, 2017) explains that through the STAD learning model students become active and more independent in the learning process, active means active communication. Independent is meant to be independent in building one's knowledge through group discussion activities. The last study was a research conducted by (Murnaka, 2018) which found that participants who obtained the STAD learning model could encourage students to actively participate and collaborate, allowing students to communicate their understanding to group friends who did not understand, this action makes it easier for students to understand mathematical concepts because students do not feel awkward and embarrassed when asking their friends.

Third, the use of ALPIN media makes it easier for students to understand and remember the concepts being studied. This learning media is also used when students do quizzes. During the process of using the media, students are required to construct their knowledge and understanding through the images contained in the album. based on this, students can improve their ability to understand the concepts that are being studied. This learning media is also able to help students when in groups no one can understand the concept being studied, for example when students are confused about the human digestive system. With the help of this media, students will directly be able to compose and sort the human digestive system. This statement is supported by (Ardliani, 2017) found that the use of ALPIN media had a positive impact on the social studies learning outcomes of students. According to Ardliani, this is due to the help of ALPIN learning media which can make students repeat information, so when students forget they will be reminded again by looking at the instructions in the album.

From the description above, the STAD model assisted by ALPIN media affects the competency results of the theme of my goals for class IV. This research implies that the teacher makes the STAD model assisted by ALPIN media as an alternative learning model to avoid monotonous learning. This STAD learning model with ALPIN media can make students more active and responsible both to themselves and in groups can increase cooperation in a group, which can increase students' understanding of the material being learned. And through the ALPIN media, it makes it easier for students to understand and remember the concepts that are being studied because students construct their knowledge and understanding through the pictures contained in the album, and can be used as learning media when students do quizzes. In other words, through this model and media, it can be used as a way to form a qualified and responsible future generation.

4. Conclusion

Based on the results and discussion, it can be concluded that there is a significant effect of the STAD learning model assisted by ALPIN media on the understanding of the concept of the theme of my goals in class IV, in other words, the learning model with the STAD learning model assisted by ALPIN media can improve understanding of the concept of the theme of my goals in life in class IV.

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