



Increasing Activeness and Learning Outcomes at the University by Applying the STAD Method to Learning

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Abstract

Education is one important aspect of human life. The level of success in education itself is largely determined by the quality of the learning process. The type of research used in this research is classroom action research with action in the form of cooperative application with the STAD (Student Teams Achievement Division) model. This classroom action research was carried out in two cycles, each cycle carried out following planning procedures, acting, observing, and reflecting. Total Samples are 38 students consisting of 18 male students and 20 female students. From the research results, it was found that there was a high increase related to student activeness in learning and the evaluation results of the learning material compared to using conventional methods that have been carried out so far. In conventional model learning (lectures) does not provide opportunities for students to be active in learning, so students tend to be silent and only listen to explanations from the teacher. Even though it has different background problems and categories, the STAD method applied can achieve the same goals, namely increasing the number of graduations and student understanding and improving the quality of learning and teaching. The learning process is basically an interaction of educators (teachers) with students to achieve the expected learning goals. For this reason, the teacher must have a strategy so that student learning can learn effectively and efficiently.

Keywords: *Cooperative Learning; Learning Process; Student Motivation; Effective Teaching*

Introduction

Education is one important aspect of human life. The level of success in education itself is largely determined by the quality of the learning process (Konu & Rimpelä, 2002). Therefore, the main thing that must always be considered is how to create a quality learning process. Quality learning is learning that can create a learning environment that is challenging, fun, encourages exploration, provides successful experiences, and develops thinking skills (Idkhan & Idris, 2021; Moos, 1979). Then the aspects that affect

the quality of the learning process include teachers, teaching methods, student learning behavior, learning conditions and atmosphere, and learning media (Donald, 1997). According to this opinion, one of the factors that influence the quality of the learning process is the learning method used.

The learning method has an important role in the teaching and learning process. The learning methods used by the teacher can help students increase understanding and arouse student motivation (Mayes & De Freitas, 2007). Therefore, the use of learning methods is needed in every subject. The learning method used by the teacher should always pay attention to student factors as learning subjects. Basically, students are different from other students, both in terms of their abilities and learning methods. These differences lead to different needs of each child. In classical learning, individual differences rarely receive attention. All students in one class are considered to have the same needs and abilities so that they are treated in the same way. Individual differences need adequate attention. This does not mean that learning must be transformed into individual learning, but rather that an alternative learning is needed that allows the fulfillment of individual student needs. Education is the personal interaction between students and the interaction between teachers and students (Johnson & Johnson, 1999). The purpose of this statement is that educational activity is a social process that cannot occur without interpersonal interaction. Learning is a personal process, but also a social process that occurs when each person relates to another to communicate and build knowledge together.

The reality shown in society proves that every individual is involved in cooperation with other individuals in a system. Competition that occurs between individuals is only limited to that system, while success in the system provides more opportunities and guarantees for the success of individuals and their members. Education is the personal interaction between students and the interaction between teachers and students (Suarlin & Ali, 2020). Educational activity is a social process that cannot occur without interpersonal interaction (Johnson et al., 1998, 2014). Learning is a personal process, but also a social process that occurs when each person relates to another to communicate and build knowledge together. Based on the above opinion, to create personal interaction between students and interaction between teachers and students, the classroom atmosphere needs to be planned in such a way that students get the opportunity to interact with each other. The teacher needs to create a learning atmosphere that allows students to work together mutually. One of the learning methods that can increase cooperation activities between students and student achievement is the cooperative learning method. By using cooperative learning methods, it can provide a conducive learning environment for more effective teaching and learning interactions, so that students can build their own knowledge (Laguador, 2014). Through the cooperative learning method students learn more actively than only receiving information from the teacher, there can be interactions between students and students and help each other in completing their assignments.

Cooperative learning type Student Team Achievement Division (STAD) developed by Robert Slavin which is the simplest cooperative learning, and is cooperative learning suitable for use by teachers who are just starting to use cooperative learning (Slavin & Davis, 2006). The Student Team Achievement Divisions (STAD) are one of the simplest types of cooperative learning. Students are placed in learning teams of four who are a mixture of performance levels, gender, and ethnicity. The teacher presents the lesson then students work in teams to ensure that all team members have mastered the lesson. Finally, all students were given a quiz about the material with notes, during the quiz they were not allowed to help each other. The STAD cooperative learning model is a cooperative learning approach that emphasizes activities and interactions between students to motivate and help each other in mastering the subject matter to achieve maximum achievement. Teachers who use STAD submit new academic information to students every week using Verbal or text presentations.

Cooperative learning model is a learning model that prioritizes the existence of groups. Each student in the group has different levels of ability (high, medium, and low) and if possible, group members come from different races, cultures, ethnicities and pay attention to gender equality (Felder & Brent, 2007). The cooperative learning model prioritizes cooperation in solving problems to apply

knowledge and skills to achieve learning objectives. All learning models are characterized by a task structure, a goal structure, and a reward structure. The task structure, goal structure and reward structure in the cooperative learning model are different from the task structure, goal structure and reward structure of other learning models (Sharan & Sharan, 1987). The objective of the cooperative learning model is that student academic learning outcomes increase and students can accept a variety of diversity from their friends, as well as the development of social skills (Siegel, 2005). Cooperative learning is learning in small groups, which consciously and systematically will be able to develop interactions to achieve learning goals with learning experiences that can be seen both individually and in the group itself (Oxford, 1997).

The development of these concepts is carried out by students in the form of groups through the problems given. In groups, students discuss the concepts and problems given together, compare each answer to the problems given, and correct mistakes, so that all students will be directly involved in mastering computer and network subject matter (Dörnyei, 1997). Computer and network learning will be very interesting if it is packaged in a fun interactive learning form (Fitria et al., 2021). It is hoped that in the learning process there can be activities among students and they are able to express their opinions according to what has been understood. In addition, it is hoped that students will be able to interact positively with other students and teachers. So that if students experience difficulties in learning, they can be resolved together immediately. Seeing this problem, the researcher will try an alternative method that can be used, namely the cooperative learning method of the Student Team Achievement Division (STAD) type.

Research Methods

1. Research Approach

The type of research used in this research is classroom action research with action in the form of cooperative application with the STAD (Student Teams Achievement Division) model, because it is intended to improve the quality of the process and learning outcomes in completing the material. This classroom action research uses a form of collaboration, in which the teacher is a research partner (Macintyre, 2012). Each of them focuses their attention on aspects of classroom action research according to their expertise, teachers as learning practitioners, researchers as designers and critical observers. In the field of education, especially classroom action research learning activities are developing as an applied research. Classroom action research is very useful for teachers to improve the quality of the process and learning outcomes in the classroom. By carrying out the stages of classroom action research, teachers can find solutions to problems that arise in their own class, not in other people's classes, by applying a variety of relevant learning theories and techniques creatively (Mertler, 2009).

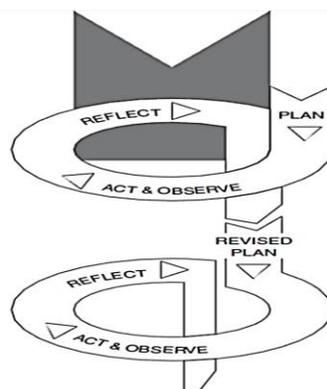


Figure 1. The Action Research Cycle (Altrichter et al., 2002; Kemmis, 2010).

As for the subjects in the study were students of the Art, Drama, Dance, and Music Education Study Program at Universitas Negeri Makassar with a total of 38 students consisting of 18 male and 20 female students.

This classroom action research was carried out in two cycles, each cycle carried out following planning procedures, acting, observing, and reflecting. Through these two cycles it can be observed that it can improve student achievement in the material of adding and subtracting various forms of fractions in through cooperative application with the STAD (Student Teams Achievement Division) model.

2. Data Collection and Analysis

Teachers experience difficulties in the form of material characteristics which are generally known to be difficult among students, especially in understanding concepts and principles. Students' ignorance of concepts causes them to get bored quickly and not interested in the material, and because of the monotony of teaching. In conventional model learning (lectures) does not provide opportunities for students to be active in learning, so students tend to be silent and only listen to explanations from the teacher

This observation is carried out every 5 (five) minutes for 100 (one hundred) minutes of lectures on 9 (nine) categories of student activity and consists of 4 (four) meetings, but the observation of this activity is carried out only in 3 (three) face-to-face (lectures) because the fourth meeting is an evaluation of learning outcomes (performance picking tests). Analysis of the results of student activity observations includes calculating the average frequency of aspects of each meeting by adding the frequency of the aspects in question divided by the number of students observed. Next, calculate the percentage of aspects of each meeting by dividing the average frequency of aspects of each meeting by the total frequency of all aspects of the meeting multiplied by 100%. The criteria for practicality limits for student activities for each aspect can be seen in the following table:

Table 1. Practicality limit criteria for student activities for each aspect

No.	Observational Aspects	Ideal Time (minutes)	Effective Boundary Criteria (%)
1	Listening to the lecturer explanation	8	3 – 13
2	Pay attention to the lecturer's explanation	10	5 – 15
3	Read textbooks	10	5 – 15
4	Pay attention to the learning videos	12	7 – 17
5	Demonstrate individually	22	17 – 27
6	Demonstrating as a group	24	19 – 29
7	Ask friends	8	3 – 13
8	Conclude	6	1 – 11
9	Irrelevant behaviors	0	0 – 5

Learning tools are said to be effective, if they meet two criteria, namely (1) learning tools developed are effective according to experts and practitioners; (2) the learning tools developed can provide results in accordance with expectations. The effectiveness indicators are: (1) achievement of mastery of learning materials; and (2) student responses in learning activities. Activities carried out in the process of analyzing data on the effectiveness of learning tools and research instruments are as follows.

- Analysis of student mastery tests of lecture material

Data regarding the test of student mastery of learning material were analyzed quantitatively. For quantitative data analysis, descriptive statistics were used with the aim of describing students' understanding of the learning material, namely the Basic Dance of South Sulawesi (Mandar) after

learning using cooperative-based learning tools. Student abilities can be grouped into a scale of five based on standard categorization techniques, namely:

Table 2. Standard categorization techniques of student abilities

No.	Ability (%)	Score	Criteria
1	85% - 100%	85 - 100	Very High
2	85% - 100%	65 - 84	High
3	55% - 64%	55 - 64	Moderate
4	35% - 44%	35 - 44	Low
5	0% - 34%	00 - 34	Very Low

- Analysis of student responses to learning

Data about student responses was obtained from student response questionnaires to learning activities and then analyzed by percentage. Activities undertaken to analyze student response data are:

- a) Counting the number of students who gave positive responses according to the aspect being asked, then calculating the percentage.
- b) Determine categories for student positive responses by matching the percentage results with the specified criteria.
- c) If the analysis results show that the student's response has not been positive, then a revision is made to the device being developed.

The criteria established to say that students have a positive response to a learning device is that more than 50% of them give a positive response to at least 70% of the number of aspects asked. Students' positive responses to learning are said to be achieved if the positive response criteria for students for the video aspects of learning and textbooks are fulfilled. The learning device is said to be effective if it meets the indicators of student mastery test of lecture material and student responses to learning using learning tools based on the STAD cooperative learning model.

Result and Discussions

Based on the research objectives with reference to the methodology that has been described, research has been carried out on the development of learning the Basic Dance of South Sulawesi (Mandar) using the STAD type cooperative learning model which refers to 3 (three) quality requirements, namely valid, practical and effective and compiled and developed based on the Four D (4-D) development model by Thiagarajan, Semmel and Semmel (Thiagarajan et al., 1974), where the model consists of 4 (four) stages, namely: the defining stage, the planning stage (design), the development stage (develop) and the disseminate stage. The results obtained at each stage in question can be described as follows.

1. Results of student activity analysis

The results of the analysis of student activity on the application of learning tools developed can be seen in the table as follows:

Table 3. Results of Student Activity Analysis on Learning Activities

No.	Observational Aspects	Student Activity Time (Meeting)			Average value	Effective Boundary Criteria (%)
		1	2	3		
1	Listening to the lecturer explanation	91.67	91.67	75.00	86.11	3.00 – 13.00
2	Pay attention to the lecturer's explanation	86.11	86.11	86.11	86.11	5.00 – 15.00
3	Read textbooks	55.56	58.33	61.11	58.33	5.00 – 15.00
4	Pay attention to the learning videos	100.00	100.00	100.00	100.00	7.00 – 17.00
5	Demonstrate individually	100.00	100.00	100.00	100.00	17.00 – 27.00
6	Demonstrating as a group	100.00	10.00	100.00	100.00	19.00 – 29.00
7	Ask friends	38.89	52.78	44.44	45.37	3.00 – 13.00
8	Conclude	58.33	58.33	66.67	61.11	1.00 – 11.00
9	Irrelevant behaviors	33.33	30.56	33.33	32.41	0.00 – 5.00

The table above shows that from the data analyzed with 9 (nine) types of student activity it is known that the nine activities have not met the ideal time specified. To know the extent of understanding and psychomotor abilities in the implementation of basic dance learning in South Sulawesi, a test of learning results in the form of a demonstration test of Dance. Analysis of performance picking test results can be seen in the table as follows:

Table 4. Student Performance Picking Test Analysis Results.

Scores	Category	Frequency	Percentage (%)
85 – 100	Very high	28.00	77.78
65 – 84	High	8.00	22.22
55 – 64	Moderate	0.00	0.00
35 – 44	Low	0.00	0.00
0 – 34	Very low	0.00	0.00

Table 4 shows that there were 28 students or about 77.78% who scored very highly. The high score category was 8 out of 36 students with 22.22%. Meanwhile, for medium, low, and very low categories have a percentage of 0%. This result can be said that as many as 77.78% of students already understand and can demonstrate Dance well and correctly, and about 22.22% of students can demonstrate Dance well.

The results obtained are also supported by observations made by 2 (two) observatories who explain that during the learning activities of Basic Dance South Sulawesi takes place most students can follow the lectures well and seriously, although there are still some students who are not too serious in attending lectures conducted for 3 (three) times face-to-face. So that it does not have a significant effect on the results of learning (performance picking test) obtained by students.

Cooperative learning is a teaching system that provides opportunities for students to collaborate with fellow students in structured tasks. Roger and David Johnson stated that not all group work can be said to be cooperative learning (Johnson & Johnson, 1999, 2011). To achieve maximum results, five elements of the cooperation learning model must be applied, namely positive interdependence, individual responsibility, face-to-face communication between members, and evaluation of group processes (Jaques & Salmon, 2007; Liu, 2010). Cooperative learning models are developed to achieve at least three important learning objectives, namely academic learning outcomes, acceptance of diversity, and development of social skills (Gillies & Ashman, 2003; Gurin et al., 2002).

The findings obtained in this study are the production of Basic Learning Tools of South Sulawesi Dance (Mandar) based on STAD-type cooperative learning models that are valid, practical, and effective in the Art and Design Education Study Program Universitas Negeri Makassar.

2. Validity

The validity test of the Basic Dance learning tools of South Sulawesi is used, and the instruments have been discussed. The results of the analysis are all shown to have qualified validity. Assessors by experts and practitioners state that the learning tools have been valid based on the results of the assessment of aspects of the components outlined in them, and based on the results of the assessment of the components of the learning devices that have been made.

Cooperative learning with STAD type applied to students of Faculty of Arts and Design, benefits students with the purpose of cooperative learning is (1) learning to get used to individually; learn to hone the skills of the students themselves so that their learning success is achieved to strengthen their confidence. The learning can hone the skills of students individually in demonstrating one of Sulawesi dances, *pattukduk kumba* dance, (2) learning to compete; studying with burden so that students are vying to focus in lectures so that the variety of dances that want to be achieved can be mastered, (3) learning for cooperation; is to learn together to achieve success in demonstrating the overall variety of *Pattukduk Kumba* dance.

Validity of learning tools (Syllabus, Learning Plan, Lecturer's Manual, Teaching Materials, and Learning Videos) that become the focus of attention to be improved, including (1) procurement of lecturer manuals that have not existed, then after this research can provide output in the form of lecturer manuals that then through several revisions have been refined; (2) teaching materials for students after undergoing revisions and presenting pictures of various dances and can be demonstrated; (3) in addition to the output in the form of lecturer manuals and improved teaching materials, the procurement of learning videos in the form of CDs as a learning medium also makes the learning process more active, especially in demonstrating the overall variety of dance in groups. This is a characteristic that distinguishes other learning tools.

3. Practicality

Practicality can be measured through empirical approach, based on the results of observational analysis of the implementation of learning devices, the results of analysis of the ability of lecturers in managing learning, and the results of student activities in field trials are stated to have met the criteria of practicality elements, but still require a little revision of improvements before deployment. Possible causes of the lack of practical implementation of basic learning aspects of Dance South Sulawesi in the trials as stated above, namely: (1) lecturers and students are not used to using learning devices, (2) lecturers are not good at classroom management, so in the learning process some aspects are often forgotten, (3) students are still unable to adjust to the learning video which is a medium of audio-visual learning, (4) in the learning process lecturers still do not give special emphasis to students who do other activities that interfere with the smoothness of the learning process.

4. Effectiveness

The criteria for effectiveness of learning tools basic dance south Sulawesi has been presented in 2 (two) criteria, namely: (1) test results of performance picking; and (2) student response to the implementation of learning. In the field trials against 2 (two) criteria used to test effectiveness, it was obtained that aspects of the test results of student performance picking have met the criteria of effectiveness and the results of student response to the implementation of learning fall into the category of fulfilled.

Before disseminating, both aspects become a concern to be advised to lecturers to improve when conducting trials to obtain better results, namely: (1) when lecturers teach students should be given more explanations in the form of: motivation, spirit, and encouragement to stay focused in lectures; (2) lecturers give more emphasis to students to be more careful in paying attention to learning videos.

Pay attention to the results of the effectiveness of the above. The results achieved in the field trials are both aspects of the effectiveness of the learning devices as above have met the criteria set, namely: (1) based on the results obtained using cooperative-based learning tools type STAD has been declared effective, where the results of the assessment refers to the success of learning or the results of performance picking tests conducted by demonstrating the overall variety of dance; and (2) the student's response to the implementation of the Basic Dance learning device of South Sulawesi based on cooperative type STAD has been fulfilled with the response given is a positive response.

Conclusion

Cooperative learning is not the most effective action for solving problems that arise in small groups, there is an addiction, causing students who are slow to think cannot practice independent learning and cooperative learning takes a long time so that the target of achieving the curriculum cannot be met, unable to apply the material rapid learning, as well as individual and group assessment and rewarding make it difficult for teachers to carry out. In implementing the STAD cooperative learning model, it is preferable that one group member be assigned to read different parts, so that they can gather and exchange information. Next, the teacher evaluates them regarding all parts of the material. In this way, each member feels responsible for completing their duties to successfully achieve their goals.

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