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Implementation of the cooperative learning model team assisted individualization (TAI) in indonesian language lectures

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ABSTRACT

This study aims to determine the increase in semester 1 student learning outcomes of the UKI Toraja Management study program in the Indonesian language course through the application of the Team Assisted Individualization (TAI) Cooperative Learning Model. The sample of this research is 25 students. Data collection techniques using observation and learning achievement tests. Data were analyzed using descriptive statistical techniques to describe the conditions of each variable. The results showed that the ability of lecturers to manage learning with an average score of 4.57 was in the very good category, student activity during the learning process was classified as active with an average percentage of 74.5% which was in the active category, and student learning outcomes after being taught using the Team Assisted Individualization (TAI) cooperative learning model is classified as high with an average of 80.35. This shows that applying the Team Assisted Individualization (TAI) cooperative learning model can improve student learning outcomes in semester 1 of the UKI Toraja management study program in the Indonesian Language Course.

Keywords: cooperative learning model; team assisted individualization type; Indonesian language learning outcomes

INTRODUCTION

Learning is a process for students in building ideas or understanding. Learning activities should provide opportunities for students to carry out their learning process easily, smoothly and motivated (Verde & Valero, 2021). Because of that, the learning atmosphere created by lecturers/teachers should involve students actively, for example observing, researching, asking and questioning, explaining, looking for examples, and other forms of involvement. tatements about Indonesian language lessons being very boring are still often heard from students. In learning Indonesian, students should have a high level of activity, especially in class, because active learning can keep students' memories of what is learned longer than passive learning (El Mhouti & Erradi, 2018; Hwang, 2014; Lee et al., 2019, 2019; Zekos, 2003).

In educational institutions, there are still many learning processes that are teacher centered, not student centered, namely the teacher or lecturer as a source of information and knowledge (Alshurideh et al., 2019; Firmansyah & Jiwandono, 2022; Khodeir et al., 2018; Reiser, 2018;

Zhang, 2021). This means that the learning process is dominated by the delivery of information by teachers or lecturers, not on the processing of information received by students so that learning does not provide opportunities for students to develop and demonstrate diverse abilities, so that a democratic atmosphere has not been created. As a result, students do not play an active role in the learning process.

As an effort to increase student activity, it is necessary to develop appropriate learning models to convey various concepts in learning that provide opportunities for students to exchange opinions, work with friends, interact with lecturers and respond to other students' thoughts so that students like using and remembering these concepts (Alshurideh et al., 2019; Hantoobi et al., 2021; Lytras et al., 2022; Sierra, 2020). One learning model that involves student activity is the Team Assisted Individualization or Team Accelerated Instruction (TAI) cooperative learning model. This learning model allows students to be active in learning, develop knowledge, attitudes and skills independently and create learning conditions that are conducive for students to learn.

Taking into account the root causes described earlier, the TAI model seems to be used to solve the problem. There are several reasons for the need to use the TAI learning model to be developed as a variation of the learning model, so that conceptual understanding can be achieved. These reasons, according to Suyitno, can increase student participation, especially in small groups, because smart students are responsible for weak students. Thus smart students can develop their abilities and skills. Meanwhile, weak students can be helped to solve the problems they face. In this lesson students will also have the courage to do the assignments given, students will no longer feel embarrassed and hesitate to ask questions and express what is on their minds.

METHOD

Research design

This research is a quantitative descriptive research that describes research sub-variables such as lecturer abilities, student activities, and student learning outcomes with the Team Assisted Individualization (TAI) learning model. This research was conducted in one class, where in the early stages a pre-test was given, then students were given treatment using the Team Assisted Individualization (TAI) learning model, after that in the next stage students were given a final test (post-test). determine the level of student mastery of the material being taught. The research design in question is as follows:

Pre-test	Treatment	Post-test
O1	X	O2

Information :
O_1 : Initial test (pre-test)
X: Treatment of the TAI learning model
O_2 : Final Test (post-test)

Population and Sample

Creswell & Creswell (2017) says that the population is a generalization area consisting of: objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn. The population in this study were 25 students in class A of the UKI Toraja Management study program. Creswell & Creswell (2017) said that the sample is part of the number and characteristics possessed by that population. The technique used in sampling is the total sampling technique, so the number of samples is 25 people.

Research Instruments

The research instrument is a facility used by researchers to collect data. Instruments used in this study include:

1)Teacher ability observation sheet

This instrument is used to determine the ability of lecturers to manage learning using the Team Assisted Individualization (TAI) learning model. The aspects observed by the lecturer include:

a) Initial activities
   - Delivering goals, learning strategies and motivating students,
   - Give the initial test
   - Organizing students

b) Core activities
   - The lecturer presents the material
   - The lecturer distributes worksheets
   - Dividing into small teams of 2-3 people to check
   - The lecturer guides the discussion group
   - Giving a score to the results of group work

c) Final activity
   - The lecturer presents the material again
   - The lecturer guides students to summarize the material
   - The lecturer gives the test
   - Give homework

d) Time management

e) Management of the classroom atmosphere
   - Student enthusiasm
   - Lecturer enthusiasm

2) Student activity observation sheets

To find out student activities, the instrument that will be used is the instrument developed by Karuru by calculating the frequency of each activity that occurs during learning activities and adjusted to the activities carried out by students in learning using the Team Assisted Individualization (TAI) learning model. The aspects of student activity observed are:

a) listen / take notes on the explanation of the teacher / lecturer
b) form a study group
c) answer questions/compose ideas
d) work on worksheets through group discussions
e) exchange jobs and check the work of other friends
f) present the results of group discussions

g) work on quiz questions individually
h) summarize the learning material
i) activities that are not relevant to learning

3) Test results of learning

The test in this study was used to measure the extent to which students' ability to master the material being taught. The test that will be developed in this study is a form of essay test. This test was self-made by researchers who previously submitted it to lecturers to be validated. If the validator has stated its validity, then the instrument can be used. Test the validity of this study using content validity.

Data collection technique

In collecting data according to the problems to be studied, the researchers used techniques. The data collection techniques used are:

1) Observation Method

Observation is a data collection method used to calculate research data through systematic observation and recording where the researcher is directly involved in the respondent's activities. The observation method used to research is:

a) Lecturer ability
   Observation of lecturer abilities aims to describe the teacher's ability to manage learning using the Team Assisted Individualization (TAI) learning model. Data was collected with the lecturer's ability observation sheet. Observers sit where possible and can see all lecturer activities. The observer makes observations every two minutes, the next one minute the observer records every incident during the learning process.
b) Student Activity
   Observation of student activities aims to describe student activities during learning activities by using student activity observation sheets. The observer observes every two minutes the aspects on the student activity sheet.

2) Learning Outcomes Test

To obtain student learning outcomes, two tests were used, namely the initial test (pre-test) before learning, the final test (post-test) after learning and tests during learning took place to determine students' abilities through group work.

Data analysis technique

In managing the research results used descriptive statistics to describe lecturer abilities, student activities, and learning outcomes for the Team Assisted Individualization (TAI) learning model with the following formalization.

$$\bar{x} = \frac{\sum x_i}{n}$$

Information:

$\bar{x}$: The average result of observing the teacher's ability to apply learning
$\sum x_i$: Number of observations

n : Number of observations

After getting the average results, the lecturer's ability to manage learning is calculated, then they are grouped into five categories. This grouping is based on Karuru's categorization as follows:

Table 1
Teacher Ability Categories

Average Score	Criteria
0,00-1,49	Very Poor
1,50-2,49	Not Good
2,50-3,49	Average
3,50.4,49	Good
4,50-5,00	Very Good

Data from observations of student activities in learning activities are analyzed by the percentage of each activity observed during learning and is calculated by the following formula:

$$P_A = \frac{\sum FA}{\sum A} \times 100\ \%$$

Information:
P_A : Student activity percentage
$\sum FA$: Total frequency of student activity
$\sum A$: Total of all activities

After getting the results of the calculation of student activity in learning activities, then grouped into five categories. This grouping is based on Karuru's categorization as follows:

Table 2
Categories of student activity

Score	Category
$\geq 34\%$	Inactive
35% - 54%	Less Active
55% - 64%	Moderately Active
65% - 84%	Active
85% -100%	Highly Active

Data regarding tests were analyzed using the formula:

$$Value = \frac{Score\ Achieved}{Total\ Score} \times 100\%$$

In this study the categorization criteria used are in accordance with the categorization by Sekaran (2009) as follows:

Table 3
Categories of Learning Outcomes

Score	Category
0 – 34	Very Low
35 – 54	Low
55 – 64	Moderate
65 – 84	High
85 – 100	Very High

RESULT AND DISCUSSION

Result

1. Lecturer Ability to Manage Learning with Team Assisted Individualization (TAI) Cooperative Learning Model

Observation of the lecturer's ability to manage learning with the Team Assisted Individualization (TAI) type cooperative learning model aims to see the extent to which the lecturer's ability to carry out learning by linking subject matter according to the lecturer's real life and in directing and guiding lecturers during learning activities that are regulated according to the model cooperative learning type Team Assisted Individualization (TAI).

Observations on the ability of lecturers to manage the Team Assisted Individualization (TAI) learning model during learning using instruments can be briefly seen in table 4 and for a more detailed description can be seen in the appendix.

Table 4
Data on the ability of lecturers to manage learning

Num	Observed aspect	Meeting			Average Score	Category
		I	II	III		

Num	Observed aspect	Meeting			Average Score	Category
		I	II	III		
Initial Activity						
1	Delivering goals, learning strategies and motivating students.	5	5	5	5	Very Good
2	Provide an initial test (pre-test)	4	5	4	4,33	Good
3	Organizing students	5	5	5	5	Very Good
Total Average Score					4,77	Very Good
Core Activity						
1	The lecturer presents the material	5	5	4	4,66	Very Good
2	The lecturer distributes worksheets	5	4	5	4,66	Very Good
3	Split into small teams	4	5	5	4,66	Very Good
4	2-3 people to check	5	5	5	5	Very Good
5	The lecturer guides the discussion group	4	4	5	4,33	Good
Average Score					4,66	Very Good
Final Activity						
1	The lecturer presents the material again	5	5	4	4,66	Very Good
2	The lecturer guides students to summarize the material	5	4	4	4,33	Good
3	The lecturer gives the test	5	5	5	5	Very Good
4	Give homework	4	4	5	4,33	Good
Average Score					4,58	Very Good
Time Management		4	3	5	4	Good
Average Score					4	Good
Classroom Management						
1	Students Enthusiastic	5	5	4	4,66	Very Good
2	Lecturer Enthusiastic	5	5	5	5	Very Good
Average Score					4,83	Very Good
	Total Average Score				4,57	Very Good

Based on the results of observations made by observers as in table 4 above, it can be seen that the lecturer's ability to manage the mathematics learning process using the Team Assisted Individualization (TAI) learning model in algebraic factorization material can be categorized as very good. This can be seen in the aspects observed during learning, where the observed aspects consist of initial activities, core activities, final activities, time management and management of the classroom atmosphere.

The lecturer's ability to manage learning during the three meetings in the initial activities achieved an average score of up to 4.7 which covered three aspects, namely conveying goals, learning strategies and motivating students with an average score of 5, giving an initial test with an average score 4.33 and organizing students with an average score of 5. The core activities consist of five aspects, namely presenting material with an average score of 4.66, distributing worksheets with an average score of 4.66, dividing students into small teams consisting of 2-3 people to check, with an average score of 4.66, guiding discussion groups with an average score of 5 and giving a score to the results of group work with an average score of 4.33, so that the core activities for three times meeting is classified as very good with an average score of 4.77. And the final activity is classified as very good with an average score of 4.58 which consists of four aspects, namely presenting material with an average score of 4.66, guiding students to summarize material with an average score of 4.33, giving tests/quizzes with an average score of 5, and giving homework with an average score of 4.33. In the time management section, the lecturer's ability is classified as good with an average score of 4 and in the final section regarding the class atmosphere, it is classified as very good with an average score of 4.83. This section consists of two aspects, namely student enthusiasm with an average score of 4.66 and lecturer enthusiasm with an average score of 5.

Based on the observations shown in table 4 which consists of the 15 aspects above, in general the ability of lecturers to manage Team Assisted Individualization (TAI) learning on algebraic factorization material is very good with an average score of 4.57.

2. Student activities with the Team Assisted Individualization (TAI) Cooperative Learning Model

Student activities in learning Indonesian with the Team Assisted Individualization (TAI) learning model were obtained from observations using student activity sheets. The results of these observations can be seen in table 5 and for more detail can be seen in the attachment.

Table 5
Analysis of student activities in learning

Num.	Observed Aspect	Meeting Percentage			Mean
		I	II	III	
1	Listen / record the explanation of the teacher or friends	22,25	24,5	25,75	24,17
2	Form study groups	7,5	7,5	7,5	7,5
3	Answering questions / coming up with ideas	17,25	14,75	14,5	15,5
4	Work on worksheets through group discussions	22,5	22,25	21,5	22,08
5	Switch jobs and check the work of other friends	7,5	7,5	7,5	7,5
6	Presenting the results of group discussions	2,25	2,25	1,5	2
7	Do quiz questions individually	12,5	12,5	12,5	12,5
8	Summarize learning material	7,5	7,5	7,5	7,5

9	Irrelevant activity	0,75	1,25	1,75	1,25
	Sum	100	100	100	100

Based on table 5 above, it shows that students are actively involved in the learning process with the Team Assisted Individualization (TAI) learning model. This can be seen in the table of the average percentage of student activity during the three meetings, which includes: listening/paying attention to and recording explanations from teachers or friends of 24.17, forming study groups of 7.5, answering questions/presenting ideas of 15 .5, working on worksheets through group discussions at 22.08, exchanging work and checking the work of other friends at 7.5, presenting the results of group discussions at 2, working on individual quizzes at 12.5, summarizing the material at 7.5 and irrelevant activities of 1.25.

The average percentage of student activity at each meeting, among others, the first meeting was 77% in the active category, the second meeting was 74.25% in the active category and the third meeting was 72.25% in the active category. So overall the average percentage of student activity in learning during three meetings is 74.5% with the active category, apart from the aspect of listening/paying attention to the explanations of lecturers or friends and irrelevant activities.

From the discussion above, it can be concluded that learning with the Cooperative learning model of the Team Assisted Individualization (TAI) type can involve students actively in learning or it can be said that overall learning activities are student-centered.

3. Learning outcomes

Student learning outcomes are obtained from data collection which is carried out by giving pre-tests (initial tests) and post-tests (final tests). Learning achievement tests are used to determine student learning outcomes before and after being taught with the Team Assisted Individualization (TAI) learning model in learning.

Based on the KKM used, students are considered to have completed individually if they achieve a score of ≥ 70. The analysis of data on student learning outcomes in learning Indonesian with the Team Assisted Individualization (TAI) learning model can be seen in table 6 and for clearer details can be seen in the Appendix.

Table 6
Student Learning Outcomes Test

Respondents	Score Achieved		Mastery ≥ 70
	Pretest	Post-test	Post-Test
1	36,36	90,9	T
2	31,81	81,81	T
3	29,54	70,45	T
4	38,63	79,54	T
5	27,27	81,81	T

6	25	70,45	T
7	43,18	97,72	T
8	22,72	75	T
9	18,18	63,63	TT
10	25	70,45	T
11	43,18	88,63	T
12	25	75	T
13	43,18	84,09	T
14	25	68,18	TT
15	36,36	84,09	T
16	27,27	93,18	T
17	22,72	75	T
18	29,54	93,18	T
19	38,63	90,9	T
20	38,63	90,9	T
21	22,72	61,36	TT
22	22,72	72,72	T
23	31,81	79,54	T
24	31,81	72,72	T
25	36,36	97,72	T
Sum	**772,62**	**2008,97**	**Mastery**
Average	**30,90**	**80,35**	
Lowest Score	**18,18**	**61,36**	
Highest Score	**43,18**	**97,72**	

In table 6 it can be seen that the average value from pretest to posttest has increased by 49.45. The average score (mean) for the pretest is 30.90 with a maximum score of 43.18 and a minimum score of 18.18, while the average score (mean) for the post-test score is 80.35 with a maximum score of 97 .72 and a minimum score of 61.36.

From these data it can be concluded that the value of student learning outcomes has increased from the initial test (pretest) and after learning with the Team Assisted Individualization (TAI) learning model then given a final test (post-test). Where the average number of student learning outcomes in the pre-test is 30.90 and in the post-test it becomes 80.35

Based on Table 6 it is known that the average pre-test and post-test scores have increased. In the initial test (pre-test) none of the 25 students achieved a KKM score of ≥ 70, while in the final test (post-test) only 3 students did not pass. Classically and individually, class VIII A students of SMP Negeri 1 Mengkendek achieved completeness from the KKM score on the final test after being given treatment compared to the pre-test before being given treatment.

Discussion

The use of cooperative learning has been found to have a positive impact on student achievement in various subject areas. For example, a study by Johnson, Johnson, and Holubec (2002) found that cooperative learning improved academic achievement in mathematics, science, and language arts. Similarly, van Leeuwen & Janssen (2019) conducted a meta-analysis of 67 studies and found that cooperative learning had a significant effect on academic achievement as well as social skills and attitudes.

The TAI cooperative learning model, in particular, has been found to be effective in promoting academic achievement (Lumbantoruan et al., 2022). The model combines individualized instruction with group learning, ensuring that all students master the subject matter while receiving personalized attention from the teacher (Novalinda et al., 2020; Slavin, 1984). This approach helps to address individual differences in learning styles and abilities, which can be difficult to do in a traditional classroom setting where students are expected to learn at the same pace (Reiser, 2018; Trisnayanti et al., 2020; Zhang, 2021).

The results of this study suggest that the TAI model can be used successfully in the Indonesian language course in the UKI Toraja management study program. The lecturers were able to manage learning effectively while students were actively engaged in the learning process. This finding is consistent with previous research that indicates that cooperative learning can improve student learning outcomes and promote positive social skills and attitudes.

In conclusion, the TAI cooperative learning model is an effective approach to teaching and learning that can enhance student learning outcomes. It promotes academic achievement by combining individualized instruction with group learning, ensuring that all students master the subject matter while receiving personalized attention from the teacher. The results of this study support the use of the TAI model in the Indonesian language course in the UKI Toraja management study program and suggest that further research can be conducted to investigate its long-term effects in other subject areas.

Limitations of this study include the small sample size and the fact that it was conducted in a specific context, the Indonesian language course in the UKI Toraja management study program. Therefore, caution should be exercised when generalizing the findings to other contexts. Additionally, the study did not investigate the long-term effects of the TAI model on student learning outcomes.

Future research can be conducted to address these limitations. A larger sample size can be used to increase the generalizability of the findings. Moreover, the TAI model can be applied in other subject areas to investigate its effectiveness in promoting academic achievement. Long-term studies can also be conducted to investigate the sustained effects of the TAI model on student learning outcomes. Overall, the TAI cooperative learning model is a promising approach to teaching and learning that can enhance student learning outcomes. The findings of this study support its use in the Indonesian language course in the UKI Toraja management study program, and further research can be conducted to investigate its potential in other subject areas and contexts.

CONCLUSION

Based on the results of the study it can be concluded that the ability of lecturers to manage learning using the Team Assisted Individualization type cooperative learning model for management students in Indonesian courses is classified as very good. This can be seen from the

average score of 4.57 for three meetings. The application of the Team Assisted Individualization (TAI) learning model can involve students actively in learning with an average percentage of student activity during three meetings of 74.5%, apart from the aspect of listening/noting notes from lecturers or friends and irrelevant activities. Student learning outcomes increase. This can be seen from the results of the initial test (pre test) where student learning outcomes are in the very low category with an average score of 21.67 and in the final test (post test) it increases to a high category with an average score of 71.14 . Student learning outcomes increase with the Team Assisted Individualization (TAI) learning model. This can be seen from the results of the initial test (pre-test) of 25 students who did not achieve KKM ≥ 70 because they only got an average score of 30.90, while in the final test (post-test) only 3 people did not pass 25 students with an average value of 80.35. Classically and individually students achieve completeness of the KKM score on the final test after being given treatment compared to the initial test before being given treatment.

From these results, it can be concluded that the Teams Assisted Individualization (TAI) cooperative learning model has various advantages including (1) weak students can be assisted in solving problems, (2) smart students can develop their abilities and skills, (3) there is responsibility in the group in solving the problems faced, (4) training students' courage to ask questions or ask for help from friends especially the teacher, (5) students are taught how to work together in a group, practice harmony in living together on the basis of complementarity , (6) helps improve students' problem-solving abilities and reduces the assumption that many students think that mathematics is difficult, and (7) students get rewards for their efforts.

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