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Implementation of Discovery Learning Model on the Subject of Al-Qur'an and Hadith class at MAN 9 Jombang

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ABSTRACT
This research was conducted with the aim of finding out the influence of learning motivation of class 10 students at MAN 9 Jombang before and after implementing the discovery learning model. The research method used is a pre-experimental design with a one-group pretest-posttest design and uses a quantitative research approach. The subject of this research was class 10 IPS 2 MAN 9 Jombang. The research instruments used were pre-questionnaires and post-questionnaires as well as test results as supporting data. The questionnaire instrument is in the form of statements regarding pre-questionnaire and post-questionnaire learning motivation to measure students' learning motivation before and after implementing the discovery learning model which is supported by student test results. The data analysis techniques used are normality testing and hypothesis testing. Based on the calculation of the paired sample t-test using IBM statistics 21 which shows that the significance value is 0.000. The pre-questionnaire significance value is 0.111>0.05 and the post-questionnaire significance value is 0.654>0.05 and it can be stated that the pre-questionnaire and post-questionnaire are normally distributed in accordance with the criteria for detecting normality using the Shapiro-Wilk test. Next, a paired sample t-test was carried out, and it produced a significance value of 0.001 < an error level of 0.05, so it could be concluded that Ha was accepted. Acceptance This means that there is an influence of the problem discovery learning model on sequence and series material on students' learning motivation.

***Keywords**: Discovery Learning, Learning Motivation, Sequences and Series*

INTRODUCTION
Education encompasses everything that influences the growth, changes, and conditions of every individual (Pristiwanti et al., 2022). The changes that occur involve the development of students' potential, including skills, knowledge, and attitudes in their lives. One of the most important subjects in education that everyone must learn is mathematics. Mathematics equips learners to think logically, critically, and cohesively in collaboration. The material that learners must study in mathematics learning is very complex and extensive, one of which is the material of sequences and series. (Hartati, 2021) states that Sequences and series are some of the mathematical subjects commonly taught in high schools, and various difficulties can be found in the mistakes made by students in solving sequence and series problems. Difficulties typically encountered are related to determining the \(n \)-th term of a problem in Al Qur'an and Hadith, whether arithmetic or geometric. Learners find it difficult to identify and analyze the information conveyed through the problems, which subsequently impacts their difficulty in determining problem-solving steps. Based on this, researchers utilize the Discovery Learning model to address this issue.

Discovery Learning is a learner-centered instructional model involving learners' ability to discover a concept themselves (Muhammad & Juandi, 2023). The learning model is created to develop students' active learning by discovering and investigating on their own (Setyawan & Kristanti, 2021). Thus, the results obtained by students can be long-lasting in memory and not easily forgotten. Moreover, this Discovery Learning method is also considered capable of enhancing learners' motivation in understanding the concept. The steps in the Discovery Learning teaching strategy according to Budiwati & Fathoni (2022) are 1). providing stimulation, 2). stating or identifying the problem, 3). collecting data, 4). processing data, 5). verification, and 6). drawing conclusions or generalizations.

In the teaching and learning process, motivation plays a significant role in students' desire to develop the knowledge they want to know and the knowledge they possess. (Maulida & Aminah, 2020) state that in achieving learning motivation targets, strategies such as using Discovery Learning should be employed, as applying this method will enhance the learners' abilities. Learning motivation is a state within an individual that drives learners to learn and perform specific activities to achieve learning outcomes and goals optimally (Mayasari et al., 2021).

The material of Al Qur'an and Hadith is one that requires various problem-solving approaches, thus high problem-solving skills are needed to solve the given problems (Hardiyanti, 2016). The topics of Al Qur'an and Hadith become concepts that often require formulas and procedures to solve them. The subtopics that learners must master in this material are Al Qur'an and Hadith. (Fauzia et al., 2020) state that learners will have difficulty using the concepts in Al Qur'an and Hadith when they only memorize formulas or rules without understanding them. This is also one of the reasons why learners feel lazy and unmotivated to learn the material of sequences and series. This is consistent with the research conducted by (Sri Sulaswati, 2016), who stated that learners are less creative in learning, so when faced with difficult questions, they feel lazy to find solutions to those questions.

The problem formulated revolves around the influence of the discovery learning model on increasing learners' motivation in the material of sequences and series. The material of Al Qur'an and Hadith Arithmetic was chosen because this material is very important to be conveyed to learners in determining a list of sequential numbers with characteristics or models in daily life (Khoerunnisa et al., 2022). The aim of this research is to investigate and understand the impact of implementing Discovery Learning on learners' learning motivation.

METHOD

This research employs a quantitative method which, according to Laure (2022), Quantitative method is a research method that extensively employs numbers, from data collection processes to interpretation. The research design utilizes a one-group pretest and posttest because the researcher aims to evaluate the effect on the dependent variable not solely influenced by the independent variable, without any control variables. Data collection involves questionnaire filling before and after treatment, as well as measuring student motivation before and after learning intervention, supported by test results given during the treatment. This is intended to provide more accurate results in the research. The research pattern is as follows:

Table 1. Scheme of One Group Pretest – Posttest Design

Group	Pre-questionnaire	Treatment	Post-questionnaire
Experiment	o_1	x	o_2

o_1 = Pre-questionnaire score (before treatment)
x = Treatment (discovery learning model applied to students)
o_2 = Post-questionnaire score (after treatment)

The researcher will employ 2 variables: the independent variable (X) and the dependent variable (Y). The independent variable in this study is the discovery learning model (X), and the dependent variable is student learning motivation (Y). This employs a one-group pretest-posttest design to find the relationship between X and Y.

The population in this study is 10th-grade students of MAN 9 Jombang with a sample of 36 students from Class 10 IPS 2. The sampling technique used is Purposive Sampling, which is a sample determination technique based on certain considerations (Sugiyono, 2019). The researcher selects samples from classes that are comparable and already formed, thus not altering the existing class structure.

The design of this one-group pretest and posttest research is measured using questionnaires: pre-questionnaire before treatment and post-questionnaire after treatment. Data collection techniques include administering pre-questionnaires, observation, and conducting tests. Research instruments used are questionnaires, observation sheets, and tests. The data analysis technique in this research employs effectiveness tests, namely normality test and hypothesis testing with the assistance of IBM SPSS Statistics 21.

The data analysis technique involves a normality test and a t-test. The normality test aims to determine whether the data population is normally distributed or not. If the data is normally distributed, parametric tests can be conducted, otherwise non-parametric statistical tests are used. The researcher conducts this test using IBM SPSS Statistics 21. The normality of data can be observed through the

Shapiro-Wilk test. The criteria for normality test using the Shapiro-Wilk test are as follows:

- If Sig>0.05, then the data is normally distributed.
- If sig<0.05, then the data is not normally distributed.

After conducting the prerequisite test to determine if the data is normally distributed, hypothesis testing is performed to determine the effect of the discovery learning model on the motivation of students to learn *Al Quran* and *Hadith* materials. The test is conducted using what data and what data are tested using IBM SPSS Statistics 21.

Based on this and the phenomena observed in the field, the proposed hypotheses are:

Ho = The discovery learning model does not affect the motivation of students in learning sequences and series.

Ha = The discovery learning model affects the motivation of students in learning sequences and series.

The hypothesis testing used is the questionnaire results with a significance level of <0.05, then Ha can be accepted. If the questionnaire results have a significance level >0.05, then Ha is rejected.

RESULT AND DISCUSSION

- **Result**

This research was conducted from January 9, 2024, to February 22, 2024. It focused on 36 students of grade 10 in the Social Studies 2 class at MAN 9 Jombang. The research aimed to observe the influence of the discovery learning model on students' learning motivation in understanding sequences and series material. The researcher began with the stages of proposing the title and preparing the learning tools, and the teaching module used was based on the discovery learning model. The instruments used were a learning motivation questionnaire, a test instrument, and an observation sheet. Here are the pre-questionnaire and post-questionnaire data.

Table 2. Pre-test

Statement	Total Score	Maximum Score	Percentage
P1	116	180	64%
02	125	180	69%
P3	118	180	66%
P4	121	180	67%
P5	134	180	74%
P6	134	180	74%
P7	132	180	73%
P8	117	180	65%
P9	118	180	66%
P10	142	180	79%
P11	115	180	64%
P12	131	180	73%
P13	134	180	74%
P14	132	180	73%
P15	122	180	68%
Average percentage			70%

Table 3. Post-test

Statement	Total Score	Maximum Score	Percentage
P1	135	180	75%
02	131	180	73%
P3	150	180	83%
P4	146	180	81%
P5	140	180	78%
P6	148	180	82%
P7	142	180	79%
P8	140	180	78%
P9	141	180	78%
P10	148	180	82%
P11	133	180	74%
P12	136	180	76%
P13	148	180	82%

P14	147	180	82%
P15	143	180	79%
Average percentage			79%

The respondent data shows a significant increase from pre- to post-survey with an average pre-survey percentage of 70% and an average post-survey percentage of 79%. The observation sheets indicate that the research has been conducted according to the prepared module, as can be seen in Table 4.

Table 4. Observation sheet

No	Aspect Assessed	Evaluation	
		Yes	No
Introduction			
1.	The teacher greets and prays at the beginning of the lesson	v	
2.	The teacher connects the learning activities with students' experiences and asks questions to recall the material	v	
3.	The teacher motivates students about the importance of Social Arithmetic material	v	
Core Activities			
1.	The teacher explains the learning objectives	v	
2.	The teacher motivates students to actively engage in learning	v	
3.	Student engagement is direct and active during the learning process	v	
4.	Students pay attention and concentrate every time they receive instructions or directions from the teacher	v	
Conclusion			
1	Students draw conclusions and the teacher reinforces them	v	
2	The teacher concludes the learning process with a prayer, greeting	v	

- **Discussion**

The third instrument is a written test, designed as a support for this research to address issues regarding sequences and series. During the learning implementation, the students showed high enthusiasm and engagement in learning activities using the discovery learning model. Positive responses were also evident in the learning motivation questionnaire.

This research aims to measure students' learning motivation toward understanding and solving problems related to sequences and series. The discovery learning model is utilized to strengthen students' motivation in learning activities. Students have shown interest in understanding the material of the Qur'an and Hadith through this learning model.

Contextual statements on the learning motivation questionnaire consisting of 15 pre- and post-questionnaire items are used to measure the impact of learning on students' motivation in the sequences and series material. This research includes conventional teaching before the implementation of discovery learning to compare its effect on students' learning motivation.

The learning process was conducted over 5 sessions with an allocation of 2x45 minutes per session. The data to be tested with paired samples t-test should follow a normal distribution. Based on the results obtained using IBM SPSS Statistics 21, the significance value of the pre-questionnaire is 0.111 > 0.05 and the significance value of the post-questionnaire is 0.654 > 0.05.

Table 5. Normality Test

	Shapiro-wilk		
	Statistic	Df	Sig.
Pre-questionnaire	.951	36	.111
Post-questionnaire	.977	36	.654

Based on the data, it can be stated that the pre-questionnaire and post-questionnaire are normally distributed according to the criteria for detecting normality using the Shapiro-Wilk test. Furthermore, the

data underwent a paired samples t-test using IBM SPSS Statistics 21 to test the proposed hypothesis and obtained a significance value of 0.000.

Table 6. Hypothesis Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error means	95% Confidence Interval of the difference				
				Lower	Upper			
Pair1 pre-questionnaire-post-questionnaire	-7,000	9.350	1,558	-10,164	-3,836	-4,492	35	.000

Based on the data above, a significance value of < 0.05 was obtained, thus Ha is accepted. This means that there is an effect of the discovery learning model on the motivation of students to learn *Al Quran* and *Hadith* which is consistent with the findings of (Dewi et al., 2015), which showed a difference in the motivation of science learning using the discovery learning model compared to the group of students taught using the direct learning model. The comparison of the average motivation scores of science learning students who participated in learning with the discovery learning model is 117.38, categorized as very high, greater than the average motivation score of science learning students who participated in learning with the direct learning model, which is 98.5, categorized as high. This study is also consistent with the findings of (Putri et al., n.d.) (2017) that the discovery learning model significantly influences student motivation in learning physics at MAN Bondowoso.

CONCLUSIONS

The conclusion drawn from the research findings and discussions is that there is a significant difference in the learning motivation of 10th-grade students of IPS 2 at MAN 9 Jombang, before and after implementing the discovery learning model. This is evidenced by the paired t-test where the resulting significance value is 0.000, which is smaller than the chosen significance level of 0.05. Thus, the alternative hypothesis (Ha) is accepted: there is an influence of the discovery learning model on students' learning motivation regarding sequences and series. This influence is evident from the students' higher post-survey responses compared to pre-survey responses, supported by the test scores obtained by the students.

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