Implementation of Drill and Practice Learning Models and Open-Ended Problems to Find Out Interest in Learning

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Abstract. The objectives of this study are to: (1) reveal the average achievement of learning outcomes in Mandarin Reading and Writing class of 2020 at the State University of Malang, (2) revealing the effect of the interaction between learning interest factors with the learning model factors of Drill and Practice and Open-Ended Problems on the average learning outcomes of Reading and Writing Mandarin for the class of 2020 at the State University of Malang, and (3) revealing the most different among the four groups of average learning outcomes Students' reading and writing in Chinese is due to their interest in learning with the factors of the Drill and Practice and Open-Ended Problems learning models which are compared with each other. The results of the data analysis obtained are (1) the average learning outcomes high learning interest group with the application of the Drill and Practice learning model, the score with the highest criteria is 50%, (2) the average learning outcome the high learning interest group with the Open-Ended Problems learning model got the highest criterion score of 60%, (3) the average learning outcome of the low learning interest group with the Drill and Practice learning model got the highest criterion value of 40%, and (4) the average learning outcomes interest group study low with model learning Open-Ended Problems get the highest criterion value of 10%.

Keywords: results study · interest study · drill and practice · open-ended problems

1 Introduction

Education is important to build the character of the nation in Indonesia. Character education is a conscious and planned human effort aimed at educating and empowering every potential student. With existence education, already should source power man which skilled, creative, active and innovative can be realized in harmony with the times [1]. There are many aspects that can be a factor in realizing quality education in schools, one of which is the learning process [2].

Based on the results of observations and interviews of Chinese Reading and Writing subject teachers and teaching experience at the State University of Malang majoring in Multimedia, Chinese Reading and Writing subjects on the Basic Competence of Reading

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and writing, the learning process that occurs is as follows: (1) most students do not have a sense of responsibility towards the task, students tend to underestimate the command to do practical assignments. For example, students are asked to bring properties as materials to make animations, but only a small number of students bring properties so that the problem will hinder learning, (2) students with low learning interest are unable to understand the material, according to observations made in group discussions., students with low interest in learning do not participate in the process of making animation [3]. Students with interest study low tend do activities other like sleep, play games and joking,

(3) students with low interest in learning depend on students with high interest in learning, students with low interest in learning do not participate in the work, and (4) student learning outcomes are low [4].

To improve student learning outcomes, it is necessary to pay attention to the characteristics of students and subjects [6, 7]. One of characteristics student which need noticed is the student's interest in learning. Interest is a psychological symptom that shows concentration on an object because there is a feeling of pleasure [8]. Students who have an interest in certain subjects tend to give greater attention to these subjects [9].

The advantages possessed by Drill and Practice include the following: (1) The formation of habits carried out using this method will increase the accuracy and speed of implementation, (2) the use of habits does not require much concentration in its implementation, and (3) the formation of habits of making complex, complicated movements into automatic, habitation makes *complex movement more automatic* [10].

There are several assumptions that underlie Open-Ended Problems, including (a) Context and Experience, (b) Mediation of Understanding, (c) Improving Cognitive Processes, (d) Importance of Understanding, (e) Learning Process [11].

Based on this background, the objectives of this study are to: (1) revealing the average achievement of reading and writing Chinese language learning outcomes class of 2020 at the State University of Malang, (2) revealing the effect of the interaction between learning interest factors and the learning model factors of *Drill and Practice* and *Open-Ended Problems* on the average learning outcomes of Reading and Writing Chinese class of 2020 at the State University of Malang, and (3) revealing the most different among the four groups of students' average reading and writing learning outcomes in Mandarin because of their interest in learning with the comparison of the *Drill and Practice and Open-Ended Problems learning model factors* [12].

2 Method

This research is a true experimental type of research using a 2×2 factorial research design which aims to compare the effectiveness of a learning model, namely *Drill and Practice and Open-Ended Problems* which is carried out on students with high learning interest (MT) and low learning interest (MR) against the average learning outcomes of Chinese Reading and Writing subjects at the State University of Malang. In this study, two independent variables were used, namely students' interest in learning and a learning model consisting of *Drill and Practice* (A) and the *Open-Ended Problems* (B) learning model.

In this study, there were four samples, each of which used the *Drill and Practice and Open-Ended Problems learning models,* namely: (1) a group of students who had interest study tall with model learning *Drill and practice,* (2) groups of students who have high interest in learning with the *Open-Ended Problems learning model,* (3) groups of students who have low interest in learning with the *Drill and Practice learning model,* and (4) groups of students who have low interest in learning with the *Open-Ended Problems learning model*.

State University of Malang. The class used as the experimental class is class A and Class B because both classes have the same location.

The treatment instrument in this study was the *Drill and Practice and Open-Ended Problems learning models.* The learning instruments in this study were Lesson Plan (RPS), Job sheet, and skill grids. While the instruments used in this study relate to the measurement of learning interest and learning outcomes in the realm of student skills [14, 15].

To get the level of student interest in learning can be seen from the scores of the distributed questionnaires. The lower the score obtained indicates a high interest in learning, on the contrary if the score obtained is high it will indicate a low interest in learning. The indicators of the learning interest questionnaire are (1) feelings of pleasure, (2) student interest, (3) student attention, and (4) involvement student. For student interest have two category that is interest tall and low interest. Meanwhile, learning outcomes in the skill domain are categorized into 5 categories, namely (1) very high, (2) high, (3) moderate, (4) low, and (5) very low. [16].

The hypothesis test that is tested for differences in learning outcomes between low interest factors and high interest factors taught using *Drill and Practice* and *Open-Ended Problems learning models* is whether there are differences in learning outcomes in the realm of Mandarin Reading and Writing skills between level of interest in learning student with variant model learning.

3 Findings and Discussion

Table 1 shows the number of frequencies for each study group. It can be seen that groups of students with low interest in learning who are taught using the Drill and Practice learning model get a very high frequency of 8, high 8, and medium 5. Meanwhile, groups of high interest students who are taught using the *Drill and Practice learning model* get the frequency on very high criteria is 8, high 6, moderate 2. For groups of low interest students who are taught using the *Open-Ended Problems learning model* get a frequency on very high criteria of 2, high 8, medium 8 and low 3. And for the interest class group students who are taught using the Open-Ended Problems learning model get the highest frequency on criteria 9, high 5 and medium 1.

Table 2 shows the frequency of each study group which can be seen that student group interest tall which taught use model *Open-Ended Problems* learning has a very high presentation of learning outcome intervals with the largest percentage being 60%, while the group of low interest students who are taught using the *Open-Ended Problems learning model* has a very high presentation of learning outcomes intervals with the smallest percentage of 10%.

Table 1. shows the number of frequencies for each study group.

No	Criteria	Amount Frequency			
		MRA	MTA	MRB	MTB
1	Very Tall (ST)	8	8	2	9
2	Tall (T)	8	6	8	5
3	Currently (S)	5	2	8	1
4	Low (R)	0	0	3	0
5	Very Low (SR)	0	0	0	0

Table 2. Interval Results Study Skill Realm

Criteria	f % MRA	f % MTA	f % MRB	f % MTB
Very High (ST)	40%	50%	10%	60%
Tall (T)	40%	38%	40%	33%
Currently (S)	20%	12%	40%	6%
Redah (R)	0%	0%	14%	0%
Very low (SR)	0%	0%	0%	0%

Table 3. Results Study realm Skills

Class	Score Lowest	Score Highest	Score Average
MRA	45	90	69.76
MTA	55	95	74.69
MRB	40	80	57.62
MTB	55	95	77.67

Table 3 shows the data on students' learning outcomes in the realm of skills. it can be seen that the average learning outcomes of the skill domain after being given the highest treatment found in classes with a high level of interest that were given treatment with using the *Open-Ended Problems* learning model. While the average learning outcomes after being given the lowest treatment were found in classes with low levels of interest that were treated using the *Open-Ended Problems learning model* [17].

Table 4 is a description of the data from the interaction of interest and variance in the learning model. It can be said that each learning model has an average learning outcome the same one. Interest in learning has an F count of 16,360 with a significance value of 0.000 less than 0.05, so it can be said that the level of interest in learning has a different

Table 4. Results Test Hypothesis Interaction Interest and Variant Model Learning

Source	mean	F	Sig.
Model	374.204	2,203	0.142
Interest	2779,181	16,360	0.000
Model * Interest	1019,032	5,999	0.017

Table 5. Results Test Hypothesis Difference Learning Outcomes

	Sum of Squares	mean	F	Sig.
Between Groups	4376,412	1458,804	8,587	0.000
Within Group	11721.533	169,877		
Total	16097,945			

average learning outcome. While the Interest * Model has a calculated F of 5.999 with a significance of 0.017 less than 0.05, it can be said that H0 is rejected, which means that the average student learning outcomes for the interaction between learning models and interest in learning are different.

Table 5 is the result of hypothesis testing on differences in learning outcomes. It can be seen that the calculated F value is 8,587 with a significance of 0.000 less than 0.005 so it can be said that H0 is rejected, which means that there is a significant difference in the average learning outcomes of Reading and Writing Mandarin between classes with high and low interest levels that are taught using the Drill learning model. and Practice and classes with high and low interest levels are taught using the Open-Ended Problems learning model.

Post Hoc hypothesis test on average skills learning outcomes are shown in Table 6. There are 3 out of 6 pairs of data that have significant differences. Drill and Practice with low interest in learning and *Open-Ended Problems* with low interest in learning have the most significant difference in value, namely 12,143 with a significance value of 0.035. Furthermore, *Drill and Practice* with high learning interest and *Open-Ended Problems* with low learning interest have a difference in value of 17.068 with a significance value of 0.003. *Open-Ended Problems* with high learning interest and *Open-Ended Problems* with low learning interest have a difference in value of 20.048 with a significance value of 0.000. Meanwhile, *Drill and Practice* with high learning interest and *Drill and Practice* with low learning interest, *Open-Ended Problems* with high learning interest and *Drill and Practice* with low learning interest and *Open-Ended Problems* with high learning interest *and Drill and Practice* with high learning interest there is no significant difference.

So, it can be concluded that the high learning interest group with the Open-Ended Problems learning model gets the largest percentage on the very high score criteria, which is 60% and the low learning interest group with the Open-Ended Problems learning model gets the smallest percentage on the score criteria. very high that is equal to 10%.

Table 6. Test Hypothesis Post-Hoc Average Results Study Realm Skills

(I) Interest	(J) Interest	mean Difference (I-J)	Std. Error	Sig.
MRA	MRB	12,143*	4.022	0.035
MTA	MRB	17.068*	4.325	0.003
MTB	MRB	20,048*	4,406	0.000

The open-ended approach promises an opportunity for students to investigate various strategies and ways that are believed to be in accordance with the ability to elaborate on problems. From this opinion, it shows that the *Open-Ended Problems learning model* can provide opportunities for students to solve problems in their own way, so that students with low levels of interest in learning are unable to complete tasks while students with high levels of interest in learning will feel challenged and more enthusiastic in completing assignments. Duty.

The results of hypothesis testing using two-way ANOVA with the test of between-subject effect method indicate that the level of student interest in learning in collaboration with the *Drill and Practice* and *Open-Ended Problems learning models* has a significant influence on the average reading and writing learning outcomes. This is indicated by the probability that the difference obtained is still below the significant level, so H0 is rejected which proves that there is an interaction between the level of student interest in learning and the variant of the learning model. Interaction between student learning interest and model variant learning on the average learning outcomes of reading and writing.

Based on the results of hypothesis testing using two-way ANOVA, it shows that there are significant differences in learning outcomes between students with levels of interest in learning. high and students with low interest in learning are taught using the *Drill and Practice* learning model and the *Open-Ended Problems learning model.* This can be seen from the difference in the average learning outcomes of students with high interest in learning skills and students with low interest in learning who are taught using *Drill and Practice* and *Open-Ended Problems learning models* which have a probability difference that is far below the significance level.

The existence of these differences is possible due to differences in the characteristics of each individual. Every child has innate basic abilities and will experience changes due to experience, therefore because children's needs and basic skills Innately different, the child's interest in learning will be different.

Meanwhile, based on the results of hypothesis testing using post hoc comparisons, it shows that there is a comparison of the average learning outcomes of the skills aspect which has the most significant difference between the average learning outcomes in other classes. This can be seen from the mean difference and significant values which are far below the significance level. The average learning outcomes between *Drill and Practice classes* with low interest in learning and *Open-Ended Problems* with low learning interest show the most significant differences when compared to other classes.

4 Conclusion

The conclusion of this study is that there is an interaction between the level of student interest in learning with the *Drill and Practice* and *Open-Ended Problems learning models* on the learning outcomes of skills aspects in the subjects of Reading and writing. This is evidenced by the probability that the difference obtained is still below the level of significance and there is a significant difference in the average learning outcomes of skills aspects between students with a high level of interest in learning and students with a low level of interest in learning who are taught using the *Drill and Practice* and *Open-Ended Problems learning models.* This is indicated by the probability of the difference in the average learning outcomes of skills aspects which are still below the significance level. The suggestion is that further research is needed on psychological factors other than interests that can affect student learning outcomes. As well as the influence of the model other learning in accordance with the psychology of students, learning materials and available infrastructure [18]. It is necessary to conduct research with a subtler level of interest, for example high interest, medium interest, and low interest for the learning outcomes of skills aspects.

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