



The Effect of Discovery Learning Model on Class Interaction at SMA 1 Cepiring in Crafts and Entrepreneurship Subjects

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ABSTRACT

This study aims to determine the effect of the Discovery Learning model on the interaction of class XI IPS 1 at SMA 1 Cepiring in the subject of Crafts and Entrepreneurship. The research method used is the quantitative descriptive analysis method. In this study, the data collection techniques used include observation using the Flanders Interaction Analysis (FIA) model to determine student interactions in the classroom, and questionnaires using the Likert scale to determine student perceptions. The sample of this study consists of 18 students from class XI IPS 1 who are taking the subject of Craft and Entrepreneurship. The results of this study indicate that there is an influence from the Discovery Learning model, which can enhance student-teacher interaction in the class for the subject of Craft and Entrepreneurship. The results of the questionnaire regarding the characteristics of Discovery Learning show that most students agree that Discovery Learning can enhance student-teacher interaction in the subject of Craft and Entrepreneurship in that class.

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1. INTRODUCTION

Learning is an element that includes humans, materials, equipment, and procedures that are interconnected to achieve a goal in a learning process. According to (Pane & Darwis, 2017), the learning system from a constructivist perspective is capable of making a significant difference. The characteristics are active learners in the learning process, learners who study the material meaningfully by working and thinking, and new information is related to previous information, thus integrating with the knowledge possessed by the learners. The components in learning according to (Pane & Darwis, 2017) are the presence of teachers, students, media, materials, methods, objectives, tools, interactions, and evaluation. In this case, teachers must be able to utilize these components to achieve the planned learning objectives. In learning, there are also various learning models, one of which is the Discovery Learning model.

Discovery Learning is a learning model where students are able to solve problems to develop knowledge and skills. Meanwhile, according to (Cintia et al., 2018), the Discovery Learning model is a learning model that also requires teachers to be more creative in creating situations that make students learn actively and discover their own knowledge. Discovery Learning is beneficial in: 1) enhancing students' thinking skills. 2) the learning method through the transition of external rewards to internal ones. 3) comprehensive learning that begins with discovery. 4) to train brain memory. In this case, it can be concluded that the Discovery Learning model is a learning model that teaches students to be more active, independent, and to sharpen their minds to be more critical in the learning process.

In learning, interaction is also called classroom interaction. Interaction is one of the components in learning. According to (Sulastris et al., 2022), classroom interaction is the interaction that occurs in learning where there are teachers and students. Meanwhile, according to (Nasir et al., 2019), classroom interaction is the exchange of thoughts or ideas between the teacher and students, as well as between students, which provides reciprocal effects on each other. If there is no interaction in the classroom, then the learning becomes less effective, which can result in students not fully understanding the content of the learning material. Therefore, it can be concluded that classroom interaction is the communication that occurs between the teacher and students during the learning process.

One example of a subject in the 2013 curriculum-based learning is the subject of Crafts and Entrepreneurship (PKWU). This subject falls under the category of subjects where students hone the skills and knowledge they possess. In this learning, students are trained to be creative and capable of generating ideas or concepts that can be turned into works, which can later be beneficial for themselves and others.

According to (Iswadi & Karlina, 2014), the subject of Crafts and Entrepreneurship is used for high school, MA, and vocational school levels. According to (Iswadi & Karlina &, 2014), entrepreneurship is a term that means entrepreneurship, stating that Crafts is the process of working to produce a work or product. Meanwhile, entrepreneurship is an effort carried out independently. The craft products are developed on a business scale that has economic value and can compete in the market. From that understanding, it can be concluded that the direction of Crafts and Entrepreneurship (PKWU) learning is to facilitate students in developing themselves with life skills while also building an independent spirit to carry out their daily routines. According to (Purbaningrum et al., 2016), the subject of Crafts dan (PKWU) falls under the category of transcience-knowledge, which involves fostering

understanding and developing skills based on art, economics, and technology. The function of the Crafts and Entrepreneurship (PKWU) learning at the Senior High School (SMA) level is generally to cultivate the spirit and enthusiasm of entrepreneurship among students. The function of the Crafts and Entrepreneurship (PKWU) learning at the Senior High School (SMA) level is generally to foster an entrepreneurial spirit and mindset among students.

The purpose of this research is:

- (i) To determine the effect of using the Discovery Learning model on the interaction of class XI IPS 1 in the subject of Craft and Entrepreneurship at SMA 1 Cepiring.
- (ii) To understand how students perceive the application of the Discovery Learning model in the subject of Craft and Entrepreneurship in class XI IPS 1 SMA 1 Cepiring.

2. METHODS

The method used by the researcher in this study is the quantitative method. According to (Afif *et al.*, 2023), the quantitative method is a research method where numbers are used as measurement tools for testing calculations of the problem being studied to reach a conclusion. But, in this study, the researcher used descriptive quantitative methods derived from this research. With this, the researcher does not use statistical analysis as the research result, but uses descriptive analysis with a quantitative method. The research instruments used include observation using the Flanders Interaction Analysis (FIA) model to understand student interactions in the classroom, and questionnaires using the Likert scale to determine student perceptions.

2.1. Data Analysis Techniques

In this study, the researcher used data analysis in the form of the Flanders instrument for observation sheets, and data analysis in the form of questionnaires with the Likert scale theory. Here is he the formula for calculating the likert scale and the criteria for the questionnaire indicators can be seen in **Tabel 1**.

Table 1. Calculation Likert Scale

No item	Number of Items	Score	F	Total Score Average	%
		SS (5)		5 x F	Total score (5):
		S (4)		4 x F	Total score x 100
		RG (3)		3 x F	Total score (4):
		KS (2)		2 x F	Total score x 100
		TS (1)		1 x F	Total score (3):
					Total score x 100
	Total		Total F	Total F	Total score (2):
					Total score x 100
	Maximum Score				Total score (1):
	Average Percentage				Total scorer x 100
	Criteria				Total presentase
					5 x Total siswa x Total item
					Total score: score maks x
					100

Explanation:

SS : Strongly Agree

S : Agree

RG : Doubtful/Neutral

KS : Disagree

TS : Disagree

Then there are the maximum score, average percentage, and score type criteria from the respondents' answers. The criteria for the questionnaire indicators can be seen **Tabel 2**.

Table 2. Criteria for the questionnaire indicators

No	Presentase (%)	Kriteria
1	0 - 20	Sangat Lemah
2	21 - 40	Lemah
3	41 - 60	Cukup
4	61 - 80	Kuat
5	81 - 100	Sangat Kuat

Source : Sugiyono. 2011. *Metode Penelitian Pendidikan*

3. RESULTS AND DISCUSSION

After conducting two meetings, namely the initial observation with conventional lecture-based learning followed by group discussions, the second meeting was held with the implementation of the Discovery Learning model in class XI IPS 1 shift A for the subject of Craft and Entrepreneurship in the 2021/2022 academic year at SMA 1 Cepiring. As seen in Table 3 regarding the differences between conventional learning and Discovery Learning as follows:

As seen in **Table 3**, regarding the differences between conventional learning and Discovery Learning, they are as follows:

Table 3. The differences between conventional learning and Discovery Learning

No	Learning Conventional	Point	Application Discovery Learning	Point
1	Content cross	38	Content cross	36
2	Student participation	33	Student participation	59
3	Teacher support	8	Teacher support	22
4	Teacher control	5	Teacher control	18
	Total	84	Total	135

In the initial observation or conventional learning based on lectures, within the characteristics of classroom interaction by Flanders, the Content cross category with 38 points was the highest data result. Then, when the Discovery Learning model was implemented, the highest data results were found in the student participation category, which amounted to 59 points. The student participation category in conventional learning is in second place after Content cross with a total of 33 points. The Teacher support category in conventional learning is in third place with a total of 8 points. When the implementation of Discovery Learning was carried out, it still remained in the third position, but the points increased to 22 during

Discovery Learning. The Teacher control category during conventional learning with the application of Discovery Learning also ranked lowest, but the difference is that during conventional learning it only scored 5 points, whereas with the application of Discovery Learning there was an increase to 18 points. Thus, the data results indicate that the implementation of learning using the Discovery Learning model is higher compared to conventional learning. The application of Discovery Learning scored a total of 135 points, while conventional learning scored a total of 84 points. This concludes that the research conducted by the researcher shows an influence of the Discovery Learning model on classroom interaction at SMA 1 Cepiring in the subject of Crafts and Entrepreneurship.

The difference between the conventional lecture-based learning model and the Discovery Learning model is that the conventional lecture-based learning model is still teacher-centered. In this stage of conventional learning, the researcher observes that the teacher explains the lesson material while the students only focus on listening. Whereas the Discovery Learning model is a student-centered learning model, students are required to be active in the learning process, such as frequently interacting with the teacher by actively answering questions from the teacher or engaging in other interactions during the learning process.

Meanwhile, the Discovery Learning model is a student-centered learning model, where students are required to be active in learning, such as frequently interacting with the teacher by actively answering questions from the teacher or engaging in other interactions during the learning process. From the data collected by the researcher, it shows that the implementation of learning using the Discovery Learning model is higher compared to conventional learning. From the data results conducted by the researcher, it shows that the implementation of learning using the Discovery Learning model is higher compared to conventional learning. The application of Discovery Learning scored a total of 135 points, while conventional learning scored a total of 84 points. It can be concluded that the research conducted by the researcher shows an influence of the Discovery Learning model on classroom interaction at SMA 1 Cepiring in the subject of Crafts and Entrepreneurship.

It can be concluded that the research conducted by the researcher shows an influence of the Discovery Learning model on classroom interaction at SMA 1 Cepiring in the subject of Crafts and Entrepreneurship. Therefore, the author concludes that the Discovery Learning model has an impact on classroom interaction in the subject of Crafts and Entrepreneurship. So, the author can conclude that the Discovery Learning model affects classroom interaction in the subject of Craft and Entrepreneurship. This is evident from the data results that have been analyzed using the Flanders Interaction Analysis (FIA) theory.

3.1. Students' Perception of Discovery Learning

In this study, data from respondents can be processed using the Likert scale calculation from the questionnaire statement indicators. In this questionnaire statement, there are six indicators, including student-centeredness, learning objectives, identification of student characteristics, determining problem topics, developing materials by providing examples, assignments, and so on for students to study, as well as assessment of learning outcomes. Can be seen in Table 4. Regarding the results of the student questionnaire on Discovery Learning.

Table 4. The results of the student questionnaire on Discovery Learning

No	Statement	SS	S	RG	KS	TS
1.	I often give my opinion during group discussions in PKWU class.	16,6%	72,2%	11,1%	0%	0%
2.	From the Discovery Learning model, I always follow PKWU lessons.	16,6%	72,2%	5,5%	5,5%	0%
3.	I feel more comfortable asking the teacher directly rather than in the WhatsApp group.	50%	33,3%	16,6%	0%	0%
4.	The Discovery Learning model teaches independence in solving problems in PKWU lessons.	22,2%	66,6%	11,1%	0%	0%
5.	The Discovery Learning model encourages students to think critically during PKWU lessons.	16,6%	72,2%	0%	5,5%	5,5%
6.	The Discovery Learning model makes students more confident to present in front of the class during presentations or when arguing.	16.6%	44,4%	33,3%	5,5%	0%
7.	The statement of the Discovery Learning model based on group discussions encourages students to discover new ideas.	5,5%	72,2%	11,1%	11,1%	0%
8.	By making initial hypotheses or temporary answers, students become more proficient in PKWU material.	11,1%	55,5%	16,6%	11,1%	5,5%
9.	During the PKWU lesson, the teacher does not mind repeating the material that has already been explained so that the students truly understand the subject.	33,3%	61,1%	5,5%	0%	0%
10.	The implementation of the Discovery Learning model makes students more willing to interact with the teacher in class.	33,3%	44,4%	16,6%	5,5%	0%
11.	The Discovery Learning model requires students to be able to identify topics or problems within the learning material.	5,5%	72,2%	16,6%	5,5%	0%
12.	I will understand if there are examples provided by the teacher related to the assignment.	27,7%	50%	11,1%	0%	0%

13.	At the end of the lesson, the teacher assigns homework to the students.	22,2%	66,6%	5,5%	0%	5,5%
14.	At the end of the lesson, the teacher always reviews the material that has been presented to the students.	27,7%	50%	16,7%	0%	5,5%
15.	To assess students' abilities with entrepreneurship material in the PKWU subject.	16,6%	50%	22,2%	5,5%	5,5%

4. CONCLUSION

In both conventional learning and the application of Discovery Learning in that class, there is a Content cross category with 38 points, whereas during the application of the Discovery Learning model, there was a decrease in the Content cross by 36 points. The student participation category in conventional learning reached 33 points, whereas in the implementation of Discovery Learning, it increased by 59 points. The Teacher support category in conventional learning reached 8 points, whereas in the implementation of Discovery Learning, it increased to 22 points. The Teacher control category in conventional learning reached 5 points, whereas in the implementation of Discovery Learning, there was an increase to 18 points. So, although there is a decrease in the Content cross category, the data results in Discovery Learning show 135 points, while the data results in conventional learning show 84 points. This indicates that the implementation of the Discovery Learning model can influence classroom interaction at SMA 1 Cepiring in the subjects of Crafts and Entrepreneurship.

Secondly, regarding the perception of the XI IPS 1 students about the Discovery Learning model, it is very good. The majority of the students agreed with the statements about the characteristics of Discovery Learning from the questionnaire. From the indicators of the statements in this questionnaire, among others: 1) Student-centered. 2) Learning objectives, 3) Identification of student characteristics. 4) Determine the problem topic. 5) Developing materials by providing examples, assignments, and so on for students to study. 6) Assessment of learning outcomes. So, the researcher can conclude that from the perceptions of the 18 students in class XI IPS 1 Shift A, they agree with the statement about the Discovery Learning-based teaching model. With this teaching model, students interact more with the teacher during lessons. In class XI IPS 1, the Discovery Learning model influences the interactions in class XI IPS 1 at SMA 1 Cepiring in the subjects of Crafts and Entrepreneurship.

AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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