



## The Effectiveness of the Example Non Example Learning Model assisted by Nearpod Media to Improve the Analysis and Communication Skills of Reproductive System Material

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### Abstract

The purpose of the study was to analyze the effectiveness of the Example Non Example learning model assisted by Nearpod media to improve students' analysis and communication skills on Reproductive System material. This type of research is a quasi experiment with a non-equivalent control group design with pretest and posttest. The research sample consisted of students of XI MIPA 6 class as the experimental class and XI MIPA 7 as the control class. Data were collected through tests, observations, and questionnaires. The data were analyzed statistically quantitative and test (N-gain). The results showed: 1) the example non example learning model assisted by nearpod media can improve students' analytical skills, this is evidenced by the increase from the pretest to the posttest results of the experimental class higher than the control class, namely in the experimental class getting 65% results while in the control class getting 50% results; 2) the example non example learning model assisted by nearpod media can improve students' communication skills, this is evidenced by the increase in communication observation results of the experimental class at the initial meeting 49% increased at the final meeting to 89%.

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## **INTRODUCTION**

A learning model is a behavioral style that learners use to achieve the desired learning objectives. According to Joyce & Weil (2003), a learning model is a scheme or pattern that can be applied to create learning resources, teach in class or other settings, and create curriculum (long-term learning plans). Learning models can be used as a choice, which means that teachers can choose the appropriate learning model to achieve their learning objectives (Benu, 2020).

Based on the observation at SMAN 9 Semarang, the learning of reproductive system material uses conventional learning model (lecture). In the learning process, the teacher uses one model that is often used and does not apply various learning models. The learning model used is less interesting because communication is only through one direction. Learning is still textual and the teacher is still the center of the information source, so that the thinking ability of students has not been fully developed. The learning process of reproductive system material requires a method that is more contextual with learner-centered learning and is able to train students to analyze and communicate through the material studied. Good and effective learning activities are activities that can arouse students' curiosity and interest in the subject matter so that they will be eager to participate in learning from beginning to end.

In overcoming these problems, a solution is needed so that learning becomes better and more interesting. One of them is by finding a learning method that can fulfill the objectives of KD. One of these ways is to use the Example Non Example learning model assisted by Nearpod media. Example Non Example learning is a learning strategy that can increase students' learning motivation because students not only listen to learning but they can learn while playing by analyzing images (Lutfia et al., 2019).

The Example Non Example learning model is a learning model that uses examples through cases or images that are relevant to basic competencies (Lestiawan et al., 2018). This Example Non Example learning model has the aim of encouraging students to learn to analyze by solving problems that already exist in the examples of images which have been prepared in advance (Lisnani, 2019). With this picture, it will give a more vivid and precise meaning to learning. Learners are expected to be more interested and able to stimulate their analytical skills.

Research on the use of example non example learning models shows effective and significant results. The results of research conducted by Djafar (2014) increased the critical thinking ability of students with the application of the Example Non Example model has increased slowly. The utilization of Nearpod in learning is proven to be able to further develop student learning outcomes. This is in accordance with Ami's research (2021) which shows the results of the Nearpod application can be utilized for Indonesian language learning media because it can create interactive learning through innovative and educational features.

## **RESEARCH METHODS**

This type of research is a quasi experiment. Quasi experiment is a design that has a control group but does not function fully to control external variables that affect the implementation of the experiment. The research design used is a non-equivalent control group design with pretest and posttest. According to Sugiyono (2019), this design is almost the same as the pretest-posttest control group design, except that in this design the experimental and control groups are not randomly selected.

The population in this study consisted of students of class XI SMAN 9 Semarang as many as 7 classes with a total of 252 students. Researchers used one of the Purposive Sampling techniques by taking samples intentionally in accordance with the requirements or sample criteria needed (Arikunto, 2016). The sample consisted of XI MIPA 6 class of 36 students as the experimental class and XI MIPA 7 class of 36 students as

the control class.

The instruments used to collect data are tests and non-tests. The test instrument is in the form of multiple choice questions based on the analysis ability indicators of 25 questions that have been tested for validity. Non-test instruments in the form of communication observation sheets and student response questionnaire sheets. The data collection techniques used are tests, observations, and questionnaires. Data analysis techniques in quantitative research using statistics. Data processing of research results used two statistical techniques, namely descriptive statistics and inferential statistics. The results of the effectiveness test were analyzed using the N-gain calculation.

## RESULTS AND DISCUSSION

The results of the research on the effectiveness of the example non example learning model assisted by nearpod media to improve the analysis and communication skills of reproductive system material are as follows.

### Analysis Skills

Analyzing ability is the ability to break information into parts and distinguish processes into small parts and their relationships (Utami, 2020). Analyzing ability is measured based on test items that have been developed in accordance with predetermined indicators. In this study, analytical ability is measured using questions that have been adjusted to the indicators of analytical ability. There are three indicators of analytical ability, namely distinguishing, organizing and connecting (Fitriani et al., 2021). These three indicators have been included in the pretest and posttest questions which have been tested for validity totaling 25 questions. In this study, the analysis ability can be said to be effective if it meets three indicators, namely 1) the percentage of classical completeness of students in the experimental class  $\geq 85\%$  of students are complete with a minimum completeness criteria score of 70; 2) there is an average difference in the experimental class and control class; and 3) there is an N-Gain value with a minimum category of medium in the experimental class. The results of the analysis using the N-gain test can be seen in Table 1.

Table 1. Analysis Ability N-gain Test Results

Class	N-Gain	N-Gain (%)	Category
Experiment	0,65	65%	Medium
Control	0,50	50%	Medium

Based on the table above, the results of the N-Gain value of analysis skills in the experimental class get a percentage of 65% with a moderate category and in the control class get a percentage of 50% with a moderate category. This shows that the percentage of the N-Gain value of the experimental class is superior to the control class, so it can be concluded that the analysis ability is more improved in the experimental class. Furthermore, to determine the success criteria, it is said to be complete if it meets the minimum completeness criteria (KKM) which is 70 for Biology subjects. The frequency distribution and percentage of classical completeness of the experimental class can be seen in Table 2 below.

Table 2. Frequency Distribution and Percentage of Classical Completeness of Experimental Classes

Score	Category	Experiment		Control	
		Frequency	Percentage (%)	Frequency	Percentage (%)
< 70	Incomplete	4	11	19	53
≥ 70	Complete	32	89	17	47
<b>Jumlah</b>		36	100	36	100

Based on table 2 above, the classical completeness value of students proves that the application of the Example Non Example learning model assisted by Nearpod media on Reproductive System material can improve the analysis ability of students in class XI MIPA 6, where the percentage of classical completeness in the experimental class is 89% and in the control class is 48%. In the experimental class, students who completed learning were 32 students and in the control class a total of 17 students. Classical completeness according to Trianto (2015) a class is said to have completed its learning if in the class there are  $\geq 85\%$  of students who have completed their learning. So it can be concluded that the experimental class is said to have completed learning

The improvement in analysis skills is also seen from the test of the average difference in posttest results in the experimental and control classes. Based on the results of the independent sample t-test test, there is a significant difference between the posttest results of the experimental and control classes. Thus, it can be said that the Example Non Example learning model assisted by Nearpod media can improve students' analytical skills. The application of the Example Non Example learning model assisted by Nearpod media on the material of the reproductive system, makes students active in participating in learning, such as daring to answer the questions given, enthusiastic in analyzing the images displayed on Nearpod media, students can cooperate well, are responsible for completing the LKPD tasks given, and are very enthusiastic in presenting the results of their group discussions.

The development of students' activities cannot be separated from the role of teacher activities in the teaching and learning process which provides opportunities for students to discuss and communicate the material learned, and ask students who have submitted the results of their discussions. The improvement of students' analysis skills is also supported by the use of Nearpod interactive media which provides opportunities for students to answer openly about the images and questions that have been displayed on the media.

### Communication skills

Communication in learning is the ability of students to convey something they know through dialog or interact with each other in class, then in it there is a transfer of messages. Communication skills are needed to achieve success in learning (Maulida et al., 2021). The implementation of communication skills was analyzed using an observation sheet containing 10 communication indicators. The observation sheet was filled in by 3 observers to assess students' communication skills during the learning process.

Students' communication skills were measured at the first and fourth meetings of learning Reproductive System material. The types of communication measured in this study are oral, written and interpersonal communication. Learners' oral and interpersonal communication was assessed when they presented and discussed. While written communication is assessed from writing the results of discussions on

LKPD. The application of Example Non Example model assisted by Nearpod media in Reproductive System material effectively improves students' communication skills if it meets two indicators. These indicators include: 1) there is an increase in each indicator of the communication observation sheet at each of the first and final meetings; 2) at least 7 out of 10 scores of the aspects of the communication observation report assessment of experimental class students are higher than the control class. The results of the analysis of the improvement of students' communication skills are presented in Table 3 below.

Table 3. N-Gain of Communication Ability Indicators of Experimental Class Learners

Indicator	Meeting to-		N-gain	Category	
	First	Last		First	Last
Verbal Communication	0,48	0,89	0,41	Fair	Very Good
Written Communication	0,49	0,89	0,40	Fair	Very Good
Interpersonal Communication	0,48	0,88	0,40	Fair	Very Good
Average			0,40		

Based on table 3 above shows an increase in communication skills in the experimental class. Of the three communication skills measured, namely oral, written and interpersonal communication skills at the first meeting scored 0.48 and 0.49 respectively in the sufficient category and at the final meeting scored 0.88 and 0.89 in the excellent category. This shows a fairly high increase in the experimental class after being given treatment.

Table 4. N-Gain of Communication Ability Indicators of Control Class Learners

Indicator	Meeting to-		N-gain	Category	
	First	Last		First	Last
Verbal Communication	0,49	0,70	0,21	Fair	Good
Written Communication	0,48	0,68	0,20	Fair	Good
Interpersonal Communication	0,49	0,70	0,20	Fair	Good
Average			0,20		

Based on table 4 above shows the improvement of communication skills in the control class. Of the three communication skills measured, namely oral, written and interpersonal communication skills at the first meeting scored 0.48 and 0.49 respectively in the moderate category and at the final meeting scored 0.68 and 0.70 in the good category. This shows a sufficient improvement in the control class.

The improvement in oral communication skills can be seen from the average students in the experimental class having better oral communication skills than the control class. Indicators of oral communication skills include expressing and listening to opinions, mastering material and delivering discussion results. The increase that occurred was due to the model used to stimulate students to be actively

involved in analyzing images and discussing them. Through pictures, students are able to ask questions, guess and then find answers to the pictures provided (Sari & Aulia, 2021).

The improvement of written communication skills is measured through four indicators, namely the completeness of the discussion results, interpreting ideas into written form, preparing reports clearly and systematically, beauty and neatness. In written communication skills, the improvement is assessed by LKPD that has been filled in by students. Students in the experimental class have written the results of their discussion completely, clearly and neatly. This is because in this learning model students are focused on analyzing images and discussions, so that students are able to take advantage of their time to write down the results of the discussion and can compile the results of the discussion properly. With the Example Non Example learning model, students can analyze the image into a brief description and interpret it in writing about the information in the picture. This is in accordance with the research of Wilsa et al., (2017) that students are said to be skilled in communicating writing if they are able to communicate images into the form of descriptions.

The improvement of interpersonal communication skills is measured through three indicators, namely responsiveness and courtesy, attention and care, and language use. The research data showed an increase in the indicators of students' interpersonal communication skills. In the learning process, students in the experimental class were more responsive in conducting discussions. Learners seemed enthusiastic in giving and answering questions. In addition, students also appear to have better manners and care than the first meeting. This means that the success criteria for interpersonal skills have been achieved. In addition, the results of the average score of students' interpersonal communication skills obtained also prove that the intervention from the application of the Example Non Example learning model is able to improve the interpersonal communication skills of students who were previously still quite low.

## CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that:

1. Example Non Example learning model assisted by Nearpod media can improve the analytical ability of students on the material of Reproductive System Class XI MIPA 6 SMAN 9 Semarang.
2. Example Non Example learning model assisted by Nearpod media can improve students' communication skills on the Reproductive System material Class XI MIPA 6 SMAN 9 Semarang.

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