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Students' Perception of Discovery Learning in Microteaching Class

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Abstract
Discovery Learning as one of the methods proposed by the 2013 curriculum is a suggested learning method for teachers to increase students' activeness and critical thinking. However, discovery learning also has its downside such as it can be a very time-consuming method. These advantages and disadvantages resulted in microteaching students having different perceptions on discovery learning. The purpose of this study is to describe students' perceptions of discovery learning in microteaching class at the English Department, Universitas Negeri Padang. This research used descriptive quantitative research. The sample for this research was 56 microteaching students of the English Department in Universitas Negeri Padang. The data collection technique used in this research was a questionnaire with 6 indicators through the google form application. Therefore, the results of this study showed that the majority of microteaching students in the English Department had a positive or good perception of the implementation of discovery learning. The students agree that the use of discovery learning motivates students to be more active in class, improves students' critical thinking, interpretation, communication, collaboration skills. However, the microteaching students still encounter obstacles to encourage the students to answer the question and be active in the class.

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INTRODUCTION

The 21st century learning paradigm focuses on student skills. These skills include finding problems from various resources, asking questions, performing analysis, collaborative thinking, and collaboration in problem-solving. The Indonesian government created an educational program based on the Indonesian 2013 Curriculum to address this demand. Teachers, as the face of education, are supposed

to help students develop the 4Cs (critical thinking and problem-solving, communication, collaboration, and creativity) abilities necessary for 21st-century learning and innovation.(Snyder & Snyder, 2008) proposed that the characteristic of learning that can improve critical thinking skills is a type of learning involving active learners. Therefore, teacher need to apply a learning method that includes an active learner and able to think critically.

Discovery learning is one of the suggested learning methods for teachers to increase students' activeness and critical thinking. According to Bruner (1960),who created the discovery learning method in the 1960s, Discovery learning can be defined as the learning that takes place when the student is not supplied with the subject matter in its final form, but rather is asked to organize it himself. There are six step of the discovery learning method, Kemendikbud (2013)stated they are: creating stimulation, identifying problem statement, collecting the data, analyzing the data, verifying the data , and creating a conclusion or generalization. By implementing these steps students will be more active in finding a solution because they need to disc opportunities to actively become problem solvers.

Even though discovery learning is a student-centered learning method which the teacher act as a mentor, it does not mean that the role of the teacher is not important. The teacher must assist the students in repeatedly asking questions about their knowledge and beliefs in all areas of life in order to provide these young students with opportunities to find and test their understandings (Brown & Oakville, 2016). Hence, teachers need to have a lot of knowledge and skills to teach. In order to achieve this goal, teachers must be trained to make them a good teachers. To get there, a student teacher must first learn in Microteaching subject before doing teaching practice.

Microteaching was described by (Remesh, 2013) Microteaching is a teacher's practice to develop teaching skills. It uses real-life teaching situations to improve skills and aid in the acquisition of knowledge during the teaching process. Microteaching provides prospective teachers with the ability to develop skill and knowledge in teaching as potential educators. Microteaching students are required to put the principle of teaching and learning that they have learned through microteaching class into practice.

Microteaching courses, on the other hand, continue to present students with a variety of issues and challenges. Makafane (2020) reported that the students in the microteaching class face challenges such as using English as a means of communication, interpreting the syllabus, organizational techniques, over and under preparation, and selecting teaching methods. Discovery learning is one of the suggested teaching methods that students used in microteaching class. This teaching method has a benefit for teacher to increase students' activeness and critical thinking. Despite of having these advantages, discovery learning also has its downside such as it can be a very time-consuming method often taking much longer for information to be acquired than would occur with direct teaching. These advantages and disadvantages resulted in microteaching students having different perceptions on the discovery learning .

Gibson (2012) explained that perception is the process through which a person organizes and interprets a multitude of stimuli into a psychological experience,

giving meaning to his or her surroundings. Rosyida et al., (2016) emphasized the crucial of teachers' perceptions. Teachers, she said, are one of the most important people in the educational system because they are on the front lines of education, heavily engaged in various teaching and learning processes, and the final practitioners of educational concepts and theories. Therefore, microteaching students' perception of discovery learning is crucial, since they will be practicing teaching in a real class and become the teachers that will lead the future facilitation of scientific literacy.

There have been many studies about the perception of discovery learning. First, Nurhidayah (2011) conducted a research about students' perceptions between expository and discovery learning. Then Sakunti (2018) also conducted a research of the twelve grade social science students' perception toward practices of discovery learning used by english teachers at SMAN 10 Kota Jambi. Moreover, Tampubolon (2018) investigated research of students' perception toward discovery learning but focusing on learning reading comprehension. However, there are no researches that focus on students in microteaching class. Hence, it is perceived important to conduct a research about students' perception of discovery learning in microteaching class at English department Universitas Negeri Padang as well as the contribution to fill the gap in perception of discovery learning.

RESEARCH METHOD

This is descriptive quantitative research since it aims to identify students' perception of discovery learning in microteaching class. According to Lodico (2006), is used to identify behaviors and gather people's expectations, opinions, attitudes, and beliefs about a current educational issue.

The population of this research is 56 third year students in the Microteaching class in English department of Universitas Negeri Padang. The researcher used a questionnaire as the instrument to obtained the data. To determine the validity of the instruments, the researcher validated the instruments by asking the experts to check whether the items of the instruments in term of content and objectives were valid and suitable to be used. After having a revision, the researcher uses the google form app to collect the data. Then researcher explained to the students the intent of the questionnaire as well as how to complete it. After collecting the data, the researcher categorized the data based on the statements and analyzed it.

RESULT AND DISCUSSION

Data Description, Finding, and Analysis

Data Description

The data of this study were gathered through a questionnaire. The questionnaire is divided into 5 parts, they are stimulation, problem statement, data collection, data processing, verification and generalization with total 15 statements. The questionnaire data is shown on 1 to 5 ranges, from very disagreeing to very agree. To find out the score of each statement in the questionnaire, data are scored quantitatively using likert scale:

Table 1. *Likert Scale*

Categories	Score
Very Agree	5
Agree	4
Neutral	3
Disagree	2
Very Disagree	1

After the data was scored, the average value was determined or calculated using arithmetic calculations utilizing the mean by Gay (1981:298):

$$\bar{x} = \frac{\sum x}{N}$$

Where: $\bar{x}$ = Mean
$\sum x$ = Total Raw Score
N = Total number of the student

After calculating the data, the researcher analyzed the category of questionnaire through the interval score:

Table 2. *The Interval Score*

Very good/Very Positive	$4{,}5 \leq n \leq 5$
Good/Positive	$3{,}5 \leq n \leq 4{,}4$
Enough/ Fair	$2{,}5 \leq n \leq 3{,}4$
Bad/ Negative	$1{,}5 \leq n \leq 2{,}4$
Very Bad/ Very Negative	$0 \leq n \leq 1{,}4$

Finally, the researcher will make descriptions on each statement based on the data. The explanation of each indicator is given below taking the name of the indicator as the headings.

Stimulation

The first indicator was Stimulation. In this indicator there are two statements that can be seen in statement number one and two.

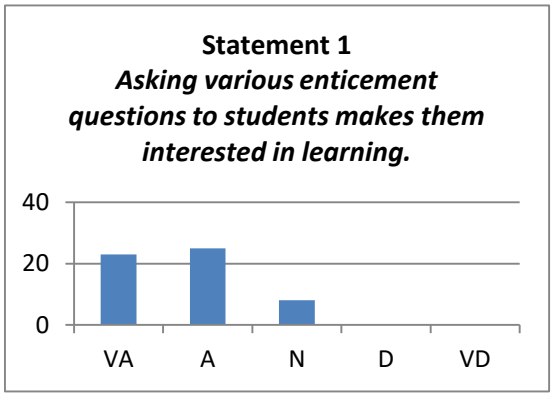

Diagram1. Statement 1

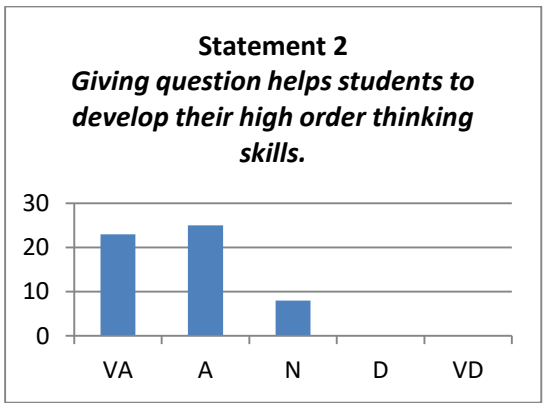

Diagram 2. Statement 2

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From the first diagram, it can be seen that among 56 students, there are 22 students chose very agree, 25 students chose agree, 8 students chose neutral, 1 student chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 1: *Asking various enticement questions to students makes them interested in learning* was 4,21 means it has good/positive response from the students. In the other word, most of the respondents agree that asking various enticement questions to students makes them interested in learning.

From the second diagram, it can be seen that among 56 students, there are 23 students chose very agree, 25 students who chose agree, 8 students chose neutral and none students chose disagree nor strongly disagree. After calculating the data, the average score for statement number 2: *Giving question helps students to develop their high order thinking skills* was 4,26 means it has a good/positive response from the students. In the other word, most of the respondents agree that giving question helps students to develop their high-order thinking skills.

Problem Statement

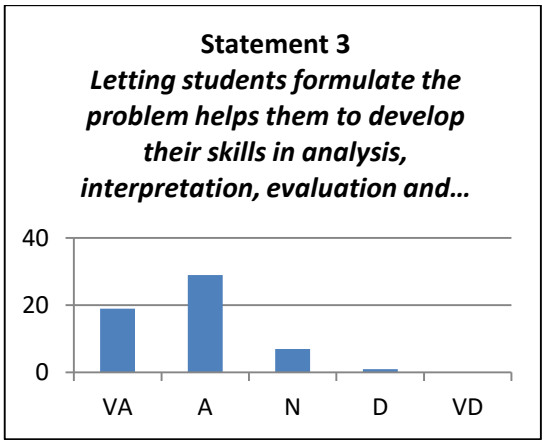

Diagram 3. Statement 3

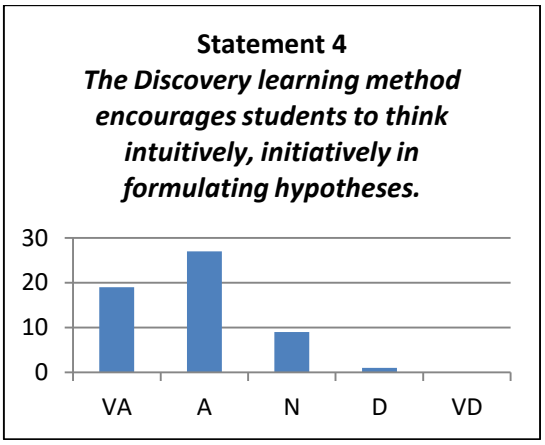

Diagram 4. Statement 4

From the diagram 3, it can be seen that among 56 students, there are 19 students chose very agree, 29 students chose agree, 7 students chose neutral, 1 student chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 3: *Letting students formulate the problem helps them to develop their skills in analysis, interpretation, evaluation and deduction* was 4,17 means it has good/positive response from the students. In the other word, most of the respondents agree that letting students formulate the problem helps them to develop their skills in analysis, interpretation, evaluation and deduction.

From the diagram 4, it can be seen that among 56 students, there are 19 students chose very agree, 27 students who chose agree, 9 students who chose neutral, 1 student chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 4: *The Discovery learning method encourages students to think intuitively, initiatively in formulating hypotheses* was 4,14 means it has good/positive response from the students. In other word, most of the respondents

agree that the discovery learning method encourages students to think intuitively, initiatively in formulating hypotheses.

Data Collection

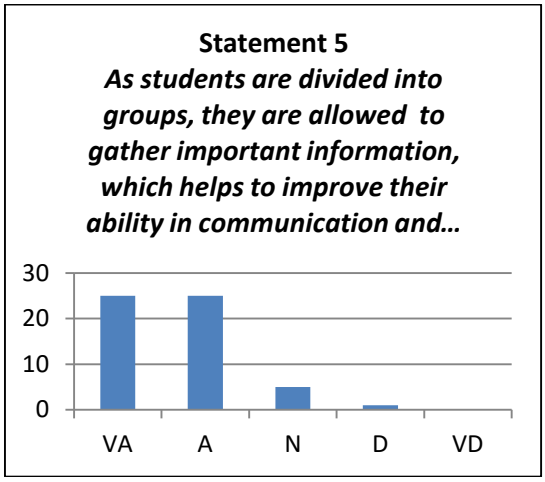

Diagram 5. Statement 5

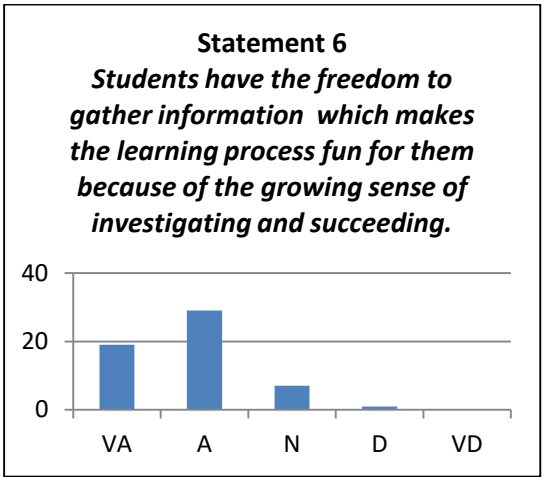

Diagram 6. Statement 6

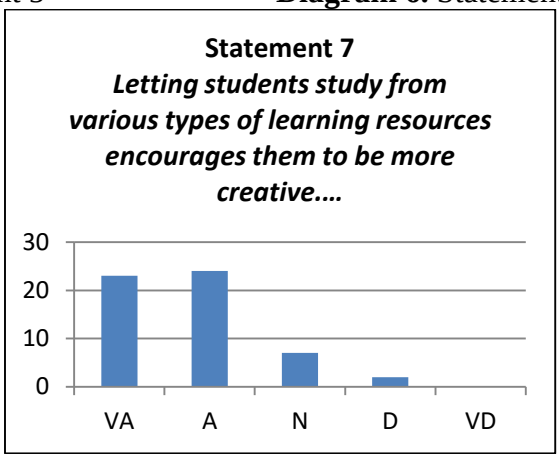

Diagram 7. Statement 7

From the diagram 5, it can be seen that among 56 students, there are 25 students chose very agree, 25 students chose agree, 5 students chose neutral, 1 student chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 5: *As students are divided into groups, they are allowed to gather important information, which helps to improve their ability in communication and collaboration* was 4,32 means it has good/positive response from the students. In the other word, most of the respondents agree that as students are divided into groups, they are allowed to gather important information, which helps to improve their ability in communication and collaboration.

From diagram 6, it can be seen that among 56 students, there are 22 students chose very agree, 28 students chose agree, 5 students chose neutral, 1 student chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 6: *Students have the freedom to gather information which makes*

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the learning process fun for them because of the growing sense of investigating and succeeding was 4,26 means it has good/positive responses from the students. In the other word, most of the respondents agree that the learning process fun for the students because of the growing sense of investigating and succeeding.

From the diagram 7, it can be seen that among 56 students, there are 23 students chose very agree, 24 students chose agree, 7 students chose neutral, 2 students chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 7: *Letting students study from various types of learning resources encourages them to be more creative* was 4,21 means it has good/positive response from the students. In the other word, most of the respondents agree that letting the students study from various types of learning resources encourages them to be more creative.

Data Processing

The fourth indicator was Data Processing. In this indicator there are three statements that can be seen in the statement number eight, nine and ten .

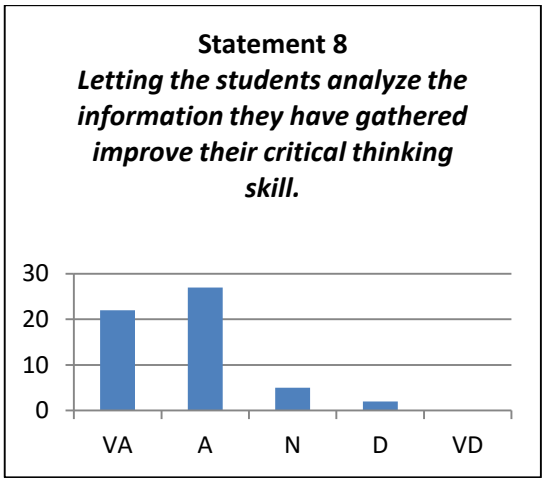

Diagram 8. Statement 8

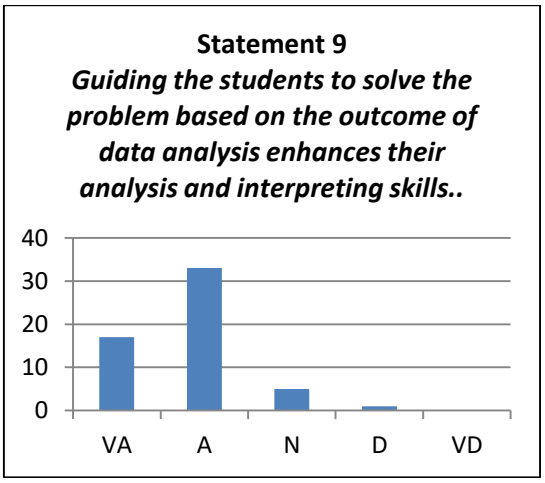

Diagram 9. Statement 9

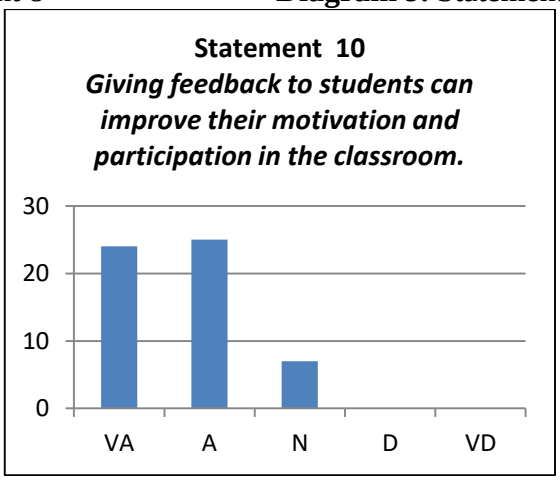

Diagram 10. Statement 10

From the diagram 8, it can be seen that among 56 students, there are 22 students chose very agree, 27 students chose agree, 5 students chose neutral, 2 students chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 8: *Letting the students analyze the information they have gathered improve their critical thinking skill* was 4,23 means it has good/positive response from the students. In the other word, most of the respondents agree that letting the students analyze the information they have gathered improve their critical thinking skill.

From the diagram 9, it can be seen that among 56 students, there are 17 students chose very agree, 33 students chose to agree, 5 students chose neutral, 1 student chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 9: *Guiding the students to solve the problem based on the outcome of data analysis enhances their analysis and interpreting skills* was 4,17 means it has good/positive response from the students. In the other word, most of the respondents agree that guiding the students to solve the problem based on the outcome of data analysis enhances their analysis and interpreting skills.

From diagram 10, it can be seen that among 56 students, there are 24 students chose very agree, 25 students chose to agree, 7 students chose neutral and none student chose disagree nor strongly disagree. After calculating the data, the average score for statement number 10: *Giving feedback to students can improve their motivation and participation in the classroom* was 4,3 means it has good/positive response from the students. In the other word, most of the respondents agree that giving feedback to students can improve their motivation and participation in the classroom.

Verification

In this indicator there are three statements that can be seen in the statement number eleven, twelve and thirteen.

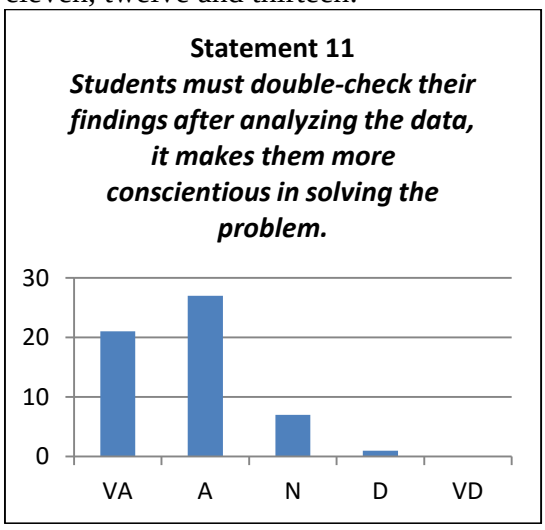

Diagram 11. Statement 11

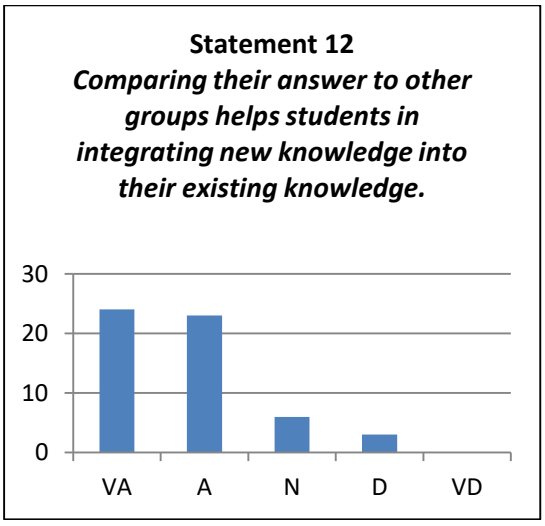

Diagram 12. Statement 12

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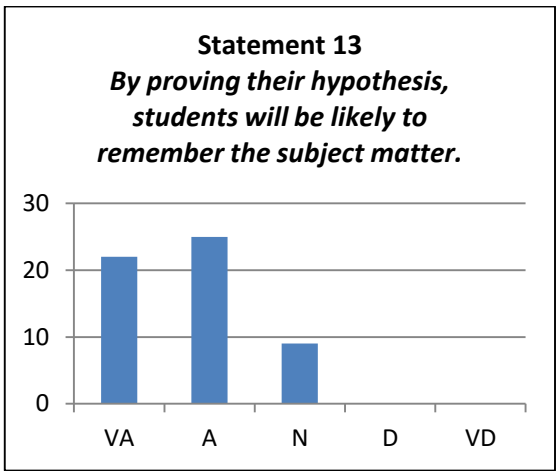

Diagram 13. Statement 13

From the diagram 11, it can be seen that among 56 students, there are 21 students chose very agree, 27 students chose agree, 7 students chose neutral, 1 student chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 11: *Students must double-check their findings after analyzing the data, it makes them more conscientious in solving the problem* was 4,21 means it has good/positive response from the students. In the other word, most of the respondents agree that when students double-check their findings after analyzing the data, it makes them more conscientious in solving the problem.

From diagram 12, it can be seen that among 56 students, there are 24 students chose very agree, 23 students chose agree, 6 students chose neutral, 3 students chose to disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 12: *Comparing their answer to other groups helps students in integrating new knowledge into their existing knowledge* was 4,21 means it has good/positive response from the students. In the other word, most of the respondents agree that by comparing their answer to other groups helps students in integrating new knowledge into their existing knowledge.

From the diagram 13, it can be seen that among 56 students, there are 22 students chose very agree, 25 students chose agree, 9 students chose neutral and none student chose disagree nor strongly disagree. After calculating the data, the average score for statement number 13: *By proving their hypothesis, students will be likely to remember the subject matter* was 4,23 means it has good/positive response from the students. In the other word, most of the respondents agree that by proving their hypothesis, students will be likely to remember the subject matter.

Generalization

The sixth indicator was Generalization. In this indicator there are two statements that can be seen in the statement number fourteen and fifteen.

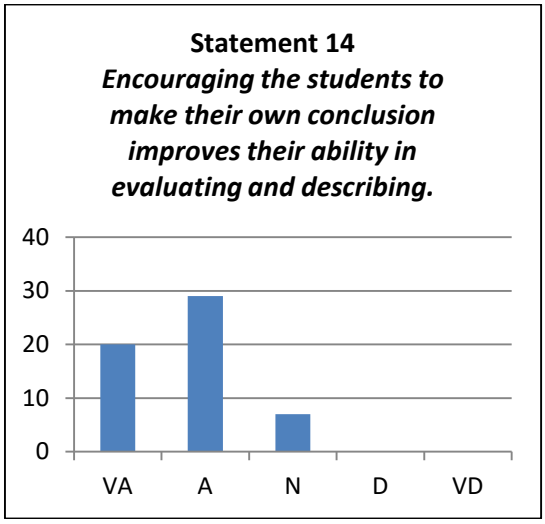

Diagram 14. Statement 14

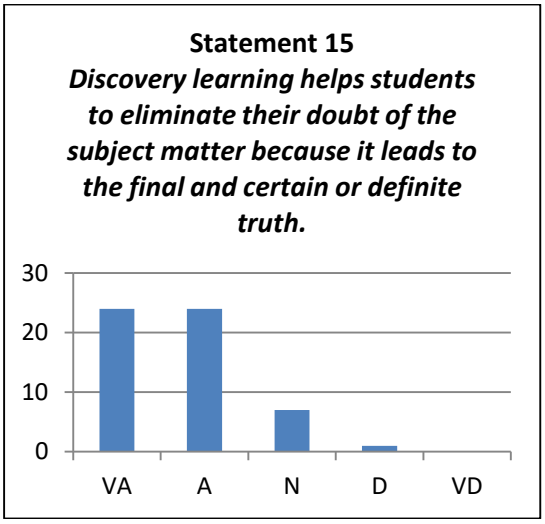

Diagram 15. Statement 15

From the diagram 14, it can be seen that among 56 students, there are 20 students chose very agree, 29 students chose agree, 7 students chose neutral and none students chose disagree nor strongly disagree. After calculating the data, the average score for statement number 14: *Encouraging the students to make their own conclusion improves their ability in evaluating and describing* was 4,32 means it has good/positive response from the students. In the other word, most of the respondents agree that encouraging the students to make their own conclusion improves their ability in evaluating and describing.

From the table 4.16, it can be seen that among 56 students, there are 24 students chose very agree, 24 students chose to agree, 7 students chose neutral, 1 student chose disagree and none students chose strongly disagree. After calculating the data, the average score for statement number 15: *Discovery learning helps students to eliminate their doubt of the subject matter because it leads to the final and certain or definite truth* was 4,26 means it has good/positive response from the students. In the other word, most of the respondents agree that. discovery learning helps students to eliminate their doubt of the subject matter because it leads to the final and certain or definite truth.

Discussion

Based on the data description and analysis above, there are several things that can be noted down. It will be arranged based on the findings of each research problem.

For the first research problem: What is Students' Perception of Discovery Learning in Microteaching class?, the finding shows that mostly the students chose "very agree" or "agree" as their answer for questionnaire statements and none of the student chose "strongly disagree" as their answer. Discovery learning is one of the suggested learning methods for teachers to increase students' activeness and critical thinking. According to Bruner (1960), who created the discovery learning method in the 1960s, Discovery learning can be defined as the learning that takes place when the student is not supplied with the subject matter in its final form, but rather is asked to organize it himself. Based on Kemendikbud (2013) they are six steps of discovery

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learning: stimulation, problem statement, data collection, data processing, verification, and generalization. The researcher develop the questionnare based on these syntax of discovery learning.

The first syntax, stimulation, is where the teacher ask various enticement questions or employing audio-visual material in order to pique students' interest in the knowledge they will acquire in the classroom. These questions ranging from LOTS to HOTS to help them build their Higher-Order Thinking Skills (Kemendikbud, 2013). Based on the data from the questionnaire, the mean for first syntax is 4,2 means it has good/ positive response from the students. In the other word, the students agree that asking various enticement questions to students makes them interested in learning. Futhermore, Giving question helps students to develop their high order thinking skills.

The second syntax, problem statement, is where the students should properly formulate the problem. In this step, their ability to think plays an important role (Kemendikbud, 2013). Based on the data from the questionnaire, the mean for the second syntax is 4,1 means it has good/ positive response from the students. Therefore, the students agree that letting students formulate the problem helps them to develop their skills in analysis, interpretation, evaluation and deduction. Also, discovery learning method encourages students to think intuitively, initiatively in formulating hypotheses.

The third syntax, data collection, is where the students, that divided into group, should gather the informations from various sources to solve the problem (Kemendikbud, 2013). Consequently, their ability in communication and collaboration will improve and learning process will be fun for them (Westwood, 2008). Based on the data from questionnaire, the mean for the third syntax are 4,3 and 4,2 means it has good/ positive response from the students. It can be intepret as the students agree that discovery learning helps to improve ability in communication and collaboration. Also, it makes the learning process fun and student become more creative.

The fourth syntax, data processing, is where the students analyze the information they have gathered. Hence, their analysis and interpreting skills will improve (Veerman, 2003). The teacher should give feedbacks to students in order to improve their motivation and participation. Based on the data from questionnaire, the mean for the fourth syntax are 4,1, 4,2 and 4,3 means it has good/ positive response from the students. In other word, the students agree that discovery learning improve critical thinking, analysis and interpreting skills. Giving feedback to students also can improve their motivation and participation in the classroom.

The fifth syntax, verification, is where the students should double-check their findings by comparing them to those of other groups, any relevant books, dictionaries, and articles, or their teacher. It makes them more conscientious in solving the problem (Kemendikbud, 2013). Based on the data from questionnaire, the mean for the fourth syntax is 4,2 means it has good/ positive response from the students. Therefore microteaching students agree by double-checking the findings, the students be more conscientious in solving the problem. Also the students will remember the lesson better by proving their own hyphothesis

The sixth syntax, generalization, is where the students conclude their final answer. Encouraging the students to make their own conclusion improves their ability in evaluating and describing (Veerman, 2003). Based on the data from questionnaire, the

mean for the fourth syntax is 4,2 means it has good/ positive response from the students. It can be interpret as the student agree that discovery learning improve ability in evaluating and describing also it helps students to eliminate their doubt of the subject matter because it leads to the final and certain or definite truth.

In conclusion, the students' perception of discovery learning in microteaching class based on the syntaxs are good/ positive. Each syntax has high mean score which can be intrepreted that the students have a good/ positive perception of discovery learning. Related to the previous study, Nurhidayah (2011) who has conducted a research about students' perceptions between expository and discovery learning, found that students' have more positive perceptions toward discovery learning. Tampubolon (2018) who also done a project to explore Students' Perception on the Discovery Learning Strategy on Learning Reading Comprehension, found the majority of university students want to use the discovery learning strategy in learning reading because they believe that this strategy this strategy can make them to be more active and serious in the teaching and learning reading process. Furthermore, Sakunti (2018) conducted a study on the twelve grade social science students' perception toward practices of discovery learning used by English teacher and found that the practice of discovery learning in English subject class has good potential to improve both students and the teacher. These previous studies are similar with the findings of this research. The researcher also found that the students have a good/ positive perception of discovery learning. They also want to use the discovery learning as their teaching method later during PPL. Most of the microteaching students think that discovery learning method has a good potentian to improve students ability in critical thinking, interpretation, communication, collaboration and etc.

CONCLUSION

Conclusion

Based on the findings and discussion that have been presented in the previous chapter about the students' perception of discovery learning of in microteaching class, the researcher concludes that there are six indicators; stimulation, problem statement, data collection, data processing, verification and generalization. First, the mean of students' perception for all statements in the stimulation stage is 4,2. Second, the mean of students' perception for all statements in problem statement stage is 4,1. Third, the mean of students' perception for all statements in data collection stage are 4,3 and 4,2. Fourth, the mean of students' perception for all statements in data processing stage are 4,1, 4,2 and 4,3. Fifth, the mean of students' perception for all statements in verification stage is 4,2.. The last one, the mean of students' perception for all statements in generalization stage is 4,2..

From the various indicators above, all of them gave good/ positive response. In the other word, students' perception of discovery learning in microteaching class at English Department Universitas Negeri Padang was good or positive.

Suggestion

Based on the conclusion, some points can be suggested that might be useful which are proposed as follow: First, It is hope that the microteaching students learn and try to use the discovery method in order to understand it well. Then, in this research is an input or consideration for many people especially students who will become a teacher

that will lead the future education. For the further researchers, the researcher suggests to the next researcher to do a research in other settings to have variation research as the researcher assumes that this research is conducted in different place, it will give different results.

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