Student's Understanding Problem to Genetic Engineering Subject

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Abstract— This research aim is to determine the problem about student's understanding to genetic engineering subject. This type of research is exploratory descriptive. Data is collected by observation, interview, and distribution questionnaires. These research subject is 16 sample. The result of this research is student can understand to genetic engineering subject because of practice. The Samples say that practice need for understand this subject cause, 1) know the steps (12,5%), 2) know how to works (31,25%), 3) know the tools and materials (43,75%), 4) know the function of tools and materials (6,25%), and 5) analyze about the result of practice (6,25%). The learning method that student wants to understanding subject are lecture (18,75%), Discussion (18,75%), experiment (25%), and all three methods (56,25%).

Index Terms— Student, Understanding Problem, Genetic Engineering.

1 Introduction

THE instruction is accumulation of teaching and learning concept. They can combine and release the student's activity. Concept can be a system [2].

Learning system is combination about human, study experience, facility, maintenance, and procedure that control interaction activity to get the aim. Teaching system is combination about learning plan, teaching matter, goals, materials, methods, and evaluation [3].

Genetic engineering is one of difficult matter. Genetic engineering defined as the molecular technique from the different sources. There is so many of matter that must studied. So, the students feel bored if the learning methods just one. This reseach to know about the problem of student's understanding with genetic engineering subject [6].

2 Method

This reseach method is descriptive explorative. Data is collected by observation using camera, interview using interview sheet and tape recorder, and distributed questionnaires to 16 samples. Data is analyzed by this formula in below [1].

$$P = \frac{\sum x}{\sum xi} \, x \, 100\%$$

Explanation:

P = Percentage
∑x = number of answer in 1 item
∑xi = number of respondent
100% = constanta

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3 Result

The result of this reseach is answer of sample about the way to make genetic engineering matter is easy to study. The way is practice. Practice is a such of teching learning activity to get strong knowledge for student [4].

Through practice hope that student can independent study but keep controled by lecturer. Practice can be effective to rise the students' ability in observing, using the tools, and develop them to know, active, creative, and inovative [7].

The important goal is they can be honest to their result. The practice is hoped students can easy to learn. Based on the lecturer, the genetic engineering is new subject. So, the lecturer must have good preparation in how to teach students [5].

The students reason why using practice can help them to study genetic engineering matter. This Fig 1 can know their reason. Practice must be held cause, 1) they can know about the steps (12,5%), 2) they can know about how to work (31,25%), 3) they can know the tools and materials (43,75%), 4) they can know the function of tools and materials (6,25%), and 5) they can analyze the result of practice (6,25%).

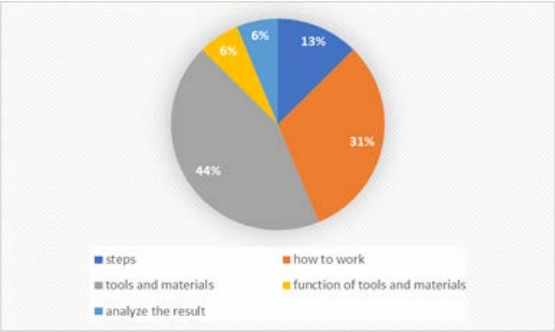

Fig 1. The Reason about Practice

The difficulty of understanding about genetic engineering matter is big problem in this research. However, how to solve it by using practice and change the learning methods. The

practice can to know about the matter in real. How to work in practice can make the memory about this matter become strong. The matter needs perfect concepts and strong analyzing.

It caused by practice can to observe and analyze the method and mechanism experiental in practice. But, not all of matter can to practice. Although, in the genetic engineering matter is full for practice by student.

Another way to make the genetic engineering matter become easy is change about learning method. The learning method that almost use by lecturer is speech. But, other student want the new learning method.

It causes the learner method can make students feel bored. Some of new learning methods that they want are 1) keep lecture (18,75%), 2) discussion (18,75%), 3) experimental (25%), and 4) all of three methods is combined (56,25%). This percentage can see in Fig 2.

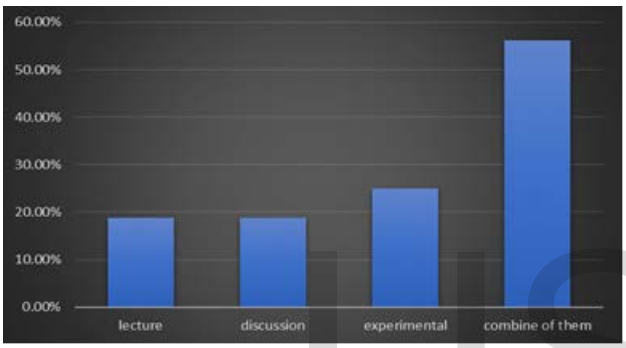

Fig 2. The Method that Students Like

The explanation of lecturer is enough for understand about the genetic engineering matter. But, discussion can make the analyze ability is increasing. Experimental can make the student directly know about the matter.

The combination of lecture, discussion, and experimental can increasing the students' motivation to study about genetic engineering. Also, make the student to keep like in genetic engineering matter never become bored.

4 Conclusion

The Conslusion of this research is way to make the genetic engineering come easy. The first way is use practice and the second is use new learning method.

Practice can make, 1) know the steps (12,5%), 2) know how to works (31,25%), 3) know the tools and materials (43,75%), 4) know the function of tools and materials (6,25%), and 5) analyse about the result of practice (6,25%). The learning method that student wants to undestanding subject are lecture (18,75%), Discussion (18,75%), experiment (25%), and all three methods (56,25%).

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