

Student Perceptions of Variations in Learning Methods in Courses Basic Physics

Arfiati Ulfa Utami¹, Bagus Setyawan²

^{1,2}Agricultural Product Technology Study Program, PGRI University Banyuwangi, Indonesia
arfiatiuniba@gmail.com

Abstract: Basic physics is one of the compulsory courses for Agricultural Product Technology students because basic physics studies the basics of physics or as a foundation for solving simple physics problems found in branches of science in other fields. The importance of a variety of learning methods can increase student passion or enthusiasm. This study aims to determine students' perceptions of variations in learning methods in basic physics courses. The respondents of this study amounted to 40 students who took basic physics courses. The techniques used for data collection are observation, questionnaires, and documentation. The indicators used are 10 indicators with variations of different learning methods. The results of the study found that the learning method that many students like is the fieldwork method by 95% of students like it, while the learning method that students do not like is the discussion method by 52.5%.

Keywords: Student Perception, Variety Of Lecture Methods, Basic Physics.

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A. INTRODUCTION

Higher education as an educational agent that universities are places for organizing the educational process at the highest level of education, therefore universities are printers of scholars in various fields of science. Higher education as an agent of economic growth that universities contribute to the economic growth of a country, including through the formation of entrepreneurs and improving the quality of graduate human resources, which will be able to improve the quality of labor can further increase productivity and increase production capacity which ultimately contributes to economic growth. *Entrepreneurship* has a function in the economic development of a country. Graduates who have entrepreneurial provisions will be ready to become entrepreneurs, and become graduates who are able to create jobs (Sedyati, 2022). In today's era of sophisticated technology, we are required to master science as well as possible in order to improve the quality of education. Then a teaching method is needed that matches the material taught. The use of appropriate teaching methods can help students gain knowledge and attitudes towards behavior change and personality development (Nur, 2017). Learning in higher education has different characteristics from learning in schools, both elementary and secondary schools. Learning in higher education is strongly influenced by the nature of the courses taught and the competency needs to be achieved. Judging from the learning approach, the learning process in higher education uses an adult learning/ andragogy

approach (Sitepu & Lestar, 2018). Ideally, with this approach, at the initial meeting, lecturers explain what and how the courses will be taught, and prepare various components of learning tools that will be used during the lecture process (Susanto et al., 2023).

Basic physics is a general basic course in the Agricultural Product Technology Study Program, Faculty of Agriculture, PGRI Banyuwangi University. Basic physics is one of the compulsory courses for Agricultural Product Technology students because basic physics studies the basics of physics or as a foundation for solving simple physics problems found in branches of science in other fields. Basic physics courses also provide a foundation in physics that departs from the knowledge of physics that has been obtained in high school, meaning that basic physics is the basis for learning more complex physics concepts. Physics does not only study concepts or facts about natural phenomena, physics also makes discoveries. Physical discoveries are realized in experimentation or practicum activities. This course has 3 credits of which 2 credits are for face-to-face and 1 credit for practicum. So, to maximize this basic physics lecture, an effective learning method is needed. Physics has many abstract concepts involving symbols and mathematical processes (Danday & Monterola, 2019). The use of images and diagrams in teaching physics will greatly help students to understand these abstract concepts (Poluakan, 2019). Visual representation is indispensable for understanding physics. Physics is one of the subjects that requires the ability to represent different concepts (Mardatila, Novia, & Sinaga, 2019). Using different representations to convey a concept is called multirepresentation.

The learning method is a way of presenting material including deciphering, giving examples, and exercises of a subject matter to students to achieve competence. Learning methods determine whether or not learning objectives are achieved, so an educator is required to know and understand the position of the method in learning activities. The use of one or several methods has conditions that must be considered, namely (1) the teaching method used must be able to arouse student motivation and interest, (2) the method used must be able to ensure the development of student personality activities, (3) the teaching method used must be able to stimulate students' desire to learn further, innovate, (4) the teaching method used must be able to educate students in self-study techniques or independently. Then an educator must pay attention to learning methods that are in accordance with the learning material. The definition of an active learning strategy is one of the strategies used to optimize the learning process that positions teachers as people who create a conducive learning atmosphere or as facilitators in the teaching and learning implementation process, while students must be actively innovative and utilize the environment as an effective and interesting learning resource (Zuhdi & Rokhmat, 2021). Educators are people who educate who are people who provide new knowledge and knowledge to others consistently and continuously. The position of education in education is one of the main pillars for the bias of education. Educators also have a responsibility in the development of students by efforts to develop all competencies possessed by their students, such as affective, cognitive, and psychomotor potential.

Educators also have a great task to be able to make their students understand the knowledge and knowledge taught. Educators are people who educate. This understanding gives the impression that educators are people who carry out activities in the field of education.

Educators are all people who are responsible for developing and fostering students in all aspects both cognitive, psychomotor, affective, mental and spiritual. This definition shows that what is meant by educator is not limited to teachers in schools but also includes parents and all adults who are responsible for fostering and developing the younger generation, such as lecturers, counselors, civil servants, widyaswara, tutors, instructors, facilitators, and other terms. The importance of lecturers choosing learning methods that are in accordance with the material in the basic physics course to arouse student motivation so that learning outcomes are achieved. Based on the description above, researchers are interested in conducting research on student perceptions of variations in lecturer learning methods carried out in the classroom during the learning process. Researchers aim to determine student perceptions of variations in learning methods, lecturers are able to evaluate and improve their performance in the learning process in class. The purpose of this study is to obtain a general picture of student perceptions of variations in learning methods for basic physics courses.

B. METHOD

This study used a type of descriptive research. Descriptive research is research that provides an overview of something that is studied as it is. The results obtained from the analysis to find out a general picture of student perceptions of variations in lecturer teaching methods. The subjects in this study were students of the Agricultural Product Technology Study Program, Faculty of Agriculture, PGRI Banyuwangi University who took basic physics courses as many as 40 students, so that the respondents were 40 people. The techniques used for data collection are observation, questionnaires, and documentation. Observation is used to observe directly and indirectly about learning methods in basic physics courses. Questionnaires are submitted to students regarding the learning methods used by lecturers in class. Through this questionnaire, researchers conduct complete data collection to explore information. The method of analysis in this study is where questions or statements using the Likert Scale are related to student perceptions of learning methods in basic physics courses.

C. RESULTS AND DISCUSSION

Student perceptions of variations in learning methods are described based on aspects of the learning material of basic physics courses.

Table 1. Student Perceptions of Variations in Learning Methods

No	Statement	Agree	Disagree
1	Lecturers use the lecture method when explaining the magnitude material	31	9
2	Lecturers use the discussion method when explaining measurements	25	15
3	Lecturers use the presentation method when explaining vector material	23	17
4	Lecturers use the question and answer method when explaining kinematics material	29	11

5	Lecturers use the project method on the style material and its application	35	5
6	Lecturers use fieldwork methods on business materials	38	2
7	Lecturers use experimental methods on energy materials	35	5
8	Lecturers use group work methods on fluid materials	34	6
9	Lecturers use the assignment method on mechanical wave material	26	14
10	Lecturers use the discussion method on sound wave material	21	19

Based on table 1 above, it can be described that there are 10 materials in the basic physics course using different methods in learning. Based on the data above, the methods used vary, namely lectures, discussions, presentations, questions and answers, projects, fieldwork. The first indicator was that 31 students agreed to use the lecture method so that 77.5% were satisfied using the lecture method on large materials. The second indicator was 25 students agreed to use the discussion method so that 62.5% were satisfied using the discussion method on the measurement material. The third indicator was 23 students agreed to use the presentation method so that 57.5% were satisfied using the presentation method on vector material. The fourth indicator was 29 students agreed to use the question and answer method so that 72.5% were satisfied using the question and answer method on kinematics material. The fifth indicator was that 35 students agreed to use the project method so that 87.5% were satisfied with using the project method in the style and application material. The sixth indicator was 38 students agreed that lecturers used the fieldwork method so that 95% were satisfied using the fieldwork method in business materials. The seventh indicator as many as 35 students agreed that lecturers use experimental methods so that 87.5% were satisfied using these learning methods on energy materials. The eighth indicator as many as 34 students agreed that lecturers used the group work method so that 85% were satisfied using the group work method on fluid material. The ninth indicator as many as 26 students agreed that lecturers use the assignment method so that 65% were satisfied using the assignment method on mechanical wave material. The tenth indicator as many as 21 students agreed that lecturers use the discussion method so that 52.5% were satisfied in learning sound wave material.

Based on the ten indicators above, the learning methods most approved or favored by students are project methods, fieldwork methods, group work and experimental methods. The experimental method is a way of presenting lessons where students experiment by experiencing and proving for themselves what is learned in the teaching and learning process. With this experimental method, it is required to experience for yourself, seek the truth, try and draw conclusions about the process experienced (Rizky, Bariyah, Lubis, Nur, & Mardhatillah, 2022). Research with the application of experimental methods can improve the activities and learning outcomes of PGSD students of the University of Muhammadiyah Makassar. This can be proven by the significant increase in the percentage of student activities and learning outcomes from cycle I to cycle II (Hafidz, Saputra, Affandi, & Elhafidy, 2023). The most disliked or disagreeing learning methods are discussion and presentation methods. The discussion method is a method in which the teacher gives a problem or problem to students

given together to solve the problem with his friends. In the discussion, exchange information, receive information and can also maintain their opinions in solving the problem (Pakaya, 2019).

The application of innovative learning methods by lecturers, especially in basic physics courses, has an impact on student learning experience. The selection and determination of methods are influenced by the characteristics of the material, students, expected learning objectives, situations of supporting teaching and learning activities, facilities are things that affect the selection and determination of teaching methods, educators' abilities and teaching materials (Mustakim, 2017). Physics teaches students to think critically and focus on solving all kinds of problems / problems that occur in this world that are directly related to everyday life, signs are realized. Students are required to memorize and apply equations in large quantities, resulting in physics being included in a row of the least popular subjects. Currently, teachers / educators are required to be more creative and innovate in choosing learning methods and media that will be used when teaching in class. This can help students to understand the material taught and its application and relevance in everyday life. To help reduce these problems, researchers and science teachers there contribute to using problem-based learning methods to reduce existing problems, even if it can improve learning outcomes and attract interest in learning physics in schools. This problem-based learning method is able to have an influence and even a positive impact on learning outcomes as well as the interest and motivation to learn physics of students at SMPN 3 Selong. Moreover, this method focuses on problem-based group work which must be done by each group member with their respective responsibilities.

Learning that takes place in universities is handed over to the academic community of universities to ensure the continuity of educational and learning practices focused on developing knowledge and practical skills and not doing fragmented learning, which will later harm the process of student knowledge construction (Stanciu, Coman, Gabriel, & Bularca, 2020). Educators in higher education use two or more active learning methods, to stimulate active and constructive learning. However, it is important to note that the choice, combination, and application of active learning methods during the classroom, by itself, does not guarantee effective learning Mashudi 18 Southeast Asian Journal of Islamic Education, Volume 04 (01), 2021. The success of the learning process depends on a combination of four elements, namely: planning and setting learning objectives; organization of learning content/ materials; choice of teaching strategy; and evaluation process (Ananda,2019). Active and innovative learning methods applied at IAIN Jember contribute to the development of creativity, critical analysis and independence in seeking knowledge. Students are no longer passive individuals who are ready to be stolen knowledge. Students should be more active in seeking actual information, having discussions with more interaction with other individuals. The importance of implementing active and innovative learning as a tool encourages students and lecturers to have a culture of scientific research and the ability to work as a team (Mashudi, 2021). Based on the results riset of Lianingsih (2022) it can be concluded that in the view of the participants, student absorption is better if there is good interaction and communication between students and lecturers in learning. Both in online and offline learning, communication and interaction

are important things to be the attention and focus of learning development for lecturers so that learning becomes more effective, where high student absorption can be one of the indicators

D. CONCLUSIONS AND SUGGESTIONS

Based on the results of the study, it can be concluded that the lecture method is 77.5%, the discussion method is 62.5%, the presentation method is 57.5%, question and answer method by 72.5%, project method by 87.5%, work method by 95%, experimental method by 87.5%, group work method so that 85% were obtained, assignment method by 65%, and discussion method by 52.5% satisfied.

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