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Student Assessment of Lecturer Attitudes To General Physic and Relationship With Learning Outcomes

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Abstract

This correlation study examines the relationship between learning outcomes in General Physics and student assessments of lecturer performance, learning motivation, and attitudes towards General Physics. The research population is Undergraduate Students in Faculty of Mathematics and Science UNM who programmed General Physics for the 2020/2021 academic year totaling 517 people. The mufti-stage sample was obtained randomly by incidental with a size of 252 students. The variables consist of: student's assessment of lecturer performance (X_1), learning motivation (X_2), attitude towards General Physics (X_3), and learning outcomes of General Physics (Y). Data were collected through valid tests and questionnaires. The results showed that the learning outcomes of General Physics were in the medium category, student assessments of lecturer performance and learning motivation were in good and high categories, respectively. While the attitude towards General Physics is in a good category. Inferential analysis shows a significant relationship: (1) student assessment of lecturer performance with learning outcomes of General Physics, (2) learning motivation with learning outcomes of General Physic, (3) attitudes towards General Physics and learning outcomes of General Physics, (4) assessment students towards lecturer performance, learning motivation, and attitudes towards General Physic together with learning outcomes in General Physics. The results of this study indicate the need to improve lecturer performance, provide motivation and improve student attitudes towards General Physics.

Keywords: student assessment, learning motivation, General Physic, earning outcome

1. Introduction

To achieve national education goals that can produce competent students or students, the process of providing education should also be of a quality such as a curriculum, material mastery, or teacher performance [1-3], lecture learning models (including strategies, approaches, and methods) as well as appropriate learning media, supporting facilities and infrastructure, and a conducive school or campus environment [4-6].

Undergraduate Student of Education Study Program at the Faculty of Mathematics and Natural Sciences, are prospective teachers who are one of the determinants of future educational success because they will transform educational values and inputs. Therefore, the undergraduate students must fully master the lecture material including the General Physics course. The quality of education in educational institutions is difficult to improve without being supported by related elements, especially from the students themselves [7,8].

This is due to the position of students as learning objects as well as learning subjects. Therefore, the willingness of students to improve their quality is an absolute thing. Qualified students achieved when they have a strong sense of self-confidence, have high learning motivation, and have a positive attitude towards General Physics lessons or subjects to meet their competitive future [9,10].

Physical science is that department of knowledge which relates to the order of nature, or in the words, to the regular succession of

events [11]. Physics is a branch of Natural Sciences. It is a science that studies symptoms through a series of processes known as scientific processes that are built based on scientific attitudes and the results are realized as scientific products composed of the three most important components in the form of concepts, principles, and theories that apply universally [12]. Physics is a field of learning in science education covering abstract concepts. It is one of the key disciplines for the development of technology or engineering has a substantial function in understanding natural events in real life and expressing them mathematically with theoretical models and laws [13]. In addition, physics aims to study and provide a quantitative understanding of various natural phenomena or processes, and the nature of substances and their applications [14]. This opinion is reinforced that physics is a lesson about natural events that allows research by experiment, measuring what is obtained, presenting systematically, and based on general rules [15]. The same thing was expressed by [16] that physics is a quantitative science that requires mathematics to express it. From some of these opinions, it shows that physics describes and analyzes the structure and events or natural phenomena so that rules or laws are found in nature, which can explain the symptoms based on the logical structure between cause and effect.

Lecturer is one who gives lecture [17]. they are academic rank within many universities, though the meaning of the term varies somewhat from country to country. It generally denotes an academic expert who is hired to teach on a full- or part-time basis. They may conducted research. Lecturers are professional education staff and scientists with the main task of transforming, developing, and disseminating science, technology, and art through education, research, and community service [18]. They performance in higher education is influenced by lecturer job satisfaction and organizational commitment among lecturers, organizational culture, and work ethic [19]. A lecturer's performance must said to be good if he meets the number of scheduled meetings ,the lecture material delivered according to the teaching plan and if he actively provides advice and counseling to students in preparing their final assignments [18]. To determine the success of the learning process, it is necessary to conduct an assessment. Not only to ensure better university management but also to facilitate knowledge development services. Thus, with the results of a good individual performance assessment, the lecturer is considered to have completed work-related responsibilities to a satisfactory level or the extent expected by the university management [20].

Thus, a lecturer in turn have a performance that productivity has achieved of mastery of General Physics course material. Based on the foregoing, it is suspected that there is a relationship between performance in managing the lecture process and student learning outcomes in General Physics.

Motivation is the impetus that gives purpose or direction to behavior and operates in humans at a conscious or unconscious level. Motives are frequently divided into (a) physiological, primary, or organic motives, such as hunger, thirst, and need for sleep; and (b) personal, social, or secondary motives, such as affiliation, competition, and individual interests and goals. An important distinction must also be drawn between internal motivating forces and external factors, such as rewards or punishments, that can encourage or discourage certain behaviors [21]. Motivation is a factor that determines a person's behavior based on direction, intensity, and persistence to achieve a goal [22], quoting Atkinson's opinion defines motivation as the drive, intensity, and persistence of individual efforts in achieving a goal [23]. The same was said by [24] that motivation is the impetus for one's actions and contains three main components, namely: moving, directing, and supporting human behavior. Therefore, motivation is often equated with the engine and the steering of a car that functions as a driver and director. This means that motivation is a state in a person's personality that encourages individuals to carry out certain activities to achieve a goal. In addition, the strength and weakness of a person's motivation cannot be seen clearly but can be seen in the appearance of the person's behavior.

If students have stronger learning motivation, this leads to better learning outcomes [10]. Generally, two general types of motivation keep individuals engaged in an activity: extrinsic motivation and intrinsic motivation [25]. Intrinsic motivation can be measured by the level of internal needs of each individual such as pleasure, interest, and self-challenge. Extrinsic

motivation is measured by the level of external needs such as awards, scholarships, careers, and so on [10].

In line with research conducted by [26], Intrinsic motivation is technically related to activities done "for oneself". Play, exploration, and curiosity activities embody intrinsically motivated behavior because they did not depend on external incentives or pressures, but provide their satisfaction and excitement [27,28]. Extrinsic motivation concerns behavior that is driven by externally imposed rewards and punishments and is a form of motivation that is usually controlled and non-autonomous [29]. From this description, it assumed is a relationship between learning motivation and General Physics learning outcomes. This means that the higher the student's learning motivation, the higher the General Physics learning outcomes, on the contrary, the lower the students' learning motivation, the lower the General Physics learning outcomes.

Individuals or students in carrying out learning activities different attitudes towards what they learn. Attitude is a readiness of the psyche to act or react in a certain way [30]. Attitude is a relatively enduring and general evaluation of an object, person, group, issue, or concept on a dimension ranging from negative to positive. Attitudes provide summary evaluations of target objects and are often assumed to be derived from specific beliefs, emotions, and past behaviors associated with those objects [21]. According to [31,32] express attitudes as the readiness to respond positively or negatively to objects or situations consistently. This shows that attitude is a reaction to a relatively stagnant object or situation accompanied by certain feelings that provide the basis for individuals to make a response or behavior in a certain way that they choose. Attitude as a person's reaction to a stimulus that comes to him [33,34]. Attitude is a way of reacting to a stimulus [35,36]. This means that attitude is an important determinant in human behavior to react. Therefore, a person who has a positive attitude towards an object will show pleasure, otherwise, he will show displeasure if the person has a negative attitude.

Attitude is a certain regularity in terms of feelings (affects), thoughts (cognition), and predispositions to actions (connection) of a person towards one aspect of the surrounding environment [37].

In the learning process, the teacher does not only focus on the cognitive aspects of students but also the effective aspects of students, namely attitudes. An attitude is a form of a person's perception of an object that is described by the expression of likes or dislikes [38]. Attitude is often described as a response tendency that an individual has [39]. The attitude of students towards the subject can be seen from how they respond to the subject, whether they are interested in the subject or have difficulty understanding the subject [40]. One of the learning objectives is to foster a positive attitude of students towards the learning process. This positive attitude can be interpreted as an attitude that supports students to learn, such as enjoying the lesson and a negative attitude is an attitude that prevents students from learning [38]. Attitude is important when learning science because it is a factor that affects student achievement in science [41]. Therefore, it is assumed that students who have a good attitude will also have optimal General Physics learning outcomes. In other words, it is suspected that there is a positive correlation between attitudes and learning outcomes of General Physics.

So overall, it is suspected that there is a correlation between each variable, namely student assessments of lecturer performance, learning motivation, and attitudes towards General Physics with General Physics learning outcomes. [18,35,36,42,43]. Thus, it is assumed that these three variables together have a positive correlation with learning outcomes of General Physics. This means that the higher the student's assessment of the lecturer's performance, learning motivation, and attitude towards General Physics, the higher the General Physics learning outcomes they achieve, on the contrary, the lower the student's assessment of lecturer performance, learning motivation, and attitudes towards General Physics, the lower also the results of learning General Physics that he achieved.

Based on the observations, most of the students think that physics is a difficult subject. As a result, there are still many students who have not mastered the General Pysics material even though the material has been lectured or discussed [44]. In addition, if students are given assignments, most of them can complete them, but only fulfill the requirements in the sense that students are not less persistent in working on

them so that they get satisfactory results. This shows that they lack a positive attitude towards physics and motivation to learn [44,45].

Several previous studies have shown that internal factors such as student assessments of lecturer performance, learning motivation, and attitudes towards subjects and lectures have a relationship with student learning outcomes. However, there are still very few studies that examine the relationship of these three factors to learning outcomes for General Pysics courses. This research can contribute to providing a more thorough understanding of the variables that affect student learning outcomes. This research is expected to be material for consideration and input for lecturers, especially lecturers in General Pysics courses. Thus, this research is expected to be an evaluation material for the development of student quality through improving learning outcomes.

2. Methods

This type of expos facto research is correlation. An expos facto study is a study in which the independent variable of the study has occurred and the researcher begins by observing the dependent variable and then finds the cause in the study [46]. This study has two types of variables, namely independent variables, namely (1) student assessment of lecturer performance, (2) learning motivation, and (3) attitudes towards General Physics. While the dependent variable is the result of learning General Physics. The population of all undergraduate students in Faculty of Mathematics and Science UNM Makassar who took the General Physics course in the 2020/2021 academic year, amounted to 517 people. While sampling using a multistage random sampling method by determining the sample size using the formula loving [47]. Obtained a minimum sample size of 221, but in this study, researchers took a sample size of 252 students, which means above the minimum sample required by Slovin's formula. The instruments used are in the form of tests and questionnaire. The test instrument is used to measure student learning outcomes in General Physic, while questionnaire in the form of a questionnaire sheet is used to measure student assessment variables on the performance of General Physic lecturers, learning motivation, and attitudes towards General Physics. The scale model used is a five-point Liker scale from Always (SL) is given a score of 5, Often (SR) is given a score of 4, Sometimes (KD) is given a score of 3, Rarely (JR) is given a score of 2, and Never (TP) is given score 1. Medium attitude instrument towards General Physics has an alternative answer Strongly Agree (SS) is given a score of 5, Agree (S) is given a score of 4, Doubtful (RR) was given a score of 3, Disagree (TS) was given a score of 2, and Strongly Disagree (STS) was given a score of 1. The appropriate instrument to use is an instrument that has an internal consistency coefficient value of 75% (strong relevance) which means both experts/experts agree/agree that the statement item is appropriate to use. Specifically for the General Physics learning result instrument for S-1 FMIPA UNM Makassar students, the researchers did not develop it and the score for General Physics learning outcomes was obtained from the lecturer in charge of the General Physics course.

The data from the consistency analysis between 2 experts (research and evaluation experts) on student assessment instruments on the performance of General Pysics lecturers was declared valid to be used in this study, as the condition that an instrument can be used is valid [48]. The data collection technique used in the study was to distribute research instruments in the form of a questionnaire via Google Form to obtain data from the variables to be measured. The data obtained from the questionnaire is quantitative data which will then be used to test the hypothesis. In the questionnaire, the respondent gives a choice or response in the measuring scale that has been provided, the answer to each instrument has a gradation from positive to negative. Positive statements were given a score of 5,4,3,2,1, while negative statements were given a score of 1,2,3,4,5. The score of 5 was strongly agreed, 4 agree, 3 undecided, 2 disagree, and 1 strongly disagree. The data collected will be processed using two kinds of analytically techniques, namely (1) descriptive analysis, namely to describe the characteristics of the distribution of scores from the four variables, and (2) inferential analysis using simple regression analysis and multiple regression linear models. The research paradigm proposed in this study is described in the form of a correlation between variables as shown in Figure 1.

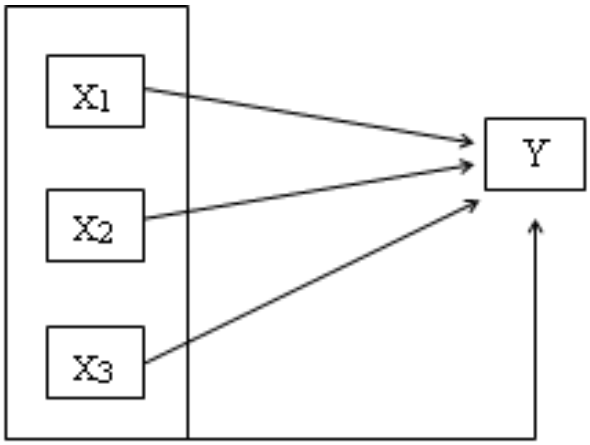

Figure 1. Correlation Relationship between Research Variables

3. Result and Discussion

Table 1. Research results data on Learning Outcomes (Y), Student Assessment of Lecturer Performance (X_1), Learning Motivation (X_2), and Attitudes towards General Pysics (X_3).

No	Research result	$\bar{r}$	%
1	Y	73.95	69.44
2	X_1	180.42	63.89
3	X_2	187.56	76.19
4	X_3	187.73	83.33

Table 1 above shows that physics learning outcomes (Y) is in the medium category, student assessments of Lecturer Performance (X1) are in the high category, Learning Motivation (X2) is in the high category, and Attitudes towards General Physic (X3) are in the high category.

The statistical hypothesis testing proposed to find out the null hypothesis (H_0) is rejected and accepts the alternative hypothesis (H_1) or vice versa through Table 2 below.

Table 2. Statistical Hypothesis Testing

Variable	H_0 and H_1	$R^2_{y\,(1,2,3)\text{ and }123)}$	%	$\ddot{Y}$
X_1 and Y	$H_0 : \rho_{y1} = 0$ $H_1 : \rho_{y1} > 0$	0.122	12.2	-16.594 + 0.318 X_1
X_2 and Y	$H_0 : \rho_{y2} = 0$ $H_1 : \rho_{y2} > 0$	0.138	13.8	-2.339 + 0.407 X_2

X_3 and Y	$H_0 : \rho_{y3} = 0$ $H_1 : \rho_{y3} > 0$	0.092	9.2	-7.105+ 0.432 X_3
$X_{1,2,3}$ > Y	$H_0 : R_{y123} = 0$ $H_1 : R_{y123} > 0$	0.244	24.4	-70.187 + 0.231 X_1 + 0.305 X_2 + 0.241 X_3

Table 2 above shows that the research hypothesis X_1 against Y, X_2 against Y, X_3 against Y: tested very convincingly, and $X_{1,2,3}$ against Y: have been verified.

The findings above can provide information to lecturers who support General Physic courses to pay attention that lecturer performance is one of the factors that contribute significantly to improving the learning outcomes of General Physic by students in Faculty of Mathematics and Science UNM. This is in line with research [49,50] that teacher knowledge and performance are important determinants of student learning outcomes and student satisfaction during learning. In connection with this, lecturers who are effective in General Physic courses should be able to change their performance if they do not meet the requirements of the student assessment results. Also, provide instructions to the lecture manager in this case the lecturer in charge of General Physic courses to constantly changes their performance if it turns out to be unsatisfactory based on whether it is through student assessments or from peers or quality assurance institutions at the Faculty or University level.

The success of a university is determined by the role of the lecturer in carrying out the teaching and learning process, where he must have a psychological bond with the organization and his work [43,51]. Giving lectures to students is a complex activity because it implies that a lecturer must be professional which means he must perform well in the sense that the lecturer must fully master the lecture material, be creative in using various strategies, approaches, and methods of solving problems in General Physic. To become a professional lecturer, lecturers are required to continuously improve the quality of their work consciously through education and training enriched with experience [52,53].

The research findings reveal that there is a positive and significant relationship between learning motivation and General Physic learning outcomes for students in Faculty of Mathematics and Science UNM. This means that the higher the motivation to learn, the higher the learning outcomes of General Physic by students in Faculty of Mathematics and Science UNM, and the lower the learning motivation, the lower learning outcomes of General Physic students in Faculty of Mathematics and Science UNM Makassar.

Motivation can increase through exposure to or acquiring new knowledge, especially if the knowledge is new, surprising, or useful [42]. Learning motivation can be increased when students interact with teaching materials, resources, and computer applications rather than experiencing them passively. In addition, students' learning motivation can be increased by competition and cooperation with peers where competition can positively increase students' learning motivation, thereby increasing future learning intentions [10].

The findings are cause by learning motivation that has the advantage that it can encourage students to excel as high as possible, especially in terms of improving General Physic learning outcomes with a standard of excellence. This standard of excellence can be in the form of task perfection, discussion perfection, or the like in lectures. Students who have high learning motivation will see themselves as more capable than students who have low learning motivation, besides that generally they try to outperform their friends, especially in terms of achieving optimal learning outcomes. This is because the learning motivation of students can be a trigger

tool in achieving learning success. It also provides instructions to the management of the lectures, in this case, the lecturers who are in charge of General Physics courses to strive for optimal General Physics learning outcomes through the growth of student learning motivation. The findings of this study are in line with the findings of [23,24,49,54,55] which states that motivation is a factor that affects the process and learning outcomes. Students who have high motivation have hope for success. Therefore, he tends to finish the work on time, work harder than students with low motivation.

Motivation is a factor that has a very big influence on the student learning process [42]. Without motivation, the student learning process will be difficult to run smoothly. This is because motivation is closely related to the needs and drives that reside within a person and so on [10]. Learning motivation is something that encourages someone to carry out a task faster or better than what someone else has done or has done [56-59]. A person who has high motivation will always try to carry out the tasks assigned to him as well as possible and as quickly as possible, and try to avoid failure. This means that motivation is an impulse from within a person to take any action so that it can achieve the best results.

The test results show that there is a positive and significant relationship between attitudes towards General Physic and learning outcomes of General Physic by student in Faculty of Mathematics and Science UNM Makassar. This means that the higher the attitude towards physics, the higher learning outcomes of General Physic by students in Faculty of Mathematics and Science UNM Makassar, and vice versa, the lower the attitude towards General Physic, the lower the learning outcomes of General Physics by students in Faculty of Mathematics and Natural Sciences, UNM Makassar.

Students who optimist and are happy with the General Physics course material mean that the student has a positive attitude. This of course can have an impact on obtaining satisfactory learning outcomes. On the other hand, students who have a negative attitude towards General Physics material will certainly be unhappy and can reduce their enthusiasm in studying the material which has an impact on obtaining unsatisfactory lecture results. In other words, to achieve optimal student learning outcomes, a positive attitude is needed [31,32].

The findings above indicate that positive ideas, feelings, and behaviors towards General Physics courses will also determine the high learning outcomes of General Physics students in Faculty of Mathematics and Science UNM. On the other hand, students who tend to think, feel, and behave negatively will be able to reduce the learning outcomes of General Physics students in Faculty of Mathematics and Science UNM Makassar. This is in line with research [35,36,60,61], that attitudes towards subjects have a relationship with learning outcomes.

Attitudes consist of (a) cognition components, namely students' beliefs and ideas about General Physic objects, and are obtained because of their desires that are consistent with their ideas, beliefs, or behavior. (b) affection, namely positive and negative feelings or emotions of students about General Physics objects. Positive feelings are related to liking, sympathy, or respect, while negative feelings are expressed in the form of fear, rejection, while liking or hating, and (c) co-nation or behavior, namely the tendency of students to act on General Physics objects.

The results of hypothesis testing indicate that there is a positive and significant relationship between students' assessments of lecturer performance, learning motivation, and attitudes towards General Physic and General Physic learning outcomes for undergraduate students in Faculty of Mathematics and Natural Science UNM Makassar, meaning that the better students' perceptions of lecturer performance, the higher students' learning motivation, and the better students' attitudes towards General Physic, the higher the learning outcomes of General Physic by students in Faculty of Mathematics and Natural Sciences, UNM Makassar.

The results of this study provide very valuable information for lecturers who are effective in General Physic courses in managing lectures. High lecturer performance based on student assessments accompanied by high student learning motivation and good student attitudes towards General Physic is closely related to the principle that how much students have learned to do assignments or work in getting the desired results, this is in line with research [35,36,49,50,54,60,61,62]. Maslow's hierarchy of needs explains that the more people can fulfill

their need to know and understand the world around them, the greater their motivation to learn more. This condition is grown in undergraduate students majoring in physics through General Physic courses. These findings and research are the results of an assessment of the factors that are mostly sourced from within students (internal psychology) which are jointly linked to their learning outcomes in General Physic. These findings support several theories which state that success in learning is influenced by many factors originating from within, from outside the individual [63].

3. Conclusion

The results showed that the student's assessment of the lecturer's performance and learning motivation was in the good and high categories, respectively. Attitudes towards General Physic are in a good category, while the learning outcomes of General Physic are in the medium category. In the results of inferential research, it shows a significant positive relationship: (1) student assessments of lecturer performance with learning outcomes of General Physics, (2) learning motivation with learning outcomes of General Physic, (3) attitudes towards General Physic and learning outcomes of General Physic, (4) student assessment of lecturer performance, learning motivation, and attitude towards General Physic together with learning outcomes of General Physic.

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