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## The Correlation Between Learning Achievement and The Level of Presence and The Intensity Attention in Following Lectures

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### ABSTRACT

The on time presence of attending classroom meeting with lectures is one of the factors mostly associated with the learning achievements of students. To find out the possibility of a correlation between the two variables certainly requires scientific, in-depth and measurable studies. The population of this study is all students of the English Study Program FKIP Riau University, whose samples were taken by using quota purposive sampling technique, namely by providing them assessment of samples among the selected population (Campbell. S. et.al. 2020). This technique was used under the consideration of the limited time, energy and funds the researcher had. Quota was used to determine the number of samples, while purposive was intended to determine the subject matters whose presentation might be in the forms lectures, discussions and assignments. Randomization technique was used to determine the individuals included in involved as the subject of the study. The collected data, especially those obtained through questionnaires, were analyzed and given scores. The scores were then analyzed using a statistical analysis of abc design variance. Meanwhile, data concerning student achievement used a single or univariate change analysis with the intention of testing assumptions by using variance analysis. The results of the data analysis indicate that (1) there was no significant correlation between the learning achievement and the level of participation and the intensity of attention following the learning or lecture process (2) there was no significant correlation between students attendant rate and learning achievement.

## 1. Introduction

Students as subjects in the lecture process should be seen and treated not only in the sense of a group but also as an individual (Harper, 2021). With these two

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dimensions, a student certainly has and faces various problems both personally and as a learning group. The problems faced by students in the lecture process are included into 4 (four) categories. Lecture problems related to students comfort include too busy lecture schedules that students must follow or otherwise that students have much more leisure time due to irregularity or lack of regular lecture schedules.

In the period before the Semester Credit System, when lectures in universities used a package system, it was often suspected that students at that time spent a lot of their time outside of lecture hours so that the intensity of their learning activity was reduced, instead of being diligent in studying the content presented in lectures. At that time, the percentage of attendance (attendance) of attending lectures was not paid much attention to and was taken into account in determining the decision whether students were allowed or not to take the exam. Also, in this package system, the important moments are the moments when the exam will be carried out, the student concerned has prepared himself for the necessary things and feels that there is a signal of the possibility of passing if the questions are done correctly.

Since moving from the package system to the Semester Unit system as it is today, educational programs at higher level across Indonesia, both public and private, are organized by implementing a credit system that requires the active involvement of both parties, both lecturers and students in teaching and learning activities. Participation is a form of appreciation for an activity that is participated in and carried out by students (Pratomo, et.al, 2020), especially activities in the form of:

1. Scheduled face-to-face
2. Academically structured
3. Academically independent

In the semester credit system, one course that is theoretical in nature will cost 1 (one) credit if the lecture is held every week for one semester within 50 minutes of scheduled face-to-face activities between students and teaching staff, such as in the form of discussion lectures or the like, 60 minutes of structured academic activities, namely carrying out and reviewing learning activities that are not scheduled but from and planned by lecturers, such as homework (homework) in the form of doing homework or solving problems, 60 minutes of independent academic activities are learning activities that students must do independently (not planned by the lecturer) to explore lecture materials, prepare lecture notes or for other academic purposes related to the semester program they are participating in, for example in the form of reading source books. In addition, the Director General of Higher Education of the Ministry of Education and Culture, in (Kumoro, et.al, 2016) students are even required to make and submit a report of their study program which is referred to as a Program Evaluation report in each semester and then compiled into data throughout the semester.

Practicum activities in the laboratory will weigh 1 (one) credit if the activity is held every week for one semester within 100 minutes (2 x 50 minutes) of

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scheduled practicum activities in the laboratory, 60 minutes of structured academic activities, and 60 minutes of academic activities. As for fieldwork that reflects the freer nature of 1 (one) credit is equivalent to 4-5 hours every week for one semester or about 75 hours of students doing activities in the field to get 1 (one) credit. One of the requirements to be able to take or take course exams is regarding the percentage of attendance to attend lectures. In the IKIP Malang Manual, there is a provision that regulates whether students can take the course exam. Students are declared to be able to take course exams in one semester at least 75% of the number of meetings or lectures given by the lecturer concerned.

In the operationalization of these provisions, it often happens that students offer not to attend lectures in full, for reasons of course schedules related to other courses, and in lieu of which they ask to be given certain tasks. In addition to these reasons, they also argue that students who diligently attend lectures in the sense of being present to fill out the attendance list or be present by lecturers, have not guaranteed higher or better achievements. On the other hand, students who are absent or do not attend lectures, but outside of lectures are actively studying the course themselves, not necessarily lower than the results they achieve.

Based on the things that have been stated above, it is very appropriate if the issue of lecture attendance is used as an interesting problem to be investigated, researched first with the arguments put forward by the student. Based on the background of the problem, the research problem to be solved, is formulated in the form of questions such as the following:

1. Is there a correlation between learning achievement and the level of crafting of students attending lectures?
2. Is there a correlation between learning achievement and the intensity of student activity in attending lectures?

#### ***A. Learning and its Factors.***

Learning is an activity results in behavior changes and learning achievement is one part of learning behavior, as stated by Cronbach in (Wirantasa, 2017) as follows:

- Learning goals or objectives,
- Readiness to learn
- Learning situation
- Interpretation
- Responses
- Learning outcomes
- Perception and reactions to learning.

Learning means an effort to make changes through practice and experience. A number of experts also interpret learning as an attempt to make changes in behavior towards the better and more advanced. These changes are obtained due to deliberate exercises (Hanafy, 2014). Thus, it can be inferred that learning is an

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activity whose goal is almost always directed to changing behaviors in the sense of improvement, refinement of skills and abilities to overcome future life problems of students. Some of the phenomena dealing with this goal of learning outcomes can be seen through:

- Observable changes in behavior or performance behaviour.
- Observable experience
- Mental development.
- Process of adjustment
- Active participation
- Unconscious symptoms. (Wirantasa, 2017).

Understanding learning refers to the notion of learning both in the sense of the process and learning in the sense of outcomes. Indeed, not all activities or behaviors of a student can be said to be the result of learning. However, learning is always related to behavior changes, both observable and unobservable. This understanding is supported by (Emda, 2018), who states that learning is an activity that results in the forms of progressive behavior changes. Learning achievement in the context of this research is an inseparable part from learning behavior. The learning process and learning outcomes are both influenced by several factors. The Director General of Higher Education of the Ministry of Education and Culture classified these factors into four groups, namely:

1. Learning Materials .
2. Environment
3. Facilities
4. Learner individual condition

The factors mentioned above are in accordance with the views of DR. Soemadi Soerjebroto in (Arifin, 2016). who states that learning outcomes are influenced by two major factors, namely internal factors contained in the learners' self-personal, both physiological and psychological conditions, and external factors, namely factors outside the learners, both social and non-social.

### ***B. Teaching and Learning Strategies in Higher Education.***

The teaching and learning process in higher education can be ascertained to use various such strategies or methods as lectures, discussions, assignments, group work, discovery, demonstrations and so on. All of these strategies or methods have advantages and disadvantages, therefore a lecturer will never teach using only one kind of strategy. There are 4 (four) factors that need to be considered in choosing a teaching strategy, namely:

1. Specific instructional goals
  2. Characteristics of learning subjects
  3. Resources and facilities to implement a certain strategy,
  4. Characteristics of certain presentation techniques. (Mahnun 2012)
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Based on the results of some studies from universities in Indonesia, there is a tendency that one-way presentations from lecturers to students takes up to 90% in one meeting or lecture, and only 10% of the time provided is for question and answer activities (Maheasy, 2018). It is also acknowledged that several other forms of learning such as writing papers, using source materials and libraries have begun to become teaching patterns in the part of lecturers and learning activities in the part of students. However, the meaning given to such activities is not significant compared to the views of students who think that attending lectures is a form of learning that is meaningful (Widodo, 2020). Thus, there is practically a dependence of students on lecture notes given by their lecturers. It's like a dilemma, on the one hand, the effectiveness and efficiency of lecture attendance is doubtful. It would be much better if the time is used to study outside. On the other hand, the rules regarding attendance or lecture attendance of at least 85%, need to be implemented in addition to the purpose of disciplinary development.

There have been a number of studies attempting to uncover the background that is thought to have an effect on learning achievement. Gender change as a control change for learning achievement usually causes differences of opinion. However, learning achievements studied by (Yang, et.al, 2018), indicates there was no significant difference or correlation with gender (between male and female students). Meanwhile, two other similar studies such as the ones by (Chen, 2008) and (Perez et.al, 2021). They had different finding, one found a positive correlation and the other a negative correlation. Likewise, the results of another study (Nath, 2012), which links learning achievement with the age of the students.

C. Sequential Learning Materials.

Courses in a field of study have a sequence of different materials, some are clear and some require a variety of approaches, which in general can be divided into two types of subjects or fields of study, namely linear subjects and accumulative subjects. Linear fields of study have a strict sequence of materials. For the subjects or fields of study like this, it is almost impossible to understand a material if it has not been inspired by the previous material. Similarly, there are also prerequisite subjects. Prerequisite courses mean courses that must be taken as a requirement for the next course, while prerequisite subjects mean courses that can only be taken or followed after taking the prerequisite courses. As an implication of this situation, of course, absence from attending lectures will affect understanding of the next lecture materials. Thus, the minimum requirement of 85% attendance in attending lectures is very appropriate for linear subjects or courses such as English, mathematics, physics, foreign languages, chemistry and so on.

The cumulative subjects can be said to have no linearity, so that it is possible to be taught or commenced from any subject matter. But from a psychological point of view, the materials taught earlier are gradually extended from the easy to difficult ones, from concrete things to abstract things, from simple to more complex ones. For the subjects of this kind (accumulative in nature) being absent from attending lectures are not likely to affect the understanding of the next lecture materials. For

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these accumulative subjects, the implementation of the minimum requirement of 85 attending lectures has little relevance to the characteristics of the subjects.

## 2. Methodology

### A. Research Variables

This research has three kinds of variables, namely the variable of learning achievement, as an affected variable (dependent variable), the level of attendant lectures frequency, which functions as an independent variable (independent variable), and the intensity of concentration to lecturing which serves as a moderator variable, whose indicators include attendance accuracy, choosing a seat, giving attention, taking notes, asking questions, answering questions and doing the tasks given by the lecturer. This research is an ex-post-facto, meaning that this research data were collected after all the events in question had place or occurred. Thus, the type of the design used in this study is a causal-comparative design.

### B. Population and Research Sample

The population of this study were all students of the English Study Program, FKIP Riau University. The samples were taken by using Quota Purposive Technique. Considering the limitations of available funds, knowledge and time, quotas were used to determine the number of research subjects, in this case it was as many as two hundred students. Purposive was used to determine the subjects with various frequency of student attendance, to select students and the subjects whose presentation was in the form of, lectures, discussions and assignments. Randomization technique was used to determine the individuals of the research subjects. After going through the steps above, we get sample whose distribution is shown in the table below.

Table 1. Sample Distribution List

Study program	Semester	Number of Respondents
English	III	75
English	IV	52
English	V	43
English	VI	23
English	VII	7
Amount		200

### C. Data Collection Techniques

Data collection is a decisive step in a research activity for the data obtained is not only determined by the validity of the research instrument, but also require supports for proper implementation (data reliability). In accordance with the research variables, there are three types of data, namely data related to attending lectures, to the intensity of participation in the lecture process and to student

achievement. The first type of data were collected from the attendant list, obtained by documentation techniques. The second type of data were by using a questionnaire technique, while the last type of data were taken from documentary sources (Student Study Result Cards) available in the Office of the Registration and Statistics, Sub-Division of the Faculty. Of the two types of data collection techniques, the results of the distributed questionnaires were tested for the level of validity and reliability.

The questionnaire validity test was carried out only based on face validity, it is considered valid based on the supporting points of the indicators. Meanwhile, the reliability test was carried out using Halving Technique, and found a reliability score of .874. (see attachment 1). The grid of questionnaire items can be seen in table 2 below.

Table 2. Questions of Questionnaires

NO	Indicator	Item	Total
1	Pay attention	1 – 8	8
2	Take notes	21 – 26	6
3	Ask	9 – 14	6
4	Answer the question	15 – 20	6
5	Conduct tasks	27 – 38	2
6	On time Presence	29 – 30	2
7	Seat Preference	31 – 32	2
Amount			32

The items of questions in the questionnaire are all related to the activities that should be done in class when students take part in the lecture process.

#### ***D. Data Analysis Technique***

The collected data, especially those obtained from questionnaires, were first put into scores. They were then analyzed using variant analysis designs. Those dealing with learning achievement were analyzed separately, apart from other changes. In other words, in this study, a single or univariate change analysis was conducted, to test the assumptions. Considering that learning achievement scores were given by many lecturers, a balance was first held by using their respective scores, before the univariate analysis was carried out. In summary, the steps of data analysis are as follows:

1. Balancing learning achievement scores using the formula:

$$Z = \frac{X1 - X}{SD}$$

Information

X1 = real score

X = average

SD = standard deviation

2. Analyzing a single change in learning achievement was intended to test the assumptions of the analysis of variance, by looking for the homogeneity of variance between groups and the frequency distribution of normality.

### 3. Results and Discussion

This chapter presents the data processing and its results. The data being processed includes those related to the level of attendance (presence) of students in attending lectures, and those related to the intensity of their on time present in attending lectures, and the data on the students' learning achievement. The first and second data are in the form of nominal data, although initially they are in the form of interval scores, while the third data is in the form of interval data, namely student learning achievement.

Data on the level of attendance at lectures (nominal data) are classified into very diligent, quite diligent and less diligent. Students who attend lectures as much as the number of lecturers present for one semester, are categorized as very diligent, and if they do not attend one or two times, they are categorized as quite diligent, and if they do not attend three or more times, they are categorized as less diligent.

Data on the intensity of seriousness in attending lectures, including types of nominal data. Initially this data was in the form of scores or interval data, but for the purposes of analysis of variance, this interval data was nominalized. This data is grouped into two categories, namely intensive and less intensive. The way to make this category is to find a measurement of its central tendency. Students whose scores are one Standard Deviance (SD) above the mean are classified into the intensive group, while those whose scores are below that score are categorized into the less intensive group.

Data on student achievement were analyzed in two stages. First, look for an overview of the homogeneity of variance between groups and the normality of the frequency distribution. Second, the analysis in relation to changes in the group attending lectures. The first stage of analysis is univariate analysis, while the second stage of analysis is multivariate analysis.

#### 1. Univariate Analysis.

a. The homogeneity of variance between groups can be followed in table 3 below.

Table 3. Variance Between Learning Achievement Groups

Group	N	SX	X	N - 1
A1 B1	26	6	2.31	.622
A1 B1	15	29	1.93	.638
A1 B2	20	46	2.30	.326
A1 B2	11	21	1.91	.491
A2 B1	22	47	2.14	.695
A2 B1	12	23	1.94	.447
A2 B2	18	47	2.61	.487



A2	B2	15	29	1.93	.495
A3	B1	17	40	2.35	.743
A3	B1	7	14	2.00	.333
A3	B2	22	54	2.45	.641
A3	B2	15	23	1.53	.695

Information:

A1 = very diligent in attending lectures

A2 = quite diligent in attending college

A3 = less diligent in attending lectures

B1 = intensively attending lectures

B2 = less intensive in attending lectures

From the table above, the difference in variance between groups is

$$\frac{743}{326} = 2.28$$

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When consulted with table F, then with d.b 16 versus 19, the Ft value is 3.25 at the significance level it is 1%. For the value of Fo = 2.28, and Ft = 3.25, the conclusion is that the correlation between variance group 1 is not significant. In other words, the correlation variance between groups is homogeneous or normal.

b. Normality of the frequency distribution of student achievement.

The learning achievement score obtained has a range between 74 and 148. If it is divided into ten categories, then the frequency distribution obtained is as shown in table 4 below:

Table 4. Frequency of Distribution

Group Score	F	%
146 – 153	2	1
138 – 145	11	5.5
130 – 137	18	9
122 – 129	36	18
114 – 121	44	22
106 – 113	42	21
98 – 105	31	15.5
90 – 97	12	6
82 – 89	3	1.5
74 – 81	1	.5
Amount	200	100

The frequency distribution is obtained from  $X^2$ , whether the distribution of learning achievement scores is normal or not, it as shown in table 5 (five) below:

Table 5. Frequency Distribution of Normality Test

Category	F <sub>0</sub>	F <sub>h</sub>	F <sub>0</sub> - f <sub>h</sub>	(F <sub>0</sub> - f <sub>h</sub> ) <sup>2</sup>	$\frac{(F_0 - f_h)^2}{f_h}$
146 – 153	2	4	-2	4	1
138 – 145	11	6	5	25	4.17
130 – 137	18	10	8	64	6.40
122 – 129	36	30	6	36	1.20
114 – 121	44	50	-6	36	0.72

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106 – 113	42	50	-8	64	1.28
98 – 105	31	30	-1	1	0.03
90 – 97	12	10	2	4	0.40
82 – 89	3	6	-3	9	1.50
74 - 81	1	4	-3	9	2.25
Amount	200	200	0	248	18.95

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$$X^2 = \frac{(f_o - f_h)^2}{F_h}$$

From the table above, it is found that the X2 number is 18.95.

If the value of X20 is consulted with table X2, then X20 = 18.95 and X2t = 50,892 at a significance level of 1%. Thus, the distribution of learning achievement scores is classified as normal, too.

## 2. Multivariate Analysis.

Univariate analysis as described above, is intended to determine whether or not it is appropriate to use analysis of variance, considering the assumptions that must be met. According to (Sutrisno Hadi, 1999) there are three assumptions that need to be met when using analysis of variance. The assumptions are:

- The subjects or individuals assigned to the research sample must be taken at random, separately from each other from each population.
- The distribution of the investigated symptoms in each population is normal.
- The variances or SD of each population do not show a significant correlation with one another.

Furthermore, he said that if the assumptions were not all fulfilled, the F values required in the table of F values could not be used in the original theoretical sense. If that the case, the practical use of the analysis of variance is even still great, if one or two assumptions have been fulfilled (Sutrisno Hadi, 1999). The results of the univariate analysis point out that the distribution of the frequency of symptoms and the difference in variance were normal. It's just by coincident in this study, that the individual subjects were not taken randomly, but purposively. In accordance with the opinion of Sutrisno Hadi stated above, the analysis of variance can be carried out. The following is a description of the data analysis in accordance with the research problems stated earlier in the research background.

- The correlation between learning achievement of students with the level of their attention and participation in following lectures.

Data related to this analysis are listed in appendix 2 (two). What is considered to solve the first problem, is the value of F and P between A. From the analysis of variance, it is found that the value of F is .496 with a probability of error (P).616. Since P is greater than .05, the correlation between learning achievement and the two samples is not significant. Thus, it can be concluded there is no significant

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correlation between learning achievement of students and their level of presence in attending lectures.

- The correlation between learning achievement of students and their intensity of attention and participation in following lectures.

For the purposes of this second data analysis, the values of F and P are seen between B. From the analysis of variance, the values of F .024 and P .616 are obtained. Because P is greater than .05, the correlation between learning achievement of students and the two research factors is not significant. Thus, there is no significant correlation between learning achievement of students and the intensity of attention and participation in following lectures.

#### 4. Conclusion

Based on the results of data analysis that has been presented in chapter IV, the conclusions are as follows: First, Learning achievement of the English Study Program Students, FKIP Riau University has no significant correlation with the level of their presence in classroom meeting with lecturers, regardless of whether they are classified as "very diligent, quite diligent and less diligent" in attending lectures. Second, Learning achievement of the English Study Program Students, FKIP University of Riau has no significant correlation with the level of their attention and participation intensity in following lectures. It is therefore clearly informed that the correlation between the presence and the intensity of attention of the English Study Program students of FKIP, University of Riau in following lectures is no significantly correlated with their learning achievement.

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