



The Effect of Pedagogic Competence and Visual Learning Style on the Learning Achievement of Economic Statistics of Economics

Alpian Putra Zega, Fachruddiansyah Muslim^(✉), and Iwan Putra

Universitas Jambi, Jambi, Indonesia
fachruddiansyah.muslim@unja.ac.id

Abstract. This study aims to identify and analyze whether there is an influence between: (1) Pedagogic Competence on Economic Statistics Learning Achievement; (2) Visual Learning Style on Economic Statistics Learning Achievement; (3) Pedagogic Competence and Visual Learning Style on Economic Statistics Learning Achievement. This research is a quantitative research with a quantitative descriptive approach. The research data was obtained by using a Likert scale measuring instrument questionnaire. The research subjects were students of economics education class of 2018. The results showed that: (1) there was no significant effect of pedagogical competence on learning achievement in economic statistics, it was known that the t count $< t$ table was $1.118 < 2.002$ and the sig. > 0.05 , namely $0.268 > 0.05$, then H_0 is accepted and H_a is rejected; (2) there is no significant effect of visual learning style on learning achievement in economic statistics. $0.158 > 0.05$ then H_0 is accepted and H_a is rejected; (3) there is no significant effect of pedagogic competence and visual learning style on learning achievement in economic statistics, it is known that the F count $< F$ table is $1,554 < 3,156$ and the sig. ie $0.220 > 0.05$ then H_0 is accepted and H_a is rejected. Furthermore, the test results for the coefficient of determination are 0.052 or 5.2% . So it can be concluded that 5.2% of Economic Statistics Learning Achievement is influenced by Pedagogic Competence and Visual Learning Style, the remaining 94.8% is influenced by other factors not explained in this study.

Keywords: Achievement Study Statistics Economy · Competence Pedagogic · Visual Learning Style

1 Introduction

In Rusman's book (2017: 1), learning is essentially the process of individual student interaction with all situations around them. Learning can be seen as a process of doing through various experiences and processes that are directed to the goal. Learning is also a person's knowledge process activity in seeing, observing, reasoning, trying, communicating, and understanding something.

Learning achievement is the final achievement of student abilities given by lecturers as a form of formulation to reflect their learning outcomes (Takrim and Reymond,

2020). Learning achievement According to Syah (2013) which explains that indicators of student success in learning can be in the form of a number scale, or a letter scale during the teaching and learning process.

In the National Education System, article 28 paragraph 3 point which states (a), pedagogical competence is the ability of teachers/lecturers to manage student learning which includes understanding students, designing and implementing learning, evaluating learning outcomes and developing students to actualize various its potential.

According to Ula (in Rambe Malim Soleh and Yarni Nevi, 2019: 294), visual learning style is a way of learning students by using their sense of sight to be able to see something, either through pictures or diagrams, shows, demonstrations, television films, or videos.

This study aims to find out and analyze whether there is an effect of pedagogic competency on economic statistics learning achievement, the effect of visual learning styles on economic statistics learning achievement, and the influence of pedagogic competence and visual learning style on economic statistics learning achievement.

2 Research Methods

This study uses a quantitative research method with a quantitative descriptive approach. According to Anwar Sanusi (in the book Ma'rifat Abdullah, 2015: 30) descriptive research design is a research design that is structured in order to provide an overview of scientific information originating from subjects or research objects in a systematic manner. Quantitative research methods can be interpreted as research methods used to examine certain populations or samples, sampling techniques are generally carried out randomly, data collection uses research instruments, analysis is quantitative/statistical in nature with the aim of testing predetermined hypotheses based on the philosophy of positivism (Sugiyono, 2015: 14). This research was conducted on economics education students class of 2018 FKIP Jambi University with a total population of 60 people. Population is the determination of the object/subject of research by looking at the general area or generalization which consists of: how much quantity and certain characteristics can be studied by researchers so that conclusions can then be drawn (Sugiyono, 2019: 126).

The data collection technique in this study used a questionnaire filled out with a *Google form* and distributed to respondents, using a Likert scale measuring instrument (Table 1).

Data analysis in this study used descriptive statistical analysis, validity and reliability tests, normality tests and linearity tests, multicollinearity tests and heteroscedasticity

Table 1. Likert scale

No	Alternative Answers	Score
1.	Strongly agree	4
2.	Agree	3
3.	Don't agree	2
4.	Strongly Disagree	1

tests, as well as multiple linear regression tests, partial tests (t test), simultaneous tests (F test), and coefficient of determination (R^2) using the help of IBM SPSS *Statistics 21* software. The variables in this study are: Pedagogic Competence (X1), Visual Learning Style (X2), and Economic Statistics Learning Achievement (Y).

3 Results and Discussion

1. The Influence of Pedagogic Competence on Learning Achievement in Economic Statistics of Economics Education Students of FKIP Jambi University Class of 2018

Based on the data obtained and analyzed by researchers through a questionnaire of 60 respondents from Economics Education FKIP Jambi University Class of 2018. Each answer from respondents who chose to strongly agree was given a score of 4, agreed to be given a score of 3, disagreed was given a score of 2, and strongly disagreed was given a score 1. Based on research data processing, the lowest score is 37 and the highest score is 80. The results of calculating the distribution of these scores produce an average score of 64.38 and a standard deviation of 8.971.

Answered that the pedagogic competence which was classified as very high was 26 people with a percentage of 43.33%. While those who answered pedagogic competence were classified in the high category, namely 20 people with a percentage of 33.33%. Furthermore, for respondents who answered pedagogic competence in the low category, there were 10 people with a percentage of 16.66%. Then the answers of respondents belonging to very low pedagogic competence were 4 people with a percentage of 6.66%.

To answer the first problem formulation, namely the effect of Pedagogic Competence (X1) on Economic Statistics Learning Achievement (Y) of Economics Education students. This can be proven from the results of testing using the help of IBM SPSS *Statistics 21.0* software showing that the t value of Pedagogic Competence on Economic Statistics Learning Achievement is 1.118 while the value of t table is 2.002 therefore the result is that $t_{count} < t_{table}$ is $1.118 < 2.002$ with a significance value of 0.268 which means greater than 0.05 ($0.268 > 0.05$). So it can be concluded that H_0 is accepted and H_a is rejected and there is no positive and significant influence between the Pedagogical Competency variable (X1) on the Economic Statistics Learning Achievement variable (Y).

According to Mulyasa (2012: 26), teacher/lecturer competence is a combination of personal, scientific, technological, social, and spiritual abilities which broadly form the standard competence of the teaching profession, which includes mastery of material, understanding of students, educational learning, development personal, and professionalism.

This research is in line with that conducted by Tri Mardiana, M. Ihsan Dacholfany, and Sutrisni Andayani (2022), with the research title "*The Influence of Learning Media and Teacher Pedagogic Competence on Student Learning Outcomes at SMA NEGERI 1 LABUHAN RATU LAMPUNG TIMUR LAMPUNG*". The results of this study indicate that there is no positive relationship between pedagogical competence and student learning outcomes with sig. of 0.581 greater than 0.05 (sig. Value $0.581 > 0.05$), and other previous research that is in line, namely that conducted by Asro and Muna (2019) with the research title "*The Influence of Teacher Pedagogic Competence and Utilization*

of Learning Media on Outcomes Studying Fiqh at MA Darussalam Krempayang Nganjuk". The results of his research show that there is no influence between the pedagogic competency variable (X1) and the learning outcomes of Fiqh (Y) at MA Darussalam Krempayang Nganjuk.

2. The Influence of Visual Learning Style on Economic Statistics Learning Achievement of Economics Education Students

Based on the data obtained and analyzed by researchers through a questionnaire of 60 respondents from Economics Education FKIP Jambi University Class of 2018. Each answer from respondents who chose to strongly agree was given a score of 4, agreed to be given a score of 3, disagreed was given a score of 2, and strongly disagreed was given a score 1. Based on research data processing, the lowest score is 38 and the highest score is 145. The results of calculating the distribution of these scores produce an average score of 69.63 and a standard deviation of 13.293.

Answered the visual learning style belonging to the very high category were 1 person with a percentage of 1.66%. While those who answered the visual learning style belonged to the high category, namely 1 person with a percentage of 1.66%. Furthermore, for respondents who answered visual learning styles in the low category, there were 44 people with a percentage of 73.33%. Then the answers of respondents who answered the very low category of visual learning styles were 14 people with a percentage of 23.33%.

To answer the second problem formulation, namely the effect of Visual Learning Style (X2) on Economic Statistics Learning Achievement (Y) students of economics education. This can be proven from the test results using the help of IBM SPSS *Statistics 21.0* software showing that the t-count value of Visual Learning Styles on Economic Statistics Learning Achievement is -1.431 while the t-table value is 2.002. Therefore, the result is that the t-count < t-table, namely $-1,431 < 2.002$ with a significance value of 0.158 which means greater than 0.05 ($0.158 > 0.05$). So it can be concluded that H_0 is accepted and H_a is rejected and there is no positive and significant influence between the Visual Learning Style variable (X2) on the Economic Statistics Learning Achievement variable (Y).

According to DePorter (1999), visual learning style is an understanding that can be seen from the main quality of using learning modalities with visual retrieval styles using the power of detection of the sense of sight (eyes). Non-verbal communication or presenting performances through the instructor, charts, books, or pictorial recordings of the course, so they can see very well the extent of position or district, shape, number, and tone, they think it's easier to remember what they saw, it is an example of understanding students who have a visual learning style.

This research is in line with previous research conducted by Mita Dwi Putri R, (2019) with the research title "*The Influence of Learning Styles on Learning Achievement of Class VIII Students in SKI Subjects at MTs Sunan Giri, Kediri Regency, Academic Year 2018/2019*". The results of his research showed that there was no significant and positive influence between the visual learning style variables on the learning achievement of class VIII students in SKI subjects at MTs Sunan Giri, Kediri Regency with a sig. 0.596 is greater than 0.05 (sign. Value $0.596 > 0.05$) then H_0 is accepted and H_a is rejected.

3. The Effect of Pedagogic Competence and Visual Learning Style on Economic Statistics Learning Achievement of Economics Education Students of FKIP Jambi University Class of 2018

Based on the data obtained and analyzed by researchers through a questionnaire of 60 respondents from Economics Education FKIP Jambi University Class of 2018. Each answer from respondents who chose to strongly agree was given a score of 4, agreed to be given a score of 3, disagreed was given a score of 2, and strongly disagreed was given a score 1.

The results of the analysis using IBM SPSS *Statistics* 21.0 show an average value of 69.97 and a standard deviation of 7.544. Economic statistics learning achievement belonging to the very high category is a number of 26 people with a percentage of 43.33%. While the learning achievement of economic statistics is classified as high, namely 33 people with a percentage of 55%. Then the learning achievement of economic statistics which belongs to the low category does not exist or is zero (0). Furthermore, the learning achievement of economic statistics which is classified as a very low category is 1 person with a percentage of 1.66%.

To answer the third problem formulation, namely the effect of Pedagogic Competence (X1) and Visual Learning Style (X2) on Economic Statistics Learning Achievement (Y) students of economics education. This can be proven by the test results using the help of IBM SPSS *Statistics* 21.0 software showing that the calculated F value of Pedagogic Competence and Visual Learning Style on Economic Statistics Learning Achievement is 1.554 while the F table value is 3.156 and the significance value is at 0.220. Because the calculated F value < F table is $1,554 < 3,156$ and a significance value of $0,220 > 0.05$. So it can be concluded that there is no significant influence between Pedagogic Competence and Visual Learning Style on Economic Statistics Learning Achievement so that H_0 is accepted and H_a is rejected. Furthermore, the test results for the coefficient of determination (R^2) are 0.052 or 5.2%. So it can be concluded that 5.2% of Economic Statistics Learning Achievement is influenced by Pedagogic Competence and Visual Learning Style, the remaining 94.8% is influenced by other factors not explained in this study.

Darmadi (in Setiawan, 2015: 14) states that “learning achievement is a student obtaining a skill or success from an activity and learning process so that in a student the student experiences a change in behavior according to the learning competence he is doing”. The origin of the word achievement is from the Dutch language which means *prestatie*, then in Indonesian it becomes a meaningful achievement, the result of effort. In human life, at a certain level and type, the presence of learning achievement can provide certain satisfaction to humans, such as attitudes, interests, values, and changes in their abilities, namely increasing the ability to carry out various types of performance (performance).

4 Conclusion

From the results of data analysis and discussion, it can be concluded as follows:

1. The results of this study show that there is no significant effect of pedagogical competence on the learning achievement of economic statistics students of economics education at the Jambi University FKIP. Which is indicated by the results of the t

test indicating that the value of $t \text{ count} < t \text{ table}$ is $1,118 < 2.002$ with a significance value of $0.268 > 0.05$ then H_0 is accepted and H_a is rejected. So that if the pedagogic competency variable is increased, there will be no increase in economic statistics learning achievement.

2. The results of this study indicate that there is no significant effect of visual learning style on the economic statistics learning achievement of students of economics education at the Faculty of Teacher Training and Education, University of Jambi. Which is indicated by the results of the t test indicating that the value of $t \text{ count} < t \text{ table}$ is $-1,431 < 2.002$ with a significance value of $0.158 > 0.05$ then H_0 is accepted and H_a is rejected. So if the visual learning style variable is increased, there will be no increase in economic statistics learning achievement.
3. The results of this study indicate that there is no significant effect of pedagogical competence and visual learning style on the learning achievement of economic statistics students of economics education at the Faculty of Teacher Training and Education, University of Jambi. Which is shown by the results of the F test shows that the value of $F \text{ count} < F \text{ table}$ is $1,554 < 3,156$ and the significance value is $0,220 > 0.05$ then H_0 is accepted and H_a is rejected. Furthermore, the test results for the coefficient of determination are 0.052 or 5.2%. So it can be concluded that 5.2% of Economic Statistics Learning Achievement is influenced by Pedagogic Competence and Visual Learning Style, the remaining 94.8% is influenced by other factors not explained in this study. So that if the pedagogic competence and visual learning style variables are increased, there will be no increase in economic statistics learning achievement.

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