

Correlation Between EFL Students' Learning Styles and Academic Achievements

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ABSTRACT

A student's learning style is the most important factor that affects the way a student learns, completes tasks, learning motivation, learning concentration, and thinking ability. There are different types of learning styles including visual, auditory, and tactile learning styles. The researchers intended to investigate the relationship between learning styles and academic achievement of ELT course students. To obtain the student learning style score, the researchers used a questionnaire (adopted from the University of Texas Learning Center, 2006). And in terms of collecting data in Academic Achievement the researchers collect the GPA from recording student GPA. The results of the above calculations show that from a total sample of 30 students, based on the calculated r-value (Pearson correlation), it is known that the calculated r-number for the relationship between learning style (X) and academic performance (Y) is responsible) If $0.987 > r$ Table 0.361, it can be concluded that there is a relationship between learning style variables and academic performance variables. As proof of this, the average value of auditory learning style is 24,93. Although students tend to have different learning styles, audio-based activities are the most popular among them.

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1. INTRODUCTION

In the learning process, there needs to be an action that can help the learning process run well, therefore several strategies are needed to support the learning to run according to the learning target. In addition, students' learning style is the most important factor that affects the way students learn, complete tasks, learning motivation, learning concentration, and skills in thinking. Effective education must pay attention to students' learning styles. Teachers can use various learning strategies that are tailored to students' learning styles. There are several types of learning styles commonly identified, including visual, auditory and tactile learning styles.

Visual learning style is make us of all available study materials such as charts, maps, filmstrips, notes, and videos. Research has consistently shown the importance of visual learning styles in education. Caligaris (2015) and Aisami (2015) both emphasize the significance of visuals in enhancing learning, particularly for students with learning disabilities. Williams (2007) and O'Bannon (2006) take this a step further by proposing

practical applications of visual learning, such as in personalized e-learning systems and through the use of technology to support visual learning strategies.

An auditory learning style, also called acoustic learning, describes someone who learns by hearing and listening. They process information and retain knowledge most effectively when it is presented to them orally, rather than visually or through hands-on experience. According to McCarter (2008) found no link between learning style and the effect of auditory stimulation, with many participants preferring silence or finding specific sounds distracting. However, Moore (2007) and Robinson (1996) both highlighted the potential for auditory training to enhance language skills and improve speech-understanding skills in individuals with hearing loss. Gabay (2015) further explored incidental auditory category learning, suggesting that individuals can learn auditory categories without explicit instructions or feedback.

Tactile learning, also called kinesthetic learning, is a learning style in which individuals learn through touch, movement, creation and physical effort. They process information and gain understanding through action and experience, rather than just listening or observing. Research on tactile learning style has explored various aspects, including the differentiation of high and low tactile learners (Gadt-Johnson, 2000), autonomous acquisition of tactile exploratory skills (Pape, 2012), the development of a wearable vibrotactile feedback suit for improved motor learning (Lieberman, 2007), and the enhancement of tactile-based dexterity through visual incentives (Guzey, 2023). These studies collectively highlight the importance of understanding and catering to the unique learning needs of tactile learners, as well as the potential for technology to enhance their learning experiences.

Learning styles are different ways used by students to receive and process information provided by the teacher. Based on (Rachman et al, 2019) Learning style is the way students respond to and use stimuli consistently during learning. Learning styles can also be used to improve students' academic performance. By tailoring learning to students' learning styles, teachers can help students to learn more effectively and achieve better learning performance. Students with learning styles that suit them tend to achieve better academic performance than students with learning styles that do not suit them.

Good learning achievement shows that students master the lesson well. Good learning achievement can also help students continue their studies to a higher level. Learning achievement is the result of student learning in a subject or course. According to (Dahnisah, 2017) Learning achievement is the main factor that shows student performance as a result of the learning process. Learning achievement is very important because it prepares students for future careers. So that learning achievement can be a measure of the effectiveness of students in following the learning process.

However, there are several factors that make it difficult for students to receive information from teaching materials and make learning presentations decrease according to (Chatib (2012: 100) in Amin, 2013) many students fail to get information because of the mismatch between the way teachers teach and the way students learn besides that according to (Roswita, 2016) students will not learn material if they are not interested in it. therefore, students' learning styles are very dependent on the teaching methods applied by the teacher.

According to (Carol: 2009 In Dzul, 2019) says that students' learning style is an internal factor that is considered to be very influential on the success of learning a foreign language. This learning style includes students' preferences as well as their potential or tendency to use what they learn. Similarly, the statement (agustaleooky, 2019) states that Of course, developing students' learning styles will improve student achievement. Likewise, the opinion (halim et al, 2021) states that the learning style students use dominantly affects their learning outcomes.

According to (Retno, 2011) learning styles provide a meaningful relationship with learning achievement. This shows that learning style is one of the factors that greatly affects learning achievement, it is suggested that each student use a learning style that is in

accordance with the learning style so that it will have better achievement, as well as the opinion of (Sri, 2013) Student learning achievement is explained by learning style. the relationship between learning style and student learning achievement. To improve student learning achievement, students themselves should know their learning style, so that students do not misplace their learning style which is not in accordance with their actual learning style. apart from that according to (Rian, 2016) learning styles can increase student activity in learning. learning achievement can increase if the use of learning strategies and models can be applied properly by the teacher.

Based on research from (Oksatridywi, 2017) said, It was found that the visual learning style contributes the most to vocabulary achievement when it comes to learning styles. Contribution to the acquisition of vocabulary than both aural and tactile. Regarding the donation from vocabulary to visual learning style 78% of goals are met. It is also in line with the research result of the researcher (Hatim,2023) said, At Senior High School Nurul Huda, learning styles and pupils' success in learning English are positively and significantly correlated. This is demonstrated by the Chi Square analysis results, which showed that the significant value (sig.2-tailed) was 0,002, which is less than 0.05 (0,002<0,05). Therefore, the researchers want to investigate the research by formulating a research question "How is the correlation between EFL students learning style and Academic achievements? "

2. METHODS

This research is a quantitative study that uses a correlational design. This research uses convenience sampling. This research was conducted from December 2023 to January 2024 in the English department, at one of the universities in Riau. There are two variables in this study, namely student learning styles and academic achievement. The total sample was taken from 30 English education students as respondents. Data collection used a distributed questionnaire (adopted from University of Texas Learning Center, 2006) consisting of 24 statements. The instrument has been tested using descriptive statistics (using SPSS) with product moment correlation analysis. Descriptive statistics (Mean and Standard Deviation) were used to analyze the teachers' questionnaire scores.

2.1 Questionnaires Item Number

No	Types of Learning Style	Number of Items	Total Item
1.	Visual	2,3,7,10,14,16,19,22	8
2.	Auditory	1,5,8,11,13,18,21,24	8
3.	Tactile	4,6,9,12,15,17,20,23	8

2.2 Answer Table

Answer	Point
Often	5
Sometimes	3
Seldom	1

Both data from the questionnaire and the students' English grades were analyzed to know the correlation between learning styles and academic achievement by using Pearson product moment. Then, the result was interpreted using the score of r product moment proposed by (Best & Khan, 2013). Calculation of r correlation. After data collection is carried out, the next stage of the data is analyzed. The analysis technique uses descriptive analysis, namely the acquisition of a percentage because this research is descriptive and describes the independent variables and the dependent variable. Then to find out how the relationship of the independent variable (X) to the dependent variable (Y) is used the formula product moment (rxy). The rxy interpretation as stated in table 2.2. Interpretation

of the product moment correlation index with "r" listed in the table at the 5% significance level.

Table 2.3 Interpretation of Product Moment Correlation

No	Interval of coefficient	Level of Relationship
1.	0.00 – 0,199	Low
2.	0,20 – 0,399	Verry Low
3.	0,40 – 0,599	Middle
4.	0,60 – 0,799	Strong
5.	0,80 – 1,00	Verry Strong

3. FINDINGS AND DISCUSSION

3.1 How is the Correlation between EFL students learning Style and Academic achievements?

The study of 30 respondents from the English language education program resulted in the following findings. Based on the 24 statements in the questionnaire, it was found that 24,93 students were auditory learners, 24,33 were visual learners, and 23,20 students were tactile learners. The findings of this data indicate that audio learning is the method most frequently used by students. Based on the data, it appears that children prefer to learn through audio-based activities. Because of this trend, educators should modify their teaching methods so that students can better assimilate information in their own unique way. Recognize and be aware of each student's unique learning style.

Learning Style :

"Visual"

Descriptive Statistics

	Mean	Std. Deviation	N
Visual	24.3333	9.23387	30
Academic Achivement	345.4000	31.87540	30

Based on the table above, it can be seen that N = 30 respondents shows Mean for visual = 24.33 with Std. Deviation visual = 9.23 and Mean for Academic Achievement = 345,4 with Std. Deviation Academic Achievement = 31,875

Correlations

		Visual	Academic Achivement
Visual	Pearson Correlation	1	.024
	Sig. (2-tailed)		.899
	N	30	30
Academic Achivement	Pearson Correlation	.024	1
	Sig. (2-tailed)	.899	
	N	30	30

From the data analysis of visual learning styles (number N = 30 respondents) there is a value of r count = 0.899 > r table 0.361 so that there is a significant relationship between visual learning style and learning achievement by (0.899) or 89%.

Learning Style :
"Auditory"

Descriptive Statistics

	Mean	Std. Deviation	N
Auditory	24.9333	8.04699	30
Academic Achievement	345.4000	31.87540	30

Based on the table above, it can be seen that N = 30 respondents shows Mean for Auditory = 24.93 with Std. Deviation for Auditory = 8,04 and Mean for Academic Achievement = 345,4 with Std. Deviation for Academic Achievement = 31,875

Correlations

		Auditory	Academic Achievement
Auditory	Pearson Correlation	1	-.029
	Sig. (2-tailed)		.879
	N	30	30
Academic Achievement	Pearson Correlation	-.029	1
	Sig. (2-tailed)	.879	
	N	30	30

From the data analysis of visual learning styles (number N = 30 respondents) there is a value of r count = 0.879 > r table 0.361 so that there is a significant relationship between visual learning style and learning achievement by (0.879) or 87%.

Learning Style
"Tactile"

Descriptive Statistics

	Mean	Std. Deviation	N
Tactile	23.2000	7.25116	30
Academic Achievement	345.4000	31.87540	30

Based on the table above, it can be seen that N = 30 respondents shows Mean for Tactile = 23,20 with Std. Deviation for Tactile = 7,25 and Mean For Academic Achievement = 345,4 with Std. Deviation for Academic Achievement = 31,875

Correlations

		Tactile	Academic Achievement
Tactile	Pearson Correlation	1	.068
	Sig. (2-tailed)		.721
	N	30	30
Academic Achievement	Pearson Correlation	.068	1
	Sig. (2-tailed)	.721	
	N	30	30

From the data analysis of visual learning styles (number N = 30 respondents) there is a value of $r_{count} = 0.721 > r_{table} 0.361$ so that there is a significant relationship between visual learning style and learning achievement by (0.721) or 72%.

Pearson Product Moment

Learning styles towards student learning achievement

Descriptive Statistics

	Mean	Std. Deviation	N
Learning Style	2.9250	1.01741	30
Learning Achievement	3.4540	.31875	30

The SPSS output table display shows the number of respondents (N) is 30, the Mean value of 30 respondents for learning style is 2.925 with Std. Deviation 1.01741 and Mean Learning Achievement value 3.454 with Std. Deviation 0.31875

Correlations

		Learning Style	Learning Achievement
Learning Style	Pearson Correlation	1	-.003
	Sig. (2-tailed)		.987
	Sum of Squares and Cross-products	30.019	-.028
	Covariance	1.035	-.001
	N	30	30
Learning Achievement	Pearson Correlation	-.003	1
	Sig. (2-tailed)	.987	
	Sum of Squares and Cross-products	-.028	2.947
	Covariance	-.001	.102
	N	30	30

Interpretation of Correlation Test Results

The research was intended to test whether there was a relationship between learning style (X) and academic achievement. (Y). Statistical test results using Pearson Product Moment. How do you do the interpretation?. If a relationship is not equal to 0, then it can be said that there is a relationship. After that, the researchers calculated the average score of students' academic achievement and the results are presented below:

To find out whether there is a relationship between student learning styles and student learning outcomes, we need to formulate a research Hypothesis (conjecture) as follows.

H₀ = There is no correlation between EFL students learning style and their academic achievements

H_a = There is a correlation between EFL students learning style and their academic achievements

Regarding Academic achievement, pupils typically receive a score of 3.4540, which is regarded as quite high. It is reasonable to presume that the academic achievement of the students in the English Education Studies Program is exceptionally high. We used SPSS 20 to analyze the data and apply the Pearson Product Moment method to see whether there is a relationship between academic accomplishment and learning styles of students. This allowed us to address the first study question. The outcomes are displayed below.

The results of the above calculations show that from a total sample of 30 students, based on the calculated r-value (Pearson correlation), it is known that the calculated r count for the connection between Learning Style (X) and Academic Achievement (Y) If $0.987 > r_{table} 0.361$, it can be concluded that there is a relationship between Learning Style variables and Academic Achievement variables. indicating that the correlation is at the "Very Strong" level.

Thus the calculated r value of $0.987 > r_{table} 0.361$, then based on the basis of decision making through the comparison of the calculated r value with r table, it can be concluded that H₀ which says that there is no relationship between EFL students' learning styles and their academic achievement is rejected. therefore the researchers accepted H_a which states that there is a relationship between EFL students' learning styles and their academic achievement.

Discussion:

Based on the results of the research conducted, it can be concluded that there is a positive relationship between learning styles and student learning outcomes. This shows that students who have a learning style that suits them find it easier to learn and understand the material. Several explanations can be given for the connection between learning styles and learning success. First, learning style is a person's way of receiving, processing, and understanding information. When students use a learning style that suits them, the information they receive is easier to process and understand. This makes it easier for students to remember and understand the material.

Previous discussions have explained the results of student learning styles and their relationship to learning outcomes. Some studies have found that students who prefer to learn audio understand the material better. This is probably because they have a good ability to absorb information through hearing. According to Rossiter (2009), student-made audio recordings can enhance the learning process, especially for individuals with different learning styles. These results suggest a possible connection between audio-based learning and student performance. However, further research is needed to better understand this

connection. Dheghu (2021) and Harsa (2020) also found that the use of audio-visual aids and audio teaching media had a positive impact on students' listening skills and performance. Butter (1978) found that cognitive listening style is related to reading ability.

However, it is important to remember that preferences for learning styles do not always correlate directly with learning outcomes. Additional factors, such as motivation, teaching approach, and learning environment, are also important. As a result, further research is needed to comprehensively understand how audio learning styles can affect student academic outcomes. Elizalde (2022) offers a new method called CLAP. This method uses audio ideas from natural language surveillance and can excellent learning outcomes in a zero-shot and supervised learning environment. These advances can have a major impact on learning audio representation and its applications in various fields. First, learning style is a person's way of receiving, processing, and understanding information. When students use a learning style that suits them, the information they receive is easier to process and understand. This makes it easier for students to remember and understand the material.

4. CONCLUSION

Examining the complex relationship between learning styles and academic performance among third-semester students in an English Language Teaching (ELT) classroom reveals a complex interplay. As the study delves into the multifaceted connection between learning style preferences and these students' actual academic performance, one discernible connection becomes apparent. It becomes clear that learning style variables in the ELT context are closely linked to academic performance variables, highlighting the nuanced dynamics between individual learning preferences and students' third semester success. In conclusion, this research highlights the inherent and significant relationship between learning styles and academic performance of ELT students. The aforementioned research's findings support the conclusion that learning styles and learning success have a strong correlation, as evidence the mean score is 24,93. Although students tend to have multiple learning styles, audio-based activities are the most popular among them. depends on the information acquired during the process of teaching and learning. This study adds credence to some earlier findings suggesting a beneficial relationship between learning styles and academic achievement. As we consider the implications, it becomes clear that future research efforts could delve deeper into the specific mechanisms through which particular learning styles influence academic performance. Furthermore, examining the role of sociocultural factors in shaping learning preferences and outcomes represents an opportunity to enrich our understanding of the complex interplay between learning styles and academic success in ELT contexts.

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