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THE CORRELATION BETWEEN STUDENTS' LEARNING STYLE AND THEIR SPEAKING ACHIEVEMENT

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Abstract

The research context in this study is to find a correlation between students' learning styles and their achievement in speaking courses. This study aims to determine whether or not there is a correlation between students' learning styles (as variable X) and their achievement in speaking class (as variable Y) in odd-semester students in 2023 at Pattimura University. There were 54 students taken as the sample of this study who were determined by using simple random sampling. The collected data were analyzed by using Pearson Product Moment Correlation and the instruments used were students' speaking achievement and questionnaire. The results showed that the visual learning style had the highest mean value of the three types. Based on rxy: 0.624, the correlation between students' learning styles and their speaking achievement is strong. Speaking fluency is a key indicator of language learning, and understanding one's learning style can help students learn more efficiently and successfully.

Keywords: *Correlation, Students' Learning Style, Speaking Achievement.*

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INTRODUCTION

Speaking is a vital skill for effective communication and a cornerstone of teaching and learning (Syafrizal et al., 2020). It involves verbal information exchange, requiring speakers to use appropriate language and understand conversational meaning (Monica, 2022). Speaking, as a social activity, facilitates interaction through clear and structured elements that enhance comprehension (Latif, 2017). Developing oral communication skills is crucial for students, as speaking enables them to share and receive information effectively (Lakusa & Lewier, 2021).

Learning English as a foreign language becomes more accessible when students understand their learning styles. These styles—visual, auditory, and kinesthetic—reflect individual preferences in acquiring, processing, and retaining information (Marzulima et al., 2019). Learning styles shape how students perceive and respond to their learning environment, directly impacting their academic performance (Rahayu et al., 2022). According to Felder and Silverman (1988), these styles help students overcome challenges in learning by aligning educational approaches with their natural tendencies (Naenah, 2022).

Students' learning outcomes often depend on teaching methods that suit their preferences. While some students thrive with oral instruction, others benefit more from group discussions or hands-on activities. A successful learning process recognizes these differences, helping students achieve better comprehension and retention (Yuliani & Najmiah, 2019). The visual-

auditory-kinesthetic model is a widely used framework for understanding learning preferences and tailoring teaching strategies to individual needs (Suaib, 2017).

By leveraging their preferred learning styles, students can better engage with lessons and enhance their academic success. Effective teaching methods should align with these preferences to support comprehension and retention (Yuliani & Najmiah, 2019). Whether through visual aids, auditory explanations, or kinesthetic activities, addressing learning styles ensures a more inclusive and impactful educational experience, enabling students to thrive in their language-learning journey.

The researcher conducted a preliminary study involving students from the 2019 and 2020 classes of Pattimura University's English Education Study Program to determine if they could identify their learning styles. Among fifteen participants who responded to interviews, thirteen stated they knew their preferred learning methods, with most using multiple strategies to study the same material. The findings suggested that recognizing one's learning style could enhance students' fluency in speaking.

Several related studies explored learning styles and their impact. Tyas & Safitri (2017) examined kinesthetic learning preferences, revealing that students learned more effectively when physically engaged in classroom activities such as experiments, field trips, and role-playing. They also preferred group work. Meanwhile, Sunaidah, Simaibang, and Mulyadi (2021) investigated the correlation between learning styles, motivation, and speaking ability among eleventh-grade students at MAN 1 Musi Banyuasin Sekayu. Their findings showed no significant relationship between these factors. In contrast, Rahayu, et.al. (2022) found a strong correlation between learning styles and speaking abilities among eleventh-grade students at SMA N 4 Palembang, based on mean interview and oral test scores discussing virtual classroom topics.

These studies focus on various aspects of learning styles, such as identifying predominant styles, classifying students' preferences, and designing suitable teaching methods and materials. While previous research primarily examined learning styles and their identification, the current study investigates the relationship between Visual, Auditory, and Kinesthetic (VAK) learning styles and students' speaking achievements at English Education Study Program, Faculty of Teacher Training and Educational Sciences, Pattimura University.

METHODOLOGY

This study used a quantitative approach with a correlational design to examine the relationship between two variables: learning style (X) and professional speaking English achievement (Y). Correlational studies analyze relationships between quantitative variables in natural settings (Lau, 2017 & Gürler, 2015). Recognizing one's learning style helps students better understand lessons compared to those unaware of their preferences.

The research was conducted at the English Education Study Program, Campus B FKIP, Pattimura University, Ambon, during the odd semester of 2023. The population included students from the 2019 and 2020 classes who had completed the professional speaking class, with 54 active students across two classes. Using simple random sampling (Sugiyono, 2017),

35 students (13 from Class A and 22 from Class B) were randomly selected as the study sample, meeting the minimum sample size for correlational research (Wiyadi, 2009).

This study utilizes two main instruments: a questionnaire and professional speaking achievement scores. The questionnaire, adopted from the University of California, Merced, Student Advising and Learning Center, assesses students' learning styles—Visual, Auditory, or Kinesthetic—through 19 closed-ended items scored using a Likert Scale, following Husaini (2006). Respondents choose from predefined options, as highlighted by Dornyei (2003). The second instrument is professional speaking achievement scores, derived from students' final class grades. These scores measure speaking performance and are based on tests designed by subject experts, as suggested by Harmer (2012), with data collected from lecturer records.

This study employs both descriptive and inferential statistical analyses, using SPSS version 25 for data processing. Descriptive statistics summarize data on students' learning styles and professional speaking achievements, focusing on measures like mean, standard deviation, and percentages to classify scores as low, medium, or high.

Table 1. Student's final score distribution

Range	Frequency	Category	Description
85 – 100	18	A	Excellent
70 – 84	15	B	Good
55 – 69	2	C	Enough
40 – 54	0	D	Poor
0 – 39	0	E	Very Poor

Inferential statistics, including the Pearson product moment and multiple correlation formulas, test hypotheses about the correlation between learning styles and English-speaking skills. The analysis requires data to meet assumptions of linearity and normal distribution before further testing.

The Formula of Pearson Product Moment Correlation Coeficient

$$r = \frac{N \Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{N \Sigma X^2 - (\Sigma X)^2)(N\Sigma Y^2 - (\Sigma Y)^2}}$$

To interpret the index score of '*r*' correlation product moment (rxy), it usually uses the interpretation proposed by Akoglu (2018). Table 2.

Table 2. Interpretation score of r correlation product by Akogulu (2018)

Correlation Value	Relationship Level
0,00 – 0,199	None correlation
0,20 – 0,399	Very weak correlation
0,40 – 0,599	Moderate correlation
0,60 – 0,799	Very strong correlation
0,80 – 1,00	Perfect correlation

RESULT AND DISCUSSION

3.1. Student's learning style (X) variable description

Table 3 explain about Visual learning style. It relies on sight, with students gaining knowledge through materials like photographs, graphs, maps, posters, and graphics. Table 4.1 highlights key aspects: 19% of students often prefer written information and visual aids, 18% usually use posters and models in class, and 17% usually require diagrams and visual directions. Additionally, 21% often prefer reading to learn about interesting topics, while 17% frequently excel in solving puzzles and mazes. The mean score for visual learners is 109.5, with 14 students identified as having this dominant learning style. This indicates a strong preference for written and visual materials, as they are easier to understand and recall by visualization.

Tabel 3 . The questionnaire result of visual learning sStyle

No	Item	1	2	3	4
2	I prefer to see information written on the board and supplemented by visual aids and assigned readings.	1	3	12	19
4	I prefer to use posters, models, or actual practice and other activities in class	0	4	13	18
5	I require explanation of diagrams, graphs, or visual directions.	4	12	2	17
9	I can easily understand and follow directions on a map.	0	1	17	17
11	I think the best way to remember something is to picture it in my mind.	8	15	1	11
14	I am good at working and solving jigsaw puzzles and mazes.	4	12	2	17
17	I prefer obtaining information about an interesting subject by reading about it.	0	4	10	21

Moreover table 4 explain that auditory learning involves acquiring knowledge through hearing, such as listening to lectures, discussions, or conversations. Table 4 highlights key aspects: 57% of students often remember best through lectures, 54% learn spelling better by repeating words aloud, and 43% prefer listening to speeches over reading the material. Additionally, 40% sometimes prefer listening to news over reading it, and 37% feel oral directions are better than written ones. The auditory learning style has a mean score of 106.6, with 11 students identifying as auditory learners. This suggests they recall information more effectively through listening and prefer oral communication to written materials.

Table 4 . The questionnaire result of auditory learning style

No	Item	1	2	3	4
1	I can remember best by listening to a lecture that includes information, explanations, and discussions.	0	6	9	20
10	I learned to spell better by repeating words out loud than by writing the words on paper.	1	5	10	19
13	I would rather listen to a good lecture or speech than read about the same material.	1	9	10	15
16	I prefer listening to the news on the radio or online rather than reading about it in a newspaper or on the internet.	8	14	3	10
19	I feel oral directions are better than written ones.	3	9	10	13

The explain of table 5 about result of kinesthetic learning style where involves acquiring knowledge through action, touch, and hands-on practice. It highlights key aspects: 63% of students always take notes for visual review, 74% enjoy working with their hands, and 48% are skilled in creating charts and graphs.

Additionally, 46% remember best by repeatedly writing things down, 40% often grip objects during learning, and 34% sometimes learn spelling through "fingerspelling." Ten students identify with this learning style, which has a mean score of 106.4. This suggests kinesthetic learners excel through active engagement, hands-on tasks, and physical interaction, such as taking notes or working with objects.

Table 5. The questionnaire result of kinesthetic learning style

No	Item	1	2	3	4
3	I like to write things down or take notes for visual review	0	5	22	8
6	I enjoy working with my hands or making things.	0	0	9	26
7	I am skillful with and enjoy developing and making graphs and charts.	6	9	3	17
8	I can remember best by writing things down several times.	1	4	14	16
12	I learn the spelling of words by "finger spelling" them.	7	12	5	11
15	I grip objects in my hands during learning periods.	2	10	9	14
18	I feel very comfortable touching others hugging, handshaking, etc.	5	10	10	10

Overall, students' learning methods are highly different in terms of assisting them to absorb the lecturer's information, and the Visual learning style is the favored learning style. The values obtained by this learning technique demonstrate this.

Table 6. The differentitation of 4 learning styles in absorbing lectures information

Learning Style	Students' Clasification	Mean
Visual	14	109,5
Auditory	11	106,6
Kinesthetic	10	106,4

The results as table 6 shows that the mean value of visual learning style is 109.5, and 14 students are recognized as having a visual learning style. The auditory learning style has a mean value of 106.6, with 11 students recognized as having this style. The kinesthetic learning style is represented by the mean value of 106,4 and 10 students.

3.1.1. Professional Speaking Grade Documentation (Y) Variable Description

The grade documentation of Professional Speaking class was used as the dependent variable in this research (Table 7). There were 35 respondents whose grades were obtained regarding their professional speaking achievement.

Table 7. Profesional speaking achievement score

Professional Speaking Achievement Score	
Mean	84,49
Standard Error	0,80
Median	85,00
Mode	89,00
Standard Deviation	4,74
Sample Variance	22,43
Kurtosis	1,83
Skewness	- 1,15
Range	21,00
Minimum	69,00
Maximum	90,00
Sum	2.957,00
Count	35

The median score of 85 indicates a high level of achievement, as it is close to the maximum score of 100. This suggests that most participants excelled in their listening class. Even the lowest score, 69, reflects above-average performance, significantly higher than the minimum possible score. The students' scores will be categorized as follows:

Table 8. The descriptive analysis of professional speaking achievement

No.	Class Interval	Category	Frequency	%
1	85 – 100	A	18	51%
2	70 – 84	B	15	43%
3	55 – 69	C	2	6%
4	40 – 54	D	-	-
5	0 – 39	E	-	-

The descriptive analysis of professional speaking achievement (table 8) shows that 18 students (51%) received an A, 15 students (43%) received a B, and 2 students (6%) received a C. This indicates that most students achieved high scores in professional speaking.

3.2. The Requirement test of data analysis

Before hypothesis testing, the data must meet the requirements of normality and linearity. A normality test will be conducted using the Kolmogorov-Smirnov method, while linearity will be analyzed with SPSS version 25. Explanantion of the results are in table 9 below.

Before performing a simple linear regression analysis, its assumptions must be tested. A normality test is conducted using the One-Sample Kolmogorov-Smirnov Test. If the p-value is less than 0.05, the distribution is considered abnormal; if it is greater than 0.05, the distribution is deemed normal. The results can be seen in table 7, the significance value (asymp. sig. (2-tailed)) is 0.096 which is higher than α (0.05). Which means that the distribution of the learning style (X) and student English speaking achievement (Y) are normally distributed.

Table 9. The result of one-sample Kolmogorov-Smirnov test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		35
Normal Parameters[a,b]	Mean	.0000000
Normal Parameters[a,b]	Std. Deviation	4.05039966
Most Extreme Differences	Mean	.0000000
	Absolute	.137
	Positive	.099
	Negative	-.137
Test Statistic		.137
Asymp. Sig. (2-tailed)		.096[c]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

Linearity testing is essential in this research to assess whether the independent and dependent variables have a linear relationship. This is determined by the significance value (sig) for the deviation from linearity between variables X and Y. A sig value > 0.05 indicates a linear-relationship, while a value < 0.05 suggests non-linearity. The linearity test results are as follows:

Table 10. Result of the linearity test

ANOVA Table

			Sum of Squares	Df	Mean Square	F	Sig
Students' Achievements * Learning Style	Between Groups	(Combined)	543.793	16	33.987	2.794	.019
		Linearity	204.948	1	204.948	16.849	.001
		Deviation from Linearity	338.845	15	22.590	1.857	.106
	Within Groups		218.950	18	12.164		
	Total		762.743	34			

Based on the results of table 10, of the linearity test above, the sig value is known. The deviation from linearity is 0.106 which is significant, meaning that the result can be said to be higher than 0.05 and states that these two variables have a linear relationship or can be called the Learning Style (X) variable and the Professional Speaking Achievement (Y) variable has a linear relationship.

3.3. Result of hypothesis testing

The hypothesis testing was used to test the correlation between X (Learning Style) and Y (Speaking Achievement) (Table 10). This section was arranged to answer the research question of this study.

Table 11. Result of hypothesis testing

RQ: Research Question	Is there any correlation between learning style and students' achievement in Professional Speaking class?
H_0: Null Hypothesis	There is no correlation between students' learning style and professional speaking achievement.
H_1: Alternative Hypothesis	There is a correlation between students' learning style and professional speaking achievement.

Table 12. The result of correlation analysis of pearson product moment to the variable X and Y.

Correlations

		Learning Style	Speaking Achievements
Learning Style	Pearson Correlation	1	.624**
	Sig. (2-tailed)		.000
	N	35	35
Speaking Achievements	Pearson Correlation	.624**	1
	Sig. (2-tailed)	.000	
	N	35	35

**. Correlation is significant at the 0.01 level (2-tailed).

Based on the table 12, Variable X (learning style) has a significance value of 0.000, which is < 0.05, indicating a significant relationship with variable Y (professional speaking achievement). Variable X also has a Pearson Product Moment value of 0.624, which falls within the range of 0.60–0.799, signifying a very strong correlation between the two variables.

3.4. English study program student's learning styles

The findings show that the visual learning style has the highest mean score (109.5) among the three styles, with 14 students identified as visual learners. This is followed by the auditory

learning style (mean 106.6, 11 students) and the kinesthetic style (mean 106.4, 10 students). Learning styles are crucial as individuals process information differently-some learn best through seeing, others through hearing, and some through hands-on experiences (Karapetyan, 2022). Understanding one's learning style can improve efficiency and success in learning, as noted by Rachman et al. (2019). Teachers or Lectures can enhance Students' comprehension by using varied teaching approaches that cater to diverse learning preferences.

In speaking classes, learning styles significantly impact language mastery and communication skills. Visual learners, as highlighted by Marzulima et al., (2019), prefer written and visual information, maximizing their ability to see and recall details. This is evident in their superior mean score. Recognizing and utilizing one's learning style can make learning English easier and more effective, as supported by Mahu (2012). Addressing these styles in teaching strategies ensures that students receive information in ways that align with their preferences, leading to better outcomes.

3.5. English study program student's professional speaking achievement

Speaking is a key indicator of language learning, as proficiency in using the target language demonstrates fluency and progress (Oktavia & Lestari, 2022). However, speaking is also one of the most challenging aspects of language interaction (Abrar, Mukminim, & Habibi, 2018). Effective speaking requires language proficiency and appropriateness. Maulidiyah (2020) highlights that students with suitable learning styles, particularly those aware of their own style, tend to achieve higher English-speaking proficiency. Among these, the visual learning style appears most effective in achieving high scores in professional speaking classes.

Omar et al., (2015) emphasize that effective learning styles contribute to academic success, including English achievement, which encompasses both communicative and linguistic competence. This is assessed through language tests covering various skills and components. In this study, 51% of participants received an A, 43% received a B, and 6% received a C in professional speaking, with a mean score of 85. Notably, 18 students scored above the average, further illustrating the impact of effective learning styles on academic performance.

3.6. The correlation between English study program students' learning style and their professional speaking achievement.

The findings indicate that the learning style (X) and professional speaking achievement (Y) variables follow a normal distribution and demonstrate a linear relationship. The correlation coefficient (rxy: 0.624) suggests a strong positive correlation, meaning students' learning styles significantly influence their professional speaking achievement. Cohen et al., (2005) explains that a positive correlation occurs when both variables increase or decrease in tandem. This research confirms the rejection of the Null hypothesis (H_0) and the acceptance of the Alternative hypothesis (H_1), establishing a meaningful link between learning style and speaking performance.

Learning styles, which involve different methods of acquiring and processing information, help students better understand English when tailored to their preferences (Felder & Silverman, 1988). Similar studies by Rachman et al. (2019) and Afshar & Bayat (2018) also report significant positive correlations between learning styles and English achievement. Students who recognize and apply their preferred learning methods tend to excel, as seen in their professional speaking class outcomes. These findings resonate with how tailored approaches-

like designing apps for specific needs can lead to greater success, much like crafting educational strategies around individual learning styles.

CONCLUSION

This study concludes that the visual learning style is the most dominant among students and is recommended for professional speaking classes. Students' speaking achievement was excellent, with an average score of 85, falling within the A grade range (85–100). The study also found a significant correlation ($r = 0.624$, $p = 0.00$) between students' learning styles and their speaking achievement, indicating that recognizing one learning style can improve understanding and performance. The null hypothesis (H_0) was rejected, and the alternative hypothesis (H_1) was accepted. Based on the findings, the researcher suggests that students should identify and utilize their preferred learning styles to enhance comprehension and achieve higher scores. Lecturers can use these results as a reference to tailor teaching strategies in speaking classes. Future researchers are encouraged to explore learning styles further, including VARK models, to understand other factors influencing students' academic success.

ETHICAL STATEMENTS

This study was conducted in accordance with established ethical principles, including informed consent, protection of informants' confidentiality, and respect for local cultural values. Special thanks was given to participants in this study. There was no conflict of all people mentioned in this research. All data and information presented were collected through valid research methods and have been verified to ensure their accuracy and reliability. The use of artificial intelligence (AI) was limited to technical assistance for writing and language editing, without influencing the scientific substance of the work. The authors express their gratitude to the informants for their helps, support and to the anonymous reviewers for their constructive feedback on an earlier version of this manuscript. The authors take full responsibility for the content and conclusions of this article.

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