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ACADEMIC SUCCESS OF STUDENTS IN VOCATIONAL EDUCATION IN THE COVID-19 ERA: LEARNING STYLE PREFERENCES

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Abstract

This essay examines the various learning styles that students can choose from, depending on their preferences. In the COVID-19 era, lectures have been discontinued in classrooms all across the world, but the teaching and learning process is still possible through online platforms. There are learning types with unique characteristics that like to work alone or in groups, as well as visual, auditory, tactile, and kinesthetic learning styles. While some students will adjust to the lecturers' teaching approach, it can be challenging for lecturers to accommodate each student's unique learning preferences. In order to accommodate various student learning styles, lecturers must create their instructional materials in this manner. This article's goals are to: 1) describe and classify the idea of learning styles; 2) emphasize the significance of determining the research participants' preferred learning styles; and 3) emphasize that if a lecturer's teaching style reflects the preferences of the student's preferred learning style, the student's learning outcomes will be enhanced. In this study, a survey, a mix of quantitative and qualitative approaches, as well as questionnaires, are used to gather data on the four preferred learning styles. As a consequence, the majority of participants favored the kinesthetic learning strategy in both solo and group work. In this study, a survey, a mix of quantitative and qualitative approaches, as well as questionnaires, are used to gather data on the four preferred learning styles. As a consequence, the majority of participants favored the kinesthetic learning strategy in both solo and group work.

Key words: *COVID-19, learning style preferences, meta cognition, meta memory, vocational education*

Introduction

Everyone will have different learning preferences. It's critical to pay attention to how children acquire, analyze, organize, and manage information. Success in learning can be influenced by preference factors. Therefore, for efficient teaching and learning in the classroom, lecturers must help students recognize their preferred learning styles. However, considering that the COVID-19 pandemic is presently occurring, lecturers' awareness of and capacity to meet the needs of students in terms of learning should be highlighted. Each student must be aware of their personal traits and preferred learning method. Because different student learning styles call for the creation of specialized learning resources to fulfill their demands, lecturers should be aware of their students' preferred learning styles.

To find out what methods and learning styles exist, the following questions are posed: Do male and female students prefer different learning styles in significant

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amounts? Are there any conclusive links between preferred learning styles and academic success and subject of study (Grade Point Average/GPA)?

Participants in this study came from the five majors of mechanical engineering, electrical engineering, civil engineering, business administration, and accounting at Politeknik Negeri Semarang (hence referred to as Polines). This study set out to identify students' methods and learning preferences for learning English in accordance with their learning requirements.

The findings of this study are expected to improve students' capacity to use strategic preferences and learning styles that are inherent in themselves so that learning objectives align with lecturers' teaching styles, particularly in learning and teaching English as a form of learning outcomes supported by students' autonomous learning.

The choices students make about their learning styles have far-reaching consequences in their life. Students can incorporate their unique learning style into their learning process once they are aware of it. Learning becomes more enjoyable, faster, and more efficient as a result (Awla, 2014). Teachers should also aim to adjust their teaching approaches to their pupils' learning styles. According to Peacock (2001),

> "lecturers should adopt a balanced teaching approach that does not disproportionately favour any one learning style-but tries to accommodate a diversity of learning styles."

Professors "should employ a balanced teaching strategy that does not disproportionately favor any one learning style-but attempts to accommodate a diversity of learning styles."

For instance, "I like to do stuff in class to learn," Tactile students enjoy hands-on activities such as manipulating objects or taking notes. When I make something for a class project, I learn more. for instance. Students that like to study in groups are expressing their preference for learning with others, and group interactions aid in their learning. Working in groups helps students learn in the classroom more effectively. Individual pupils may prefer to read for pleasure or to learn independently.

Peacock's classification of learning preferences

Visual learners

How to Spot Visual Learners in a Classroom: Objects like pictures, diagrams, written directions, and so forth are often examined and studied by visual learners. This is also known as having a "spatial" learning style. Students that learn by sight will find it easier to absorb information given graphically. Some students take notes, make lists, and sketch.

Serving visual learners: Whiteboards or smart boards are your closest friends while teaching this type of student. Allow students to doodle examples based on topics they are interested in, or ask them to draw diagrams and drawings on the board. Flyers should be produced and distributed often by lecturers who work with visually impaired students. Because they have visual signals in front of them, visual learners require more time to digest their content. As a result, allow pupils time and space to reflect on the subject.

Auditory learners

How to Identify Auditory Students in a Classroom Auditory learners learn more effectively when information is accompanied by sound. This sort of learner prefers to listen to lectures rather than study written notes, and they frequently utilize their own voices to reinforce new ideas and concepts. This type of student enjoys reading aloud to

themselves. They are good communicators who don't mind speaking out in class. They read slower and frequently repeat what their teacher says.

Because it might be challenging for auditory learners to concentrate for long periods of time, include these students in lectures by having them repeat new ideas back to you. Ask them questions and then let them react. Encourage group discussions so that people with both verbal and auditory processing abilities can understand the material being presented. Additionally helpful for this type of student are watching videos and listening to music or cassettes.

Kinesthetically oriented students

Kinesthetic learning is a natural learning style. When they are actively digesting information, they learn best. When they are physically active or partake in educational activities that call for active participation, they learn best. Since they learn by doing or experiencing things, kinesthetic students are also known as tactile students in this subject. They enjoy acting out scenarios or handling objects to comprehend concepts better. These kinesthetic learners often have trouble sitting still but succeed in physical activities like dancing or sports. They demand more frequent breaks from studying.

Getting these students engaged through chats, discussions, group work/simulations, and presentations is the greatest way for lecturers to aid in their learning.

Tactile Instructor

This sort of learner thinks that tactile learning is more closely related to physically using the body's large muscle groups whether walking, running, or jumping. dancing, etc., but tactile learning is connected to skin-related tactile feelings.

The Oxford list of learning preferences

Peacock departs from Oxford in classifying preferences for and strategies for learning styles (Oxford, 1990). Oxford defines the distinction between direct and indirect approaches (Oxford, 1990). Oxford's classification of language learning approaches, according to Jones (1990), is more extensive and accurate than previous models, while Oxford admits that there is no agreement on the definitions of the terms "direct" and "indirect," or the phrases "direct" and "indirect approach." What are the tactics, how many are there, and how are they defined, limited, and classified?

For this new terminology, memory techniques, cognitive strategies, and compensatory strategies are divided into three groups. Indirect language learning techniques, which "add indirectly but powerfully to learning," are further divided into three categories: metacognitive, emotional, and social strategies. Memory strategies such as making mental connections and employing actions, according to Oxford (1990), aid in storing knowledge in long-term memory and recovering it when needed for communication.

In order to receive and produce signals in the target language, as well as to shape and adjust internal mental modes, cognitive techniques like analyzing and reasoning are used. Learners use a variety of compensatory strategies when faced with language activities that are beyond their level of proficiency, including affective and social strategies, guessing new words while reading and listening, and using ambiguous language in speaking and writing.

Oxford (1990) asserts that memory strategies such as making mental associations and performing actions help with retaining information in long-term memory and recovering it when it is required for communication. To create and update internal mental modes as well as to receive and produce signals in the target language, cognitive

techniques like analyzing and reasoning are used. When language tasks, like analyzing and reasoning, are beyond their capacity, learners use compensatory strategies, like guessing unknown words while listening and reading or using ambiguous language in speaking and writing, to shape and revise internal mental modes and receive and generate messages in the target language.

By helping people plan, organize, prioritize, and analyze their own learning process, meta-cognitive approaches support students in structuring their learning. Students can utilize affective techniques to manage feelings like motivation, self-assurance, and attitudes toward language learning. Engaging with others is improved by social skills including asking questions and working in groups, which is crucial in discourse situations.

Meta-cognitive techniques aid students in organizing their learning by assisting them in the planning, organizing, prioritizing, and analysis of their own learning process. Affective techniques can be used by students to manage feelings like motivation, self-assurance, and attitudes toward language learning. Asking questions and working in groups are just two social skills that help people connect with one another better, which is crucial in discourse situations.

Language Instructional Techniques

Language learning approaches, as defined by Chamot (1989), are mental and communicative processes that motivate students to use language. According to Weinstein and Mayer (1983), learning techniques' goal, is to "influence learners' techniques for acquiring, organizing, or integrating new knowledge" or students' motivational or affective states.

Learners contribute proactively to raise the efficacy of their own learning, or in other words, "learners contribute to increase the autonomy of their own learning," (Dörnyei, 2014) which underlines the significance of building learn-how-to-learn abilities. When dividing language acquisition strategies into direct and indirect methods, Oxford (1990) makes a distinction between the two. The direct method entails adopting specific techniques to help learners increase their cognitive abilities, such as their capacity for analysis, reasoning, and intelligent guessing.

Learning strategies preferences are distinctive methods that students select to address language challenges in a particular scenario, as contrast to acquisition styles, which can be broadly regarded as a generic approach to language learning (Oxford, 1990).

Many pedagogical contexts and circumstances have recognized the value of emphasizing the student component, or the learning-how-to-learn factor, in language instruction. Knowing about approaches is important since it makes you more conscious of what you are doing, claims Nunan (1999). Learning will be more efficient if you are aware of the underlying processes that you are engaged in.

Research shows that students who are given learning strategies are more motivated than students who are not. Carroll conducted a study on inductive learning that served as the foundation for reviews of language learning methods published in the 1980s (1981).

This study found a favorable correlation between language aptitude and the ability to make decisions based on linguistic samples. In a distinct study, metacognitive, cognitive, and socioaffective strategy training's effects on various linguistic skills were examined by O'Malley, Chamot, Stewner-Manzanares, Russo, and Kupper (1985). The findings of this study indicate that speaking abilities but not listening abilities are greatly improved by training.

Nunan (1995) looked at how opportunities for self-reflection, self-reporting, and self-monitoring affected college students ten years later and discovered that they improved students' long-term sensitivity to the learning process. Additionally, since all of the English classes are taught in English, students can create additional connections between them.

Jie (2006) investigated the relationship between learning styles and strategies in tertiary level English students in China, using a qualitative and quantitative study for data collection methods such as questionnaires and interviews. The findings revealed that students' learning styles have a significant influence on their choice of learning strategy. Such a learning style can influence learning outcomes. Based on the findings, the researchers concluded that training students and assisting them in identifying their own strengths and shortcomings can improve learning outcomes.

Magogwe and Oliver (2007) study on three groups of students in Botswana, South Africa: primary, secondary, and university students. They discovered that more proficient students employed language learning approaches more frequently than less skilled students. While secondary and tertiary students chose metacognitive strategies, primary school children preferred social strategies.

However, the sorts of language learning strategies used are determined by the learners and the learning environment, and ethnic characteristics have a substantial impact on these strategies (Oxford, 2016). In a research on the use of this method in Japan, Mizumoto (2009), for example, looked at how the methods outlined in 67 books titled "How I Learned a Foreign Language" were used. He asserted that the metacognitive strategy was most popular among Japanese people.

The taxonomy of learning styles developed by Xuan Xuan in 2005 was utilized by Chinese graduate students studying science at Qingdao Technical University to describe the media learning tactics they employed (Teo et al., 2018). They largely used social and metacognitive strategies. Furthermore, 55 English as a Second Language (ESL) students chose metacognitive techniques over social, compensatory, and cognitive ones, according to Hong-Nam and Leavell's (2006) research.

The least preferred methods are affective style and memory. In contrast to the results of Merak and Ho's 2003 study, which looked at how 1006 Hong Kong students used learning approaches (Döner, 2005). Compensation was the most commonly employed media approach among students, followed by cognitive, metacognitive, social, memory, and affective techniques.

Research Methods

Population and research site

Students from five different academic fields, including mechanical engineering, electrical engineering, and civil engineering, participated in this study at Politeknik Negeri Semarang. The sample for accounting and business administration included 40 men and women between the ages of 20 and 23.

Data gathering techniques

This study used the mixed methods research methodology, which combines quantitative and qualitative approaches by incorporating both types of data into a single research study. A questionnaire for self-report scoring in the 2020–2021 academic year was completed by students from Politeknik Negeri Semarang. It asked them for

background data on their self-identity, including their age, gender, GPA, subject of study, and PLSPQ (Perceptual Learning Styles Preference Questionnaires).

Data analysis

The study variables' means, standard deviations, and frequencies were calculated using descriptive statistics. The Statistical Package for Social Sciences (SPSS) application was used for statistical analysis. A t-test analysis was used to compare male and female students' judgments of their learning styles to see if there were any significant differences. Several analyses were carried out to investigate the connection between students' learning preferences, academic success, and subject of study.

Identity of Participant: Description

Participant description is the process of analyzing information gathered from participants in the form of justifications, facts, and descriptions, with the results displayed in a table.

This study looks into the preferred learning modes of Semarang State Polytechnic students. A sample of 40 people, 20 to 23 years old, male and female, from five majors with various fields of study was taken.

Table 1. Gender Differences in Participant Characteristics

Gender	Number of people)	Percentage (%)
man	22	55
woman	18	45
Amount	40	100

Table 2 shows that of the 40 participants, 55% (22 individuals) were men and 45% (individuals) were women.

Participant Characteristics Based on GPA

Table 2. Participant Characteristics Based on GPA

GPA	Number of people)	Percentage (%)
Praise	21	52.5
Very satisfactory	6	15
Satisfying	13	32.5
Amount	40	100

Participants' Personalities Based on Learning Style

Table 3. Participant Qualities According to Learning Style

No	Variable	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
1	Reading what the teacher says on the board helps me learn more.	32.5	62.5	2.5	2.5	-
2	Compared to reading, what I hear in class is easier for me to recall.	25	45	12.5	17.5	-
3	When I can engage in relevant activities in class, I learn best.	47.5	37.5	10	5	-

No	Variable	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
4	**While reading a textbook, I find it helpful to read aloud.**	**15**	**20**	**15**	**40**	**10**
5	Reading a textbook taught me more than listening to someone.	10	42.5	12.5	35	-
6	If I do something I can learn in class. better.	35	47.5	12.5	5	-
7	Listening to someone explain things in class helps me learn more.	32.5	67.5	-	-	-
8	When I join and take part in class, I comprehend things better.	47.5	45	5	2.5	-
9	After reading the directions, I can better recall them.	25	62.5	10	2.5	-
10	I prefer listening to lectures than reading alone.	12.5	55	12.5	20	-
11	I like to practice/learn exercises in a classroom setting.	42.5	40	15	-	2.5
12	I understand better, when I read the instructions.	30	60	5	5	-
13	When I read the directions, I comprehend more clearly. I gained more from than more theory lectures than computer lab classes.	40	40	20	-	-
14	In class, when the teacher lectures, I learn more.	20	52.5	12.5	12.5	2.5
15	I like to see someone exhibit a skill rather than listen while learning a new talent.	47.5	45	7.5	-	-
16	**I learn better when I draw as I study.**	**12.5**	**20**	**37.5**	**20**	10
17	When the teacher provides lectures, I study better.	25	45	15	12.5	2.5
18	I learn more when I work alone.	20	35	25	17.5	2.5
19	I understand things better in class when I participate in role-playing	37.5	50	10	2.5	-
20	I learn better in class when I listen to someone.	22.5	60	10	7.5	-
21	I enjoy doing assignments with two or three classmates.	37.5	55	7.5	-	-
22	When I build something, I remember what I've learned better.	32.5	45	22.5	-	-
23	I prefer to study with other people.	22.5	55	15	7.5	-

No	Variable	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
24	I enjoy making things more for projects in class	32.5	45	22.5	-	-
25	I learn better by reading than by listening to someone.	7.5	40	25	25	2.5
26	I learn best in class when I can participate in related activities.	45	47.5	5	2.5	-
27	**In class, I do better when I work alone.**	**10**	**32.5**	**22.5**	**30**	**5**
28	**I prefer to work on my own projects.**	**2.5**	**25**	**30**	**35**	**7.5**
29	I learned more by reading textbooks than by listening to lectures.	15	35	20	30	-
30	**I prefer to work alone.**	**5**	**30**	**25**	**32.5**	**7.5**

Source: Processed Primary Data, 2021

25 student learning style indicators are shown in Table 3, with the majority of students agreeing or strongly agreeing with the 1) visual learning style, which states that reading what the instructor wrote on the board and recalling items heard in class are superior ways to learn. 2) When you can engage in pertinent tasks in class, kinesthetic learning is at its most effective. 3) Reading textbooks rather than listening to lectures, participating in class activities, understanding concepts better when someone explains them, preferring to hear lectures rather than read alone, preferring to learn exercises/practices in class, understanding concepts better when reading instructions, and benefiting more from group instruction are all examples of learning styles. 3) Reading textbooks rather than listening to lectures, participating in class activities, understanding concepts better when someone explains them, preferring lectures to reading on their own, preferring to learn exercises/practices in class, understanding concepts better when reading instructions, and benefiting more from classroom instruction are all examples of learning styles that emphasize reading textbooks rather than listening to lectures, loves to see someone demonstrate a skill rather than listen when learning a new ability, and learns more effectively in classes when the teacher lectures. When the teacher lectures in class, students learn more effectively. When they work independently, they comprehend concepts better. Learns more in a classroom while paying attention, enjoys working on projects with two or three peers, recalls information better when doing something, and prefers to study in a group. I learn more by reading textbooks than by listening to lectures, and I learn best in class when I can take part in activities that are relevant.

The majority of respondents either didn't know, disagreed, or strongly disagreed with the remaining four learning type markers, find it helpful to read textbooks out loud, learn better while making drawings while doing homework, do better in class when working alone, and prefer to work on solo projects.

Hypothesis testing

Are there significant differences between male and female students in their learning styles

To test the hypothesis no. 1 is done by t-test with the following results.

Table 4. Different Test

No	Variable	t-count	t-table	Sig.	Conclusion
1	Compared to reading, what I hear in class is easier for me to recall.	.249	2,024	.805	There is no significant difference
2	I remember things I have heard in class better than I have read	1,233	2,024	.225	There is no significant difference
3	I learn best in class when I can participate in related activities.	-.019	2,024	.985	There is no significant difference
4	I find it useful to read aloud while reading a textbook.	.793	2,024	.433	There is no significant difference
5	I learned more by reading a textbook than by listening to someone.	.281	2,024	.780	There is no significant difference
6	When I do something in class, I can learn better.	.478	2,024	.635	There is no significant difference
7	I learn better in class when I listen to someone explain.	1980	2,024	.055	There is no significant difference
8	I understand things better in class when I participate and take part.	-.111	2,024	.912	There is no significant difference
9	I read the instructions, I remember them better.	-.093	2,024	.926	There is no significant difference
10	**I prefer listening to lectures than reading alone.**	**2,396**	2,024	**.022**	There is a significant difference
11	**I prefer to learn to do exercises/practice in class.**	**2.102**	2,024	**.042**	There is a significant difference
12	I understand better, when I read the instructions.	.309	2,024	.767	There is no significant difference
13	I benefited more from computer lab classes than theory lectures.	1.093	2,024	.281	There is no significant difference
14	When the teacher provides lectures, I study better.	1.441	2,024	.158	There is no significant difference
15	When learning a new skill, I prefer to watch someone demonstrate a skill than listen.	1,643	2,024	.109	There is no significant difference
16	I learn better when I draw as I study.	1970	2,024	.056	There is no significant difference
17	I study better in class when the teacher gives lectures.	1,524	2,024	.136	There is no significant difference
18	When I work alone, I learn better.	-159	2,024	.875	There is no significant difference
19	I understand things better in class when I participate in role-playing	.886	2,024	.381	There is no significant difference
20	**I learn better in class when I listen to someone.**	**2.325**	2,024	**.025**	There is a significant difference
21	I enjoy doing assignments with two or three classmates.	.728	2,024	.471	There is no significant difference
22	**When I build something, I remember what I've learned better.**	**3.238**	2,024	**.003**	There is a significant difference
23	I prefer to study with other people.	1.418	2,024	.164	There is no significant difference

No	Variable	t-count	t-table	Sig.	Conclusion
24	I enjoy making things more for projects in class	**3.238**	2,024	**.003**	There is a significant difference
25	I learn better by reading than by listening to someone.	-.786	2,024	.437	There is no significant difference
26	I learn best in class when I can participate in related activities.	.585	2,024	.562	There is no significant difference
27	In class, I do better when I work alone.	-.495	2,024	.624	There is no significant difference
28	I prefer to work on my own projects.	-.508	2,024	.615	There is no significant difference
29	I learned more by reading textbooks than by listening to lectures.	-1,727	2,024	.092	There is no significant difference
30	I prefer to work alone.	-.396	2,024	.694	There is no significant difference

Most respondents indicated that they either didn't know, didn't agree, or strongly disagreed with the remaining four learning type markers find it helpful to read textbooks aloud, learn more effectively by doing drawings while doing research, perform better in class while working alone, like to work on individual projects, and prefer to work alone.

1) I find that listening to lectures is more enjoyable than reading on my own (Question No. 10). Calculations using SPSS 21 show that the t-count value is more than the t-table value by 2/396 (2,396 > 2,024) and that the significance is 0.022. (0.05). This shows that the preferred learning styles of men and women are different. Attend seminars in instead of reading alone.
2) I like to practice/learn exercises in class (Question No.11) Calculations performed using SPSS 21 yielded a t-count value of 2.102, which is higher than the t-table of 2.024 (2.102 > 2.024), and a significant level of 0.042 (0.05). Men and women learn in quite different ways, with men preferring to practice and complete activities in a classroom setting.
3) When I listen to someone in class, I learn more (Question No.20)
   Calculations using SPSS 21 yielded a t-count value of 2,325 that was higher than the t-table of 2,024 (2,325 > 2,024) and a significance level of 0.025 (0.05). This indicates that there is a big variation between how men and women learn. good in class when I pay attention to others.
4) I recall what I've learnt better while I'm building something. (Problem No. 22)
   According to calculations performed using SPSS 21, the t-count value was 3,238 and was higher than the t-table value of 2,024 (3,238 > 2,024), with a significance level of 0.003 (0.05). This indicates that there are substantial disparities between the learning preferences of men and women. I recall what I've learnt better while I'm building something.
5) I enjoy creating things more for class projects (Question No.24)
   According to calculations performed using SPSS 21, the t-count value was 3,238 and was higher than the t-table value of 2,024 (3,238 > 2,024), with a significance level of 0.003 (0.05). This indicates that there is a considerable difference in the learning styles of men and women, with men being more likely to enjoy creating things for class tasks.

Is there a link between learning style and academic performance and field of study (GPA)

Table 5. Anova Test Results

No	Variable	f-count	f-table	Sig.	Conclusion
1	Reading what the teacher says on the chalkboard helps me study better.	.558	3,252	.577	The relationship is not significant
2	I remember what I've heard in class better than what I've read.	2.116	3,252	.135	The relationship is not significant
3	When I can participate in related activities in class, I learn better.	.042	3,252	.959	The relationship is not significant
4	While reading a textbook, I find it helpful to read aloud.	.397	3,252	.675	The relationship is not significant
5	Reading a textbook taught me more than listening to someone.	2.222	3,252	.123	The relationship is not significant
6	When I perform an action in I can learn more effectively in class.	1,677	3,252	.201	The relationship is not significant
7	I learn better in class when I listen to someone explain.	.942	3,252	.399	The relationship is not significant
8	I understand things better in class when I participate and take part.	.515	3,252	.601	The relationship is not significant
9	I read the instructions, I remember them better.	2.213	3,252	-124	The relationship is not significant
10	I prefer listening to lectures than reading alone.	.607	3,252	.550	The relationship is not significant
11	**I prefer to learn to do exercises/practice in class.**	**4.303**	3,252	**.021**	**Significant relationship**
12	**I understand better, when I read the instructions.**	**1.660**	3,252	**.204**	**The relationship is not significant**
13	**I benefited more from computer lab classes than theory lectures.**	**2.114**	3,252	**.135**	**The relationship is not significant**
14	**I study better in class when the teacher gives lectures.**	**.683**	3,252	**.511**	**The relationship is not significant**
15	**When learning a new skill, I prefer to watch someone demonstrate a skill than listen.**	**6.592**	3,252	**.004**	**Significant relationship**
16	**I learn better when I draw as I study.**	**.250**	3,252	**.780**	**The relationship is not significant**
17	**I study better in class when the teacher gives lectures.**	**.269**	3,252	**.766**	**The relationship is not significant**
18	**When I work alone, I learn better.**	**2,248**	3,252	**.120**	**The relationship is not significant**
19	**I understand things better in class when I participate in role-playing**	**1.905**	3,252	**.163**	**The relationship is not significant**
20	**I learn better in class when I listen to someone.**	**.492**	3,252	**.615**	**The relationship is not significant**

No	Variable	f-count	f-table	Sig.	Conclusion
21	**I enjoy doing assignments with two or three classmates.**	**2.211**	3,252	**-124**	**The relationship is not significant**
22	**When I build something, I remember what I've learned better.**	**.941**	3,252	**.400**	**The relationship is not significant**
23	**I prefer to study with other people.**	**.851**	3,252	**.435**	**The relationship is not significant**
24	**I enjoy making things more for projects in class**	**.941**	3,252	**.400**	**The relationship is not significant**
25	**I learn better by reading than by listening to someone.**	**2,934**	3,252	**.066**	**The relationship is not significant**
No	**Variable**	**f-count**	f-table	**Sig.**	**Conclusion**
26	**I learn best in class when I can participate in related activities.**	**2,692**	3,252	**.081**	**The relationship is not significant**
27	**In class, I do better when I work alone.**	**2,620**	3,252	**.086**	**The relationship is not significant**
28	**I prefer to work on my own projects.**	**2.190**	3,252	**.126**	**The relationship is not significant**
29	**I learned more by reading textbooks than by listening to lectures.**	**4.738**	3,252	**.015**	**Significant relationship**
30	**I prefer to work alone.**	**1,785**	3,252	**.182**	**The relationship is not significant**

Based on Table 5 above, It is obvious that the second hypothesis, which states that a mismatch between teaching and learning styles leads to learning failure, dissatisfaction, and demotivation, is correct, has not been proven. Only three of the 30 indicators provided by the questions about students' learning styles were used, the other 27 indicators reveal that they have no significant link with academic performance and field of study, but there is a strong relationship between academic performance and field of study (GPA) (GPA). The following are the three indicators of the question:

1) I like to practice/learn activities in class (Question No.11)
   Calculations using SPSS 21 yielded an estimated f value of 4.303, which is higher than the f table of 3.252 (4.303 > 3.252) and has a significance level of 0.021 (0.05). This indicates that there is a strong correlation between learning preferences (e.g., prefer to practice exercises in class), academic success, and field of study (GPA).
2) Rather of listening when learning a new ability, I like to see someone do it (Question No. 15)
   Calculations using SPSS 21 yielded an f-count value of 6,592 as opposed to 3,252 for the f-table, with a significance level of 0.004 (0.05). This proves that learning styles have a strong connection. I find it more effective to observe someone do a new ability rather than just hear about it when learning it (GPA).
3) Reading textbooks helps me learn more than listening to lectures (Question No. 28)
   Calculations using SPSS 21 yielded an estimated f value of 4.738, more than the f table's value of 3.252 (4.738 > 3.252) and with a significance level of 0.015 (0.05). This indicates that there is a strong correlation between learning preferences—

reading textbooks rather than listening to lectures—academic success, and the topic of study (GPA).

Results and Discussion

Results of the self-scoring sheet

From the calculation of the self-scoring sheet, the results of the learning style preferences are obtained as follows:

Table 6. Self-assessment sheet (*Self-scoring sheet*)

Visual	**Tactil**
6- 4	11-5
10-4	14-4
12-4	16-3
24-4	22-4
29-4	25-4
Total: 20 X 2= 40	Total: 20 X 2= 40

Auditory	**Group**
1-4	3-5
7-4	4-2
9-4	5-4
17-4	21-4
20-4	23-4
Total: 20 x 2= 40	Total:19 x 2= 38

Kinesthetic	**Individual**
2-4	13-5
8-5	18-4
15-5	27-4
19-4	28-2
26-4	30-4
Total: 22 x 2= 44	Total:19 x 2= 38

The 40 participants in this study had a majority of kinesthetic, auditory, visual, and tactile learning styles, according to the study's findings. This is acquired by collecting self-scoring sheets. According to the research, the kinesthetic learning style receives the greatest total points, 44, while the auditory, visual, and tactile learning methods receive the same number of points, 40. In the meantime, both the solo and group learning approaches have racked up 38 points. This demonstrates that students' learning personalities, whether individually and in groups, are similar.

It is clear that there are significant differences between males and girls in terms of the categories of visual, tactile, and auditory learning styles based on studies using a variety of tests. Participants, 40 students with five different majors, responded with affirmations of agreement or strong agreement to 25 of the 30 questions.

It is clear from questions 10 and 24 that the vast majority of participants considerably prefer the visual learning technique. The significance scores for the participants' responses are 0.022 (0.05) and 0.003 (0.05), respectively. These results show that student learning styles from 5 different majors prefer to see and observe things, including pictures, diagrams, and written instructions because they will understand the information better. They also enjoy making things more for class projects and prefer to see and observe things, including pictures, diagrams, and written instructions. drawing, making lists, and taking notes are all advantageous when displayed visually.

There is a noticeable difference between questions that reflect auditory learning mode, specifically in question number 20. The significance of the participants' answers in order is 0.025 (0.05), according to the results. These findings suggest that students' learning preferences—which span five distinct majors—tend to benefit from audio accompaniment. in order for pupils to prefer listening to the lecturer's explanation to reading printed notes. The preference of students is to read aloud to oneself. They will get more confident speaking in front of the class and better at verbalizing their points as a result.

There is a considerable difference in the questions that reflect tactile learning approaches, specifically in questions 11 and 22. The significance scores for the participants' responses are 0.042 (0.05) and 0.003 (0.05), respectively. This data demonstrates that students from 5 various majors prefer to learn better while doing activities or practicing in class because they will remember what they have learnt better if they build or make something.

Tactical, kinesthetic, and individual learning styles all significantly affect academic achievement and field of study (GPA). The significant values are 0.021 (0.05), 0.004 (0.05), and 0.015 (0.05) in that order. This is learned from the relevance of the Anova test results.

Discussion

The findings of my study are consistent with those of Naimie et al. (2010) in that effective teaching and learning methods have a beneficial impact on student accomplishment. Tuan (2011) used observations and winter views as the instruments for data collection in a study on preferred learning styles in Vietnam. To determine the teaching and learning preferences of students and teachers, survey surveys were also used. The findings demonstrate that an active learning style, which is visual, is the most prevalent learning style, whereas the most prevalent learning style in the study I performed at the Semarang State Polytechnic was a kinesthetic learning style, both from individual and group characteristics. Both pupils studying individually and in groups are aware of this kinesthetic learning approach.

The 40 participants who made up the majority of the sample were found to have kinesthetic, auditory, visual, and tactile learning preferences, according to the results of data analysis utilizing the ANOVA test and a self-scoring sheet. Although the gender of the participants had no discernible influence on the kinesthetic learning style, nearly all of the participants showed a preference for it, awarding the kinesthetic learning style the highest total of 44 points. The auditory, visual, and tactile learning styles each receive the same number of points, or 40 points.

However, when the study employed a different test, it revealed that there were substantial variations for the categories of visual, tactile, and auditory learning styles

based on gender (male and female). 40 participants responded to the 30 questions by stating that they agreed or strongly agreed with the learning method.

Tactile, kinesthetic, and individual learning styles are those that have a substantial impact on academic achievement and field of study (GPA). According to the findings of the ANOVA test, the significant value was calculated as follows: 0.021 (0.05); 0.004 (0.05); and 0.015 (0.05). This is learned from the relevance of the Anova test results.

The implication is that more research is required on how to design online lecture materials that more effectively reach the target audience. For instance, English courses in vocational education that teach applied linguistics must demonstrate how to improve students' abilities in linguistic competence and linguistic performance, necessitating the creation by lecturers of lecture materials using virtual media that can track participants' language practice.

The majority of participants considerably favoured the visual learning technique, as revealed by the ANOVA test findings, as revealed by questions 10 and 24. The significance scores for the participants' responses were 0.022 (0.05) and 0.003 (0.05), respectively. These findings show that the participants' learning preferences call for written instructions since they learn best when information is presented visually, such as when doodling, making lists, and taking notes.

The habit that has become a character should be recognized by the participant to increase his awareness that he has a specific learning style preference, which does not require the lecturer to follow individual learning style preferences only. Each individual participant has a learning style preference that has been attached to him. From the perspective of the lecturer, it is preferable to pay attention to how the teaching style is so that all students can at least adapt to the lecturer's teaching style. Lecturers must continue to meet the fundamental learning demands of their students, especially in light of the COVID-19 epidemic. To do this, they must use more than just the LMS online learning media platform.

Conclusion

In conclusion, the study revealed that the majority of participants exhibited preferences for kinesthetic, auditory, visual, and tactile learning styles, with kinesthetic learning style being the most favored among them. However, further analysis based on gender disparities unveiled significant variations in visual, tactile, and auditory learning styles. Notably, tactile, kinesthetic, and individual learning styles significantly impacted academic achievement, as evidenced by their correlation with GPA. These findings underscore the importance of tailoring online lecture materials to accommodate diverse learning preferences, particularly in vocational English courses emphasizing applied linguistics. The study highlights the necessity for instructors to utilize virtual media effectively to track participants' language practice and enhance linguistic competence and performance. Moreover, recognizing individual learning style preferences and incorporating various teaching styles can ensure inclusivity and adaptability, especially in the context of remote learning necessitated by the COVID-19 pandemic. Thus, educators must prioritize meeting the diverse learning needs of students by leveraging comprehensive online learning platforms beyond traditional LMS platforms.

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