English learning style preferences: A case study of civil engineering students

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ABSTRACT
In learning English, it is clearly seen that students have their own ways and abilities to understand information or learning materials. The method used by students in understanding the information is generally known as learning style. This study aims to identify the dominant learning style used by students in learning English at civil engineering class. This study was survey research. There are two types of learning styles studied. First, it can be seen from the perceptual aspect which has 3 types of learning styles, namely visual, auditory, and kinesthetic. Second, learning styles are seen from the social aspect which consists of 2 types, namely groups and individuals. The participants in this study were 248 students briefly divided into 9 classes. In determining the participants, the researcher precisely used a total sampling technique. Furthermore, the researcher used a questionnaire as an instrument to obtain data. The results of the study strongly showed that students used all learning styles, namely visual, auditory, kinesthetic, group, and individual. Based on the data obtained and analyzed, the highest percentage of learning styles for the perceptual aspect is visual with a total percentage of 45.5%. Then, for the social aspect, which gained a percentage of 44.3%. Based on the data obtained in this study, it can be concluded that the learning style of civil engineering students is more dominant using the perceptual learning style compared to the social learning style, and this can be seen from the data presented in this study.

Keywords: English; language learning; polytechnic; students’ style; vocational

INTRODUCTION
In general, learning is precisely a system of interactions that involves the inexperienced students, lecturers, and teaching materials in learning environment. It aims to summate students’ information and record about new matters in order to change their attitude to be better. In other words, gaining knowledge with learning strongly stimulated the students to study maximally. It should be noted that this cannot be achieved solely by relying on student knowledge, without assistance from lecturers. Either it can be achieved anywhere and every time for the duration of it may add the students understanding and capacity. Shirazi and Heidari (2019) argues that the consistent way that is done by a student in capturing stimulus or information, how to remember, think and solve problems is by knowing and understanding how they learn. There are several problems related to learning styles in teaching English. First, is about lack of awareness; some teachers and students may not be aware of the different learning styles and the impact they can have on learning. As a result, they may not tailor their teaching methods and materials to meet the needs of different learners. Second, is about limited adaptability; some teaching methods and materials may not be adaptable to different learning styles. For example, visual aids may be useful for visual learners, but not so much for auditory learners. Third, is about resistance to change; some teachers may be resistant to changing their teaching methods, even if they are not effective for all students. They may be comfortable with their traditional methods and feel unsure about how to adapt to different learning styles. Next, is about inadequate assessment; assessment methods may not be designed to take into account different learning styles, leading to an inaccurate assessment of students' abilities and progress. Last, is about limited resources;
there may be a limited availability of resources and materials that cater to different learning styles, making it difficult for teachers to effectively meet the needs of all students.

Furthermore, Shen et al. (2019) in their study found that in learning English, by knowing student learning styles, it will make it easier for lecturers to provide a supportive environment, so that students can fully understand the lessons given. At the same time, a number of students who have a tendency to learn by moving from one seat to another seat during the lesson are unable to process learning material properly. They need to move and discuss with their classmate in order to figure out their problem. Moreover, Hassan et al. (2021) stated that it is important for lecturers to pay attention to these different types of learning styles when designing lessons and activities that involve students. The concept of learning styles refers to the idea that people have different preferred ways of acquiring and processing information, with individuals characterized as having a dominant or preferred learning style that helps them learn best.

The four commonly recognized learning styles are visual, auditory, reading/writing, and kinesthetic. Visual learners prefer information presented visually, auditory learners through listening and speaking, reading/writing learners through written materials, and kinesthetic learners through physical movement and hands-on activities. However, the validity of learning styles as a theoretical construct is debated and little empirical evidence supports it. Most people use a combination of learning styles and a person's preferred style can change based on the situation or subject matter. While each individual can learn to some extent using any one of these, a specific style may be more suited for a certain individual to be better able to grasp a study material. Thereby, student should find their style and capitalize on it (Jakob, 2018). Every student learns differently in order to find a study method. The four most popular learning styles are visual auditory reading/writing and kinesthetic or hands on for most people one of these methods will work best, but it's also possible for a combination of different styles to be effective to discover your learning styles.

In addition, there are some of the students who prefer to learn by paying attention to their lecturer's explanation. Likewise, they can learn maximally and achieve the learning outcomes easily if the lecturer uses and practices media such as pictures, charts, videos, games, quizzes and so on. In other conditions, there are some students in classroom who tend to learn by listening to the lecturer's explanation without engaging to the learning activities. Finally, some of the students strongly choose to learn in quiet situation. It totally shows that each of student in learning has a different way to gain the materials in classroom. Each teaching method depends on the way or style of student learning, personality, and abilities. Therefore, teachers in teaching must pay attention to student learning styles. By recognizing student learning styles, teachers can design learning activities with a variety of appropriate models, strategies and methods. With some topics it is better to be auditory, others visual, etc. When a method works and is coinciding with your learning style, it can be concluded that it can be evidence, while when we someone fail to learn that way, sometimes no one will think about it at all. Studies show that the learning styles don't actually help students learn, and throughout school there learning styles changed. For lecturers, they can facilitate learning in their class according to the learning style preferred by students (Toyama and Yamazaki, 2020).

Furthermore, Othman and Amiruddin (2010) in teaching English to students in civil engineering, it is important to take into consideration the learning styles of the students. Different students have different preferred methods of acquiring and processing information, and by tailoring your teaching approach to meet the needs of a variety of learning styles, you can create a more inclusive and effective learning environment. For example, visual learners may benefit from the use of diagrams, videos, or illustrations to help them understand complex technical concepts in English. Auditory learners may respond well to oral presentations, discussion-based activities, or audio materials. Reading/writing learners may appreciate written materials such as textbooks or articles, while kinesthetic learners may benefit from hands-on activities and practical examples.

By considering the learning styles of the students, lecturer can create a diverse and engaging classroom environment that addresses the needs of all learners. Additionally, by recognizing and accommodating different learning styles, lecturer can help students develop a more well-rounded and
effective approach to learning, which can benefit them both inside and outside of the classroom. However, it is also important to keep in mind that not all students will fit neatly into a single learning style category, and most people use a combination of learning styles, so it is essential to use a variety of teaching strategies to reach the largest number of students.

In the context of civil engineering, this suggestion emphasizes the importance of teachers being aware of their students' preferred ways of learning in order to create an effective learning environment. By recognizing and accommodating their students' learning styles, teachers can tailor their instruction to better meet the needs of their students and create a more engaging and productive learning experience. For example, if a significant number of students in a civil engineering class have a visual learning style, the teacher may choose to incorporate more diagrams, videos, or illustrations into their lessons to support their students' preferred method of learning. By taking the time to understand and respond to the learning styles of their students, teachers can play a critical role in helping students to better understand complex technical concepts and achieve their learning goals.

In conclusion, in this study, the researcher implemented the idea proposed by using Rein in Karthikeyan and Nirmala (2013). There are obviously types of learning style. The primary kind is the perceptual learning style which precisely consists of visible, auditory, and kinesthetic. The second one kind is the social learning style which consists of organization. In conclusion, there are five types of learning styles in this study.

However, in this present research what distinguishes it from previous studies on learning styles is that most students do not have problem solving skills. Students who are unable to apply skills in solving problems can experience learning difficulties due to various factors. One of these factors is the way of learning or the characteristics of one's understanding of something. This is what prompted the researcher to take up this topic and this is also become the background of this research. What is also a differentiating factor from previous research is that in this research, detailed observation of students is a variety of learning methods in the classroom. First, using the lecture method, the teacher can pay attention to students who listen enthusiastically. An enthusiastic student or strong listener is an auditory learning style.

METHODS
This study was survey research. This study used a survey method because the data collection method was carried out in the form of a questionnaire, which was then disseminated to respondents, namely civil engineering students. The participants of this study are students in Civil Engineering class. The number of students were 248 students selected by using total sampling. Furthermore, the data were collected by using questionnaire as instruments. Based on Gay and Airasian (2000), questionnaires comprise a number of free response items proposed. In addition, the researcher implemented Likert scale for students’ alternative response. A Likert scale in this study followed by a number of ordered alternatives (Monette et al, 2014). Moreover, Sugiyono (2013) categorizes the alternatives answer for questionnaire in the following scale; always, often, seldom, rarely, never. In this study, the researcher used the questionnaire that was proposed by Reid in Karthikeyan and Nirmala (2012). The questionnaire was conducted with 25 statements in five learning styles consist of five statements. The purpose of distributing questionnaires to civil engineering students who are the subject of this research is to obtain some relevant data and information about their individual learning styles in the English for civil engineering class.

Furthermore, Gay et al. (2012) elucidate that there are two steps in analyzing the data. The first step was scoring procedures and the second was tabulation and coding procedures after calculating and scoring the instruments. In this step, the researcher organized the data systematically and properly. Next, the researcher code the data. After that, the researcher counted the frequency of the students response from questionnaire by using the formula that are proposed by Sudijono (2010):
\[ P = \frac{f}{N} \times 100 \]

Finally, the researcher interpreted the questionnaire.

RESULTS AND DISCUSSION
Perceptual learning style
Visual style results
Based on the data, the researcher briefly found that the highest percentage of each alternatives answer. For often alternatives answer had score 3. They are statement number 2 (when I read instructions, I understand better) with 52.4%. Next, statement number 3 (I understand better, when I read instructions) with 45.82%. The last, statement number 4 (when I learning a new skill, I prefer to watching someone’s demonstration than listening) with 39.16%. Moreover, the alternatives answer for seldom had score 2. They are statement number 1 (I learn better by reading what the teacher writes on the blackboard) with percentage 44%. Finally, statement number 5 (I learn more by reading textbook than by used visual learning style when learning English).

Auditory style results
According to the data had been investigated, it clearly showed that the highest percentage of each alternatives answer. First, the alternatives answer often had score 2 for statement number 7 (I prefer listening lecture than reading textbook) with percentage 42.4%. Then, statement number 8 (I remember things what I read in class better than what I read) with percentage 38.32%. Second, the alternatives answer seldom had score 3 for statement number 6 (I used to read aloud when reading the text) with percentage 38.32%. Then, statement number 9 (I learn better in class when teacher gives a lecture) with percentage 39.14%. The last, item number 10 (I learn better when I listen to others in class) with percentage 58%. The average percentage score for auditory showed that students’ learning style was 43.45%. It meant that, the students seldom used auditory learning style when learning English.

Kinesthetic style results
Referring to the data had been accurately analyzed, it totally can be seen the highest percentage for alternatives answer for each item proposed. First, for alternatives answer with always category was just 1 for statement number 14 (I recognize better things in class when I participate in role playing) with percentage 36.4%. Furthermore, for alternatives answer with often category are two for statement number 11 (I prefer learning by doing exercise and drills in the class) with percentage 44%. Next, statement number 15 (I learn best in class when I can participate in related activities) with 41.65%. In addition, alternatives answer with seldom category got score 2 for statement 12 when I do things in the class, I learn better) with percentage 34%, then statement number 13 (I benefit more from involving hands on activities than hearing lectures) with 41.65%. For an average percentage score for kinesthetic learning style used by students was 40.47%. It can be sum up that, the students frequently used kinesthetic learning style in classroom.

First, visual style, the results of a survey or questionnaire given to a group of individuals. The survey asked questions related to the individual’s preferred learning style when learning English. The alternatives provided were “often,” “seldom,” and “never.” Based on the data, the researcher found that the highest percentage of respondents answered "often" to three of the five statements. The highest percentage of “often” answers was for statement number 2, “when I read instructions, I understand better,” with 52.4%. The next highest percentage of “often” answers was for statement number 3, “I understand better when I read instructions,” with 45.82%. The third highest percentage of "often" answers was for statement number 4, "when I learn a new skill, I prefer to watch someone's demonstration than listen," with 39.16%. The lowest percentage of “often” answers was for statement number 1, "I learn better by reading what the teacher writes on the blackboard,” with a percentage of 44%. The last statement, “learn more by reading a textbook than by using visual learning style when
learning English,” had the lowest percentage of “often” answers, with a score of 2 (seldom). These results provide some insight into the learning styles of the individuals who took the survey, showing that they tend to prefer reading instructions and watching demonstrations to improve their understanding and skill when learning English.

In this current research, it appears that firstly, students have a need to see something (information/lesson) visually to know or understand it, secondly, they have a strong sensitivity to color, thirdly, they have sufficient understanding of artistic issues, fourthly, they have difficulties in direct dialogue, the fifth is too reactive to sound, the sixth is difficult to follow verbal recommendations, and the seventh often misinterprets words or utterances.

Second, auditory style, the results of a study that investigated students' learning styles when studying English as a foreign language. The study used a survey to gather data on the students' preferred methods of learning and the results were analyzed in terms of five different learning styles: visual, auditory, kinesthetic, reading/writing, and social. According to the data, the highest percentage of students preferred alternatives that scored 3, which indicate that they often used auditory and kinesthetic learning styles. For example, statement number 7 (I prefer listening to lectures rather than reading textbooks) had a percentage of 42.4%, while statement number 10 (I learn better when I listen to others in class) had a percentage of 58%. This suggests that the students tended to prefer listening to lectures and participating in group discussions when learning English. The data also showed that students tended to use visual and reading/writing learning styles less frequently. For example, statement number 6 (I used to read aloud when reading the text) had a score of 2, which indicates that students seldom used this learning style. The average percentage score for auditory learning was 43.45%, which suggests that students tended to use this learning style less frequently than others. In conclusion, the data showed that the students in this study tended to prefer auditory and kinesthetic learning styles when learning English, while using visual and reading/writing learning styles less frequently. Based on the data obtained, students tend to have difficulty absorbing information in written form directly, and have difficulty writing or reading.

Last, kinesthetic style, the students frequently use kinesthetic learning style in the classroom. According to the data, the highest percentage of alternatives answer for each item proposed was for the kinesthetic learning style. The alternatives answer for the “often” category consisted of two items (statement number 11 and 15) with a percentage of 44% and 41.65% respectively. The alternatives answer for the “seldom” category consisted of two items (statement number 12 and 13) with a percentage of 34% and 41.65% respectively. The average percentage score for the kinesthetic learning style used by the students was 40.47%, indicating that the students used this learning style more often in the classroom. On the other hand, the alternatives answer for the “always” category consisted of only one item (statement number 14) with a percentage of 36.4%.

**Social learning style**

**Group style results**

Based on the data had been analyzed, the alternatives answer with often category had score two for statement 16 (I prefer work with my classmates) with percentage 43.33%. Then statement number 19 (I enjoy doing assignment with my classmates) with percentage 44.15%. Next, for alternatives answer with seldom category are three for statement number 17 (I learn more when I study with a group) with 39.174%, next statement number 18 (I study better when I study with others in class) with percentage 51%, the last statement number 20 (I prefer to study with my friends group) with 44%. For an average percentage score for group learning style with percentage 44.2%. In conclusion, the students in classroom often used group learning style when learning English.

**Individual style results**

According to the data analysis, it clearly can be seen that each item totally had highest score for alternatives answer with seldom category. Statement number 21 (I prefer to learn individually) with 44.16%, next the statement number 22 (when I work alone, I learn better) with 42.4%, then for the
statement number 23 (I do my work better when I work myself alone) with percentage 49.15%, next for the statement number 24 (I prefer working on task by myself) with 38.34%, and the last for the statement number 25 (when I study alone, I understand well) with percentage 46%. For an average percentage for individual learning style score was 43.82%. As a result, the students in seldom category when using individual learning style in learning English. Regarding to the explanation above, first, perceptual learning style; visual learning style was in 45.4%, auditory was in 43.45%, and then kinesthetic was in 40.47%. Furthermore, for social learning style, for the group learning style was percentage 44.2% and individual learning style was in 43.82 %. Briefly, the dominant learning style tended to use by the civil engineering students for perceptual learning style was actually visual learning style. Meanwhile, for social learning style was clearly group learning style. It can be seen clearly in the graph below:

**Graph 1. The Students Percentage of Perceptual Learning Style**

![Graph 1](image)

**Graph 2. The Students Percentage of Social Learning Style**

![Graph 2](image)

The data analysis shows that the students in the classroom use the individual learning style rarely when learning English. The highest score was given to the alternatives with the seldom category for five different statements related to individual learning style, with an average percentage score of 43.82%. On the other hand, the perceptual learning style was dominated by the visual learning style with a score of 45.4%, followed by auditory with a score of 43.45% and kinesthetic with a score of 40.47%. As for the social learning style, the group learning style had a score of 44.2% and individual learning style had a score of 43.82%. Therefore, it can be concluded that the visual learning style was the dominant learning style used by civil engineering students for perceptual learning style. Based on this conclusion, it can be inferred that a significant number of civil engineering students prefer to learn through visual means, such as through the use of diagrams, videos, or illustrations. This suggests that teachers in this field may want to incorporate more visual aids and materials into their teaching to best support the learning preferences of their students. Additionally, students who are identified as visual
learners may want to actively seek out visual resources and materials to support their learning and help them better understand complex technical concepts in their field.

First is group style, this style encompasses a wide range of behaviors, such as communication patterns, decision-making processes, and problem-solving approaches, among others. Understanding the group style of a team or organization can be beneficial in a number of ways, as it can provide insight into the strengths and weaknesses of the group, as well as into areas where the group may need to improve in order to be more effective. Additionally, understanding group style can also help individuals within the group to better understand and appreciate one another, leading to improved communication, collaboration, and overall group performance. By recognizing and accommodating the group style, leaders and managers can create a more inclusive and effective work environment that benefits all members of the team. In this present study, in developing students' basic potential (ability), it is necessary to have a lecturer as someone who helps students in developing the potential of students so that students become mature human beings. Ideally the education provided by lecturers to students can help students towards maturity, but in reality, many factors influence student development. One of the factors that influence it is due to individual differences in students in absorbing the learning process given by the lecturer.

According to Leite et al. (2010), it is possible that the students in the classroom are using a social or interpersonal learning style, which involves learning through interaction and cooperation with others. This learning style often involves group activities and discussions, where students can learn from each other and engage in active learning experiences. However, it is important to note that learning styles are not fixed and can vary depending on the task or subject being studied (Karimullah et al., 2021). Some students may be primarily social learners in one subject, but use a different learning style in another. Additionally, students may also use a combination of different learning styles at different times. In order to effectively support students in their learning, it is important for teachers to understand and recognize the different learning styles of their students, and to adapt their teaching methods to support multiple learning styles. This can be done through the use of varied teaching strategies, such as hands-on activities, visual aids, and group work, among others.

Second is individual style, refers to the unique and personal ways in which people approach various tasks and activities. This can encompass a wide range of behaviors, such as communication style, decision-making style, problem-solving style, and more. Understanding one’s individual style can be beneficial in both personal and professional settings, as it can help individuals to better understand their strengths, weaknesses, and tendencies, and to use this knowledge to improve their performance and relationships with others. Additionally, understanding individual style can also help individuals to better understand and appreciate the styles of others, leading to improved communication, collaboration, and overall effectiveness in a variety of contexts.

Learning style is the crucial things that must be identified by the students and lecturers. Learning style refers to the preferred method or mode of processing information and acquiring knowledge. It is important for both students and lecturers to identify their own and their students’ learning styles because different individuals have different preferences for how they learn. By recognizing and understanding the learning styles of their students, lecturers can tailor their teaching methods to better suit the needs and preferences of their students. This can lead to a more effective and efficient teaching and learning process as the students are able to receive information in a way that they are most comfortable with, leading to better retention of information and improved academic performance. Lecturers who had known their students learning style, it can significantly help them to implement their teaching style properly that will be link to the students’ learning style. As a result, teaching and learning process can be run affectively. It is indicated that when lecturers have an understanding of their students' learning styles, they are better able to align their teaching methods with those styles. This can lead to a more effective and efficient teaching and learning process, as students are more likely to engage with the material and retain what they have learned. In other words, when teachers are aware of their students' preferred ways of acquiring and processing information, they can choose
teaching strategies that are most suited to their students' needs, leading to better outcomes for both the teacher and the students.

In the current research, it can be exemplified, for example students who understand better when their lecturers always write on the blackboard are different from students who don't like to write (students who prefer to listen to their lecturer's lecture in explaining the material that students will learn). This concerns the readiness of students in receiving teaching. The task of the lecturer is to carry out learning in a variety of ways and with various approaches to individuals in order to develop individuals as individuals and individuals as part of a varied community life (individuals as social beings).

This study aims to determine the learning styles of civil engineering students in learning English in the classroom. Do they prefer the perceptual learning style rather than the social learning style. Previous studies did examine student learning styles, but did not specifically describe student learning style preferences. Meanwhile, in this present study, the authors describe the learning styles of students according to their character. This is influenced by the character of civil engineering students who are not native English speakers and their major is also not English.

CONCLUSION
The result showed that perceptual learning style; visual learning style was in 45.4%, auditory was in 43.45%, and then kinesthetic was in 40.47%. Furthermore, for social learning style, for the group learning style was percentage 44.2% and individual learning style was in 43.82%. Briefly, the dominant learning style tended to use by the civil engineering students for perceptual learning style was actually visual learning style. Meanwhile, for social learning style was clearly group learning style. It is clear that the students have their personal ways in processing and receiving materials in learning. This definition known as students’ learning styles, ways of students process an information. At this point, the students should recognize and use their learning style in order to make them easy when learning. Besides that the students can totally improve their ability in learning. In addition, lecturers can optimally choose the appropriate teaching strategy which is suitable with students’ learning style in right situation.

The findings of this research have a look at giant implications for both students and teachers. For college kids, knowledge their learning fashion can assist them to improve their potential to examine and engage with the cloth. By using spotting their desired mastering style, students can tailor their observe behavior and make learning greater powerful and exciting. For instructors, recognizing and accommodating the learning varieties of their students can create a greater inclusive and effective gaining knowledge of environment. By way of choosing teaching techniques that are satisfactory appropriate to their college students' wishes, teachers can decorate the studying experience and sell academic achievement. Standard, this study affords treasured insights into the significance of knowledge mastering styles and their implications for effective coaching and getting to know.

REFERENCES


**CONFLICT OF INTEREST STATEMENT:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.