VOLUME 8 No 1
JULY 2023

E-ISSN: 2622-3384
P-ISSN: 2527-9939

JURNAL MEdu Mangifera Edu

Profile of Vocational School Students' Learning Styles as a Basis for Choosing Science Learning Methods

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ABSTRACT

Based on the concept of student learning styles, students have strengths and weaknesses in learning. When the teacher applies learning methods that are not in accordance with their learning style, it will affect learning outcomes. The selection of the science learning method can be done by adjusting the student's learning style as a first step before carrying out the learning process. The purpose of this research is to identify profiles of students' learning styles in order to be able to choose appropriate learning methods. This research is a qualitative descriptive study, using a purposive sampling technique. The research subjects consisted of 32 students of class X Culinary 2 at SMK Negeri 6 Semarang. The learning styles studied focus on visual, auditory, and kinesthetic learning styles. Data collection techniques using questionnaires to identify student learning styles and observation. The data obtained were analyzed qualitatively. The results obtained are that students are more inclined to the visual learning style by 47%, while the auditory is 16.2% and the kinesthetic is 36.8%. So it can be concluded that students in the class have diverse learning styles. Teachers cannot emphasize only one learning style so that the learning methods applied must be varied and adapted to the learning styles possessed by students.

ARTICLE INFO

Keyword
Learning style, Learning method, IPAS

Received
Juny 28, 2023

Revised
July 20, 2023

Accepted
July 25, 2023

Published
July 31, 2022

How to cite
Alimah., Ulfah., & Siswanto. (2023). Profile of Culinary Vocational School Students' Learning Styles as a Basic for Choosing Science Learning Methods. *Jurnal Mangifera Edu*, *vol*(nomor), 25-31. https://doi.org/10.31943/mangiferaedu.v8i1.174

INTRODUCTION

Learning outcomes or student learning achievement can be determined from the learning process. Professional teachers will use appropriate learning methods in their classes. The suitability of the learning method used with the material, as well as the suitability of the learning method with the characteristics of students is something that needs to be considered by the teacher before teaching. One of the characteristics of students that needs attention is learning style (Sari, 2014). Learning style according to Kolb is a way that a person tends to choose to absorb, receive information in their environment and process that information (Yulianci *et al.*, 2018). Teachers who know students' learning styles will find it easy to provide a supportive environment that makes it easier for students to absorb information to the fullest (Widayanti, 2013). Therefore, the teacher needs to know the type of learning style of each student.

Each student has a different learning style in receiving and understanding the subject matter. There are three types of learning styles namely visual, auditory and kinesthetic (Syofyan & Siwi, 2018). Visual, auditory and kinesthetic learning styles will affect learning outcomes or student achievement (Azis *et al*., 2020). According to De Poter & Hernachi, learning styles are generally divided into three types, namely visual learning styles, auditory learning styles and kinesthetic learning styles. Visual learning style is a learning style by seeing, observing, looking and the like. Auditory learning style is a learning style by listening. Meanwhile, the kinesthetic learning style is a learning style by moving, working and touching (Papilaya & Huliselan, 2016).

Natural and Social Sciences are subjects that aim to understand the surrounding environment including natural phenomena and social contexts. Success in learning science is influenced by several factors, one of which is the student's internal factor, namely the learning style used by students in studying science. Based on the results of observations at SMK Negeri 6 Semarang, science learning in class X Tata Culinary 2 still uses conventional learning methods. The teacher conveys the material by means of lectures, where students sit, take notes, and listen to what the teacher says and then work on the problems in the book. The use of this method causes students to be passive and less enthusiastic in the learning process. As a result, students have difficulty understanding the material presented. In addition, the results of interviews with students majoring in culinary arts said that science subjects were difficult because there were many foreign terms that caused students to not fully understand the concept. There are some materials that are abstract. A lot of material is rote and calculated, for example in business material and renewable energy. Students are required to determine answers based on formulas through a calculation. This was also expressed by Hidayatulloh (2020) that the cause of the difficulties in learning science experienced by students was that students did not know the use of the formula used and there were many terms that had to be memorized.

Based on the above problems cause low student learning outcomes. This is shown from the results of students' IPAS tests that 64% are still below the Minimum Completeness Criteria (KKM). Seeing this, the teacher needs to choose appropriate learning methods based on student learning styles with the aim that students can more easily understand the material and play an active role in learning so that science subjects do not seem difficult and boring and can improve quality or improve the learning process carried out. The results of previous research Rambe & Yarni (2019) said that auditory learning styles and kinesthetic learning styles simultaneously or separately can affect student achievement. The results of the study Irawati *et al* (2021) based on the results of an analysis of the visual, auditory, and kinesthetic learning styles questionnaire, it can be seen that learning styles have a significant influence on learning outcomes. According to Yahya & Noor (2015) the VAK learning style model focuses on observation, hearing and feeling. This model is categorized into three modalities, the first visual learner, the second auditory learner and lastly the kinesthetic learner. Visual learners prefer to learn by seeing. For students, pictures, flowcharts and videos are the best learning instruments. Auditory learners have a preference for listening, being heard and learning best by hearing. Kinesthetic learning students better learn through feeling or doing experiences such as moving, touching, and doing. For students, computer games, interactive animations are the best learning instruments.

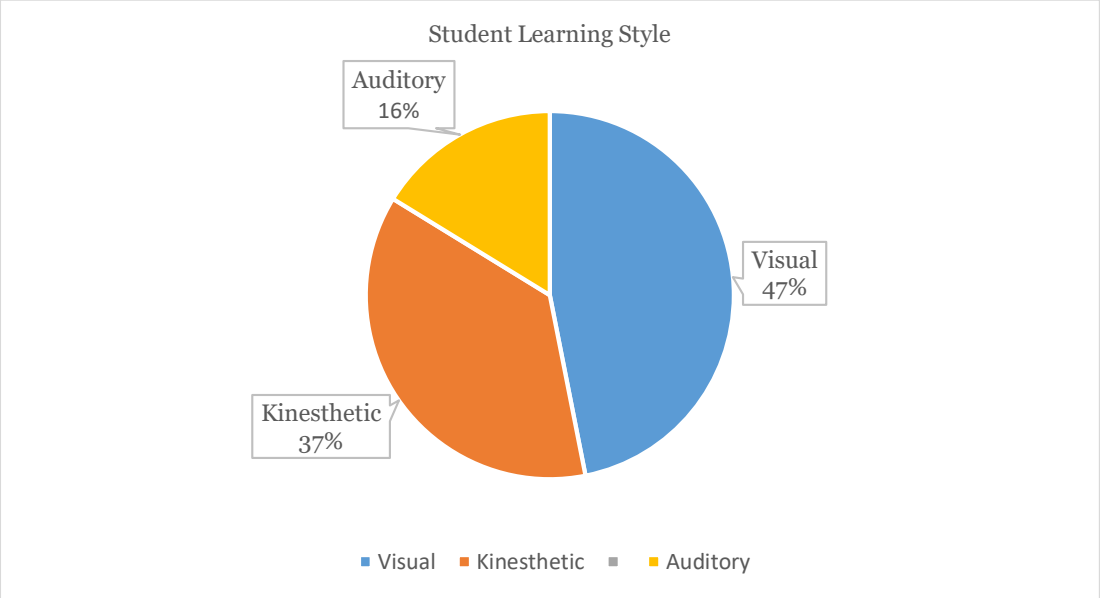
According to Omar *et al* (2015) said that individual learning styles vary according to the tendencies of each individual. The right learning style can help students achieve good academic records in whatever subject they study. According to Mahadi *et al* (2022) which shows that appropriate learning styles and learning habits with teaching methods will have an influence on academic performance. While in this study learning styles can be used as a basis for selecting learning methods that are appropriate to the characteristics of each student so that it will have a positive effect on learning outcomes. Therefore, the purpose of this study was to identify the profile of students' learning styles as a criterion for selecting the science learning method. The benefit of this research is that by knowing the learning style profiles of Culinary Vocational High School students, it can become the basis for selecting science learning methods.

METHOD

This research is included in the type of qualitative descriptive research. The research sample was determined by purposive sampling. The research sample was 32 students of class X Culinary 2 SMK Negeri 6 Semarang. The instruments in this study were questionnaires and observation sheets. The data obtained was then analyzed using the Miles and Huberman data analysis model, namely carrying out the stages of data collection, data reduction, data presentation, to drawing conclusions (Fadli, 2021). Field data that has been collected is then reduced by summarizing, organizing, and discarding data that is considered unrelated to the research topic. Then classify the data obtained into certain learning style groups and analyze the results as a percentage. The final stage is drawing conclusions according to the results of the analysis.

RESULTS AND DISCUSSION

Based on the analysis of the learning style identification questionnaire, the dominating results were obtained, namely visual, then kinesthetic, and auditory. The data can be seen in graph 1.



Graph 1. Percentage of student learning styles

Effective learning can be achieved if a teacher can design effective learning. However, to realize an effective lesson plan, a teacher must first understand the characteristics of students, so that they can adapt learning to their learning needs and abilities. One way to understand students' needs is to understand their learning styles (Derici & Susanti, 2023). In this grouping, it was found that the learning style trends of class X students in culinary 2 were 15 visual people, 5 auditory people and 12 kinesthetic people. The percentage is 47% visual, 16.2% auditory, and 36.8% kinesthetic. Based on these data, it can be seen that the majority of students in class X culinary 2 have a tendency towards a visual learning style. In the 15 students majoring in culinary arts who tend to be visual, students prefer to learn by reading, like to take notes, read quickly and diligently, easily remember what they see than what they hear, are not disturbed by noise, speak quickly, and how to learn to follow instructions picture.

According to Rambe & Yarni (2019) visual learning styles help students focus and concentrate on the material being studied by seeing, looking at, or observing the subject matter. By looking at, looking at, and observing the object being studied while reading it, it helps students focus and concentrate on the material so that students will more easily understand the material. This is also supported by the opinion of Abu Ahmadi & Supriyono (2004), which are presented in writing, charts, graphs or pictures, or in other words it is easier to learn subject matter that can be seen with their visual aids. Someone with a visual learning style focuses on what is seen. To make it easier to understand something, he must be shown something real directly (Saputri, 2016). There are several characteristics that are unique to students who have this visual learning style, namely the need to see something (information/lesson) visually to know or understand it, have a strong sensitivity to color. Have sufficient understanding of artistic problems, have difficulty in direct dialogue, are too reactive to sound, have difficulty following verbal recommendations, often misinterpret words or utterances (Hidayat, 2016).

In 5 grade X culinary 2 students who tend to be auditory, students prefer to learn by listening, have difficulty writing or taking notes but are good at telling stories, prefer to read aloud, easily remember what is discussed or explained than what is seen, easily distracted by noise when studying, often answer questions at length, the pattern of speech is moderate and the preferred activity is discussion. Ula (2013) explained that the auditory learning style prioritizes the senses of the listener. Learning through hearing can be done by listening to audio tapes, lectures, discussions, debates, and verbal instructions (commands). The characteristics of students who have this learning style are that all information can only be absorbed through hearing, has difficulty absorbing information in written form directly, has difficulty writing or reading (Azis et al., 2020).

In the 12 students who tend to have a kinesthetic learning style, students prefer to learn with a practical model, often answer questions followed by body movements, lots of notes without pictures, when studying usually cannot sit still for a long time, when speaking with a loud intonation. slow, and how to remember the material by writing. Wassahua (2016) explains that the kinesthetic learning style requires the individual concerned to touch something that provides certain information so he can remember it. Of course there are characteristics of learning styles like this that not all individuals can do. Characteristics that are typical for students who have a kinesthetic learning

style, namely placing their hands as the main information receiving device so that they can continue to remember it. Just by holding it. In addition, the characteristics of other kinesthetic learning styles are touching everything they encounter, including when studying, having difficulty staying still or sitting still, always wanting to move, doing everything that allows their hands to be active, likes using real objects as learning aids, difficulty mastering abstract things such as maps, symbols and emblems, likes practice/experiments, likes games and physical activity (Usman, 2016).

Research conducted by Halim (2012) revealed that the application of learning methods that are appropriate to the characteristics of students and subject matter will affect the learning outcomes obtained by students. Therefore it is recommended for teachers to consider the characteristics of their students, especially in terms of learning styles before choosing a learning method that will be applied in teaching certain subjects, because the tendency of student learning styles also has a different influence on student learning outcomes.

Based on the profiles of the various student learning styles, the teacher can use a variety of learning methods so as to facilitate all student learning styles. So the teacher is not fixated on just one learning method. In the implementation of learning, a teacher can apply several learning methods. This is in accordance with what Nasution wrote in his book Various Approaches to the Teaching and Learning Process that educators must be able to determine the learning method that best suits their individual learning styles and materials for all students (Nasution, 2017).

For students with a visual learning style, they can use methods such as showing videos, pictures or posters. Whereas for auditory students can use the question and answer method with repeated material, asking students to repeat explanations of certain concepts and use acronyms to help memorize or form group discussions (Sari, 2014). While students with a kinesthetic learning style, a suitable learning method is a simulation or practice. This is in accordance with Juliantari (2018) that a suitable learning method for students with a kinesthetic learning style is through the use of tools that they can use directly, giving project assignments, giving students the freedom to move but remain organized, as well as carry out practicum. However, not all materials can use all learning methods at once so that teachers can choose alternatives to implement differentiated learning, one of which is product differentiation. According to Mahfudz (2023) product differentiation is a strategy that refers to the teacher's ability to modify student learning outcomes by adjusting their learning style.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that the tendency of the learning style of class X students in culinary 2 is as many as 15 visual people, 5 auditory people and 12 kinesthetic people. The percentage is 47% visual, 16.2% auditory, and 36.8% kinesthetic.

Teachers should be able to apply a variety of learning methods so as to accommodate the learning styles of each student. In addition, teachers can also apply differentiation learning, namely product differentiation where students are given different assignments according to student characteristics.

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