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### **Analysis of Learning Styles of High-Achieving Students**

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#### **Abstract**

Differences in students' learning styles, as part of the individual characteristics that cause differences in students' learning outcomes, need to be considered in the learning process. This study aims to analyze the differences in learning styles of high achieving students and students with scores below KKM. This research is a qualitative research with a sample of 50 students from SMA Negeri 1 Aek Natas. Data collection techniques were carried out by using questionnaires, interviews and observation. Data analysis techniques were carried out using Miles and Huberman methods. The results showed that for a visual learning style tendency of 28, students with a kinesthetic learning style tendency of 14, and students with an auditory learning tendency of 8. The learning style of achieving students with grades 1-3 dominates the auditory where students prefer discussion and active in giving opinions to friends and teachers. The learning styles of students with grades below KKM are all three. However, students prefer the kinesthetic learning style because the material is presented in a hands-on way, so students are more enthusiastic about learning activities.

**Keywords:** *KKM, Learning Style, Outstanding Students*

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## INTRODUCTION

The next generation of a quality nation that will continue national development so that it can compete with other nations and countries and survive in the midst of globalization. One way to improve the quality of education is to change the curriculum at all levels of education to be more student-centred (Aulia et al., 2022). A student's success in achieving learning outcomes is strongly influenced by a number of factors, one of which is the way in which the student learns. The way of learning is a characteristic of each individual in processing the information received. Everyone has a different way of learning according to their individual characteristics (Safira et al., 2018).

The teaching and learning process that becomes a priority is a way of learning that can later determine the success of the student's learning while at school. Learning achievement is a person's level of success in following the process in which student success can be seen from the student's final grade (Yanti et al., 2021). The ability to understand and absorb lessons is the ability of someone who has different levels of ability. Some are very slow and some are fast in understanding the lessons they receive in school. The use of appropriate learning methods and in accordance with their learning styles will help students to absorb information optimally and effectively so that they can improve their performance (Ressy, 2014).

Knowing students' learning styles is very important for teachers and parents because knowing students' learning styles makes it easier to take steps to help students themselves in the learning process and to absorb information more quickly and easily. Likewise, for teachers who already know students' learning styles, it will be easier for them to create an academic atmosphere that will help students in the learning process. For parents who already know their child's learning style, parents will be wiser in responding to the way children learn that they like, and parents will not demand that children learn according to the parents' wishes (Lestariwati et al., 2021).

Learning styles are divided into 5, namely through: 1) the visual senses, namely reading, seeing, observing and imagining; 2) the auditory senses, namely listening and discussing; 3) the tactile senses, namely experiencing, doing, feeling and intuiting; 4) the sense of smell or olfaction; and 5) the sense of taste or gustation. (Prabawati and Muhadi, 2021). Most people have a predisposition to one learning style over another. According to the research, these tendencies are 29% visual, 36% auditory and 37% kinesthetic. As an adult, the tendency for learning styles is visual.

There are several factors that influence student performance, namely external factors and learning approach factors. There are factors that come from within the student, there are factors that come from outside the student, and there are factors that come from the student's approach to learning. Internal factors include the physical and mental aspects of the student. Factors external to the student include the student's environment. While the learning approach factors include methods or techniques used by students in the learning process to support the effectiveness and efficiency of students in the learning process (Aulia et al., 2022). Based on the results of observations made in Class X SMA Negeri 1 Aek Natas, North Labuhanbatu Regency, it can be seen that some students wrote the material presented by the teacher during the learning process and some students listened to the material first, after the teacher finished explaining the material, the students started writing the material. . When there are tasks that the teacher gives to the students, the students will ask their smart friends to help them explain the material that the teacher has given. However, there are also students who prefer to ask their smart friends directly for help with their assignments.

The results of the interviews with the teachers showed that the pupils often had learning difficulties in mathematics because it was considered difficult to re-explain the formulas that had been explained by the teacher. The next subject is biology, because many students are lazy to memorise Latin terms in biology lessons. In these two subjects, some students have KKM scores, so they need to be given remedial help in the form of extra work to bring their scores up to the KKM. On the other hand, the results of the interviews with the students indicated that mathematics and biology were difficult to understand because the teacher was less competent in giving explanations. Especially in Biology, the teacher only asks the students to memorise foreign terms and never does any practice on certain material to make it easier for the students to understand the material. Therefore, the purpose of this study was to analyse the learning methods of students who excel with students who score below the KKM.

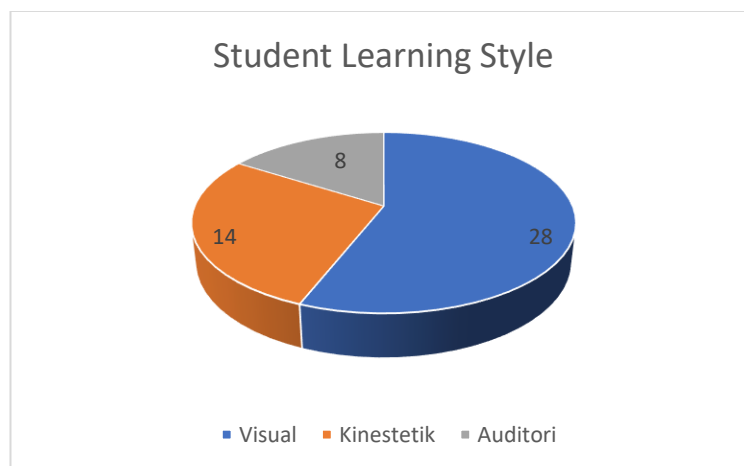
## METHODS

This study uses qualitative research with a descriptive approach. The data collected in this descriptive qualitative research is in the form of words, pictures and not numbers. Qualitative research is a scientific research that aims to understand a phenomenon in a natural social context by prioritising a process of in-depth communication interaction between the researcher and the phenomenon being studied. The sample in this study were students of grade X of SMA Negeri 1 Aek Natas, North Labuhanbatu Regency, North Sumatra. The research instrument is a tool used to collect data. In collecting data, the researcher used research instruments, namely interview guidelines, observation sheets, questionnaires and documentation. Data analysis techniques were carried out using the Miles and Huberman models, namely data reduction, data presentation, and drawing conclusions.

## RESULTS AND DISCUSSION

### Description of Student Learning Style Data

The data obtained from the learning style questionnaire is categorized according to DePorter and Hernacki's (2005) types of learning styles, namely auditory, visual and kinesthetic. Each type of learning style has the same number of items, so the categories are calculated from the highest number of response options that indicate the type of learning style. Based on the students' responses, the number of students with a visual learning style tendency was 28, the number of students with a kinesthetic learning style tendency was 14, and the number of students with an auditory learning style tendency was 8 (Figure 1).



**Figure 1.** Student Learning Style

The results show that students have more visual learning styles in order to absorb the information provided by the teacher more easily. For students who excel with rank 1, they prefer auditory learning styles because students have verbal abilities compared to visual and kinaesthetic. For students who are below KKM, they prefer visual learning styles.

### Analysis of the learning styles of high achievers

The results of the questionnaire analysis show that the students' learning styles tend to be visual and based on the results of the interviews with the students who received ratings of 1-3, it is found that the students have auditory and visual learning styles. Students understand more easily using the discussion method and watching learning videos because it is easier to understand and they can ask the teacher as many questions as they like if there is material they do not understand. Learning styles are individual, which means that everyone has their own learning style which is influenced by internal and external factors. The importance of learning styles in achieving success and maximal the learning process (Murfi and Rosidah, 2016).

Based on the results of the analysis of the data obtained during the observation, the researcher found several activities that were seen by the students who excelled in rankings 1-3 in class X, that is, the students showed an attitude as someone with an auditory and visual

learning style. During the learning process, students listen to what the teacher is saying and then note down the parts that are considered important, and when the teacher gives space for students to discuss, students are seen to be active in expressing their opinions and arguing with other students. The notebooks of outstanding students in grades 1-3 are very well organised and often invite other friends to discuss the material presented by the teacher. For outstanding students with a visual learning style in teaching and learning activities, notes are made neatly according to what the teacher presents and students feel comfortable sitting on a bench to record everything listed in the teacher's presentation material. The results of previous studies indicate that visual and auditory learning styles have a significant impact on student achievement. (Ressy, 2014). Students with a visual learning style understand information better when they read or see illustrations or pictures. One learning strategy that works well for students with a visual learning style is concept mapping. Concept maps or learning maps are a dynamic way of capturing key information in bullet points. The other appropriate strategies to facilitate the learning process for students with a visual learning style are: a) asking students to illustrate their ideas with pictures (e.g. making concept maps / mind maps), b) asking students to read illustrated books (e.g. comics, fairy tales), c) presenting visual material in forms such as pictures, diagrams and maps, d) using multimedia in the learning process (e.g. PPT on laptops/computers, learning videos), e) using colour to mark important things (e.g. using highlighters, markers) (Safira et al., 2018)

In determining the learning styles of the high achieving students, the researcher also conducted interviews where the results of the interviews showed similarities to the results of the observations that had been made. By looking at the results of the analysis of the questionnaires, observations and interviews, the researcher found that the learning styles of high achieving students did not only use one learning style, but also used other learning styles. This means that it is possible for the subject to have strong, neat and orderly memories, which are the characteristics of the visual learning style, then to have the ability to tell stories and to relate to other people with dialogue, which are the characteristics of the auditory learning style, also to have the ability to craft, which is one of the behaviours that reflects the character of the kinesthetic learning style. All these things can be embedded in people and make a good combination (Rosyid, 2019)

#### **Analysis of learning styles of students with grades below KKM**

The results of the questionnaire analysis showed that students with scores below the KKM have three types of learning styles, namely auditory, kinaesthetic and visual. Students have KKM scores because they do not have achievement motivation. Pupils prefer to make noise when teaching and learning activities take place because the teacher is not good at delivering the subject matter. However, there are also students who score below the KKM because they prefer material presented in a practical or kinesthetic way. This obstacle makes students slow to understand the material because most subjects do not have hours of practice. The teacher only teaches orally and also uses pictures.

The results of the interviews with pupils who scored below the KKM indicated that they were not interested in school, preferred to play with friends, and that the teacher often gave them tasks that made them reluctant to complete them. Pupils prefer to cheat on friends whose performance is mediocre, because subjects with performance ratings of 1-3 are not willing to help other friends in teaching and learning activities. They usually only make friends with fellow students who are smart so that knowledge gaps can be found. The results of the students' observations showed that when the teacher presents the material, the students were just silent and even fell asleep, some were noisy and disturbed their friends (Rusmiati, 2017).

When the teacher gives tasks in class, the students actually go to their friends' desks, not to discuss and look for answers, the students just interrupt and ask their friends for answers. If their friends don't give an answer, some students get angry and hit their friends. However, when there were practical subjects, students were very enthusiastic to follow them, especially in physical education, sports and health subjects. Pupils seem enthusiastic about changing uniforms and helping teachers to prepare sports equipment. Pupils seem to really enjoy the lesson and look different from pupils who excel academically, when subjects such as sports, pupils are not interested in taking part in the lesson.

Achievement motivation can come from internal or external sources. External motivation can be obtained by students from peers, the environment, parents and teachers at

school. Good achievement motivation will increase students' success in learning economics. If students have high achievement motivation in learning, then student success in learning will be achieved. (Aulia et al., 2022). Each student has different achievement motivation, but what distinguishes students with high or low achievement motivation is the desire to achieve. Therefore, achievement motivation is very important for each student, because with high achievement motivation, students will always try to achieve good learning outcomes in economics learning. Previous research has been carried out by (Rusmiati, 2017) which found that there was a significant impact of achievement motivation on learning outcomes.

Students are used to the teacher's teaching style and this tendency is formed in the teacher's teaching style, which can be seen from the students' learning styles, which are still very variable and adapt to the teacher's teaching style. So the most important thing in this study is that students can find out what learning style they have. So that students can learn with their learning style and feel comfortable while studying and for teachers it is expected to know each student's learning style so that they can optimise and adapt their teaching methods to students' learning styles. So that teachers can teach with the different learning styles that exist in students to improve students' learning outcomes, especially in science subjects where there are still scores below the KKM, and to make learning more varied and effective. (Yanti et al., 2021).

## CONCLUSION

The learning styles of outstanding students and students with scores below the KKM are visual, kinaesthetic and auditory. The results of the analysis of learning styles are dominated by visual learning styles where students prefer material that contains pictures and videos. The second learning style is auditory, where students like the discussion method and actively question the teacher about the material being taught. The third learning style is kinaesthetic, where students prefer practice to pictures and discussion. Students with scores below the KKM tend to be more lazy in teaching and learning activities and prefer to play with their friends rather than study in class.

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