Recognizing Students' Characteristics in Implementing Differentiated Learning at SMKN 10 Jeneponto

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Abstract

This research explores how English teachers at SMKN 10 Jeneponto identify student characteristics in the implementation of differentiated learning, which is aligned with the "Merdeka" curriculum. This research uses mixed methods that combine qualitative and quantitative research. In collecting data, the researchers conducted interviews, questionnaires, and documentation. Three English teachers participated as subjects in this research. The findings show that teachers use questionnaires administered by counseling teachers and follow-up interviews to detect students' learning styles, such as visual, auditory, or kinesthetic. From the results of the questionnaire analyzed by the researchers, it was found that 58.33% of students with visual learning style, 37.5% auditory, and 4.17% visual-auditory. After the questionnaire from the counseling teacher, the subject teachers also conducted follow-up interviews to find out more about students' learning styles and abilities. In identifying students' abilities, teachers also rely on observations during the learning process and targeted questions at the beginning of the lesson. This method allows teachers to adjust their instructional strategies to meet students' needs more effectively. The research concludes that combining interviews and questionnaires provides a comprehensive approach to understanding students' learning styles and abilities, which contributes to the successful implementation of differentiated learning. This approach increases student engagement, supports individual learning preferences, and ultimately improves learning outcomes.

Keywords*: Kurikulum Merdeka, differentiated learning, students' characteristics*

INTRODUCTION

Differentiated learning focuses on students' circumstances. In the implementation of differentiated learning, several student conditions must be considered, such as learning interest, learning styles, and students' abilities. According to Al-Shehri (2020), each student has differences in abilities, experiences, learning methods, needs, and learning styles. Therefore, teachers need to understand student characteristics, particularly their abilities and learning styles, before implementing differentiated learning. This is important because students have different characteristics. Additionally, differentiated learning provides equal opportunities for every student in classroom learning. According to Robinson, Maldonado, & Whaley (2014), differentiated learning gives students the opportunity to understand or absorb material based on their characteristics, skills, styles, and talents. Differentiated learning is a way for teachers to introduce and teach material tailored to the characteristics and learning styles of students (Marlina, Efrina, & Kusumastuti, 2019). Thus, every student can receive equal treatment and opportunities in learning, despite their varying learning styles and characteristics. Therefore,

the implementation of differentiated learning must begin with recognizing student characteristics such as their abilities and learning styles to ensure equal opportunities for all students.

In implementing differentiated learning, one important characteristic of students that becomes the focus in class is their learning style. The main characteristic that educators need to understand is students' learning styles (Cahya, Pamungkas, & Faiqoh, 2023). Learning style refers to how students take in, process, retain, and comprehend new information or content, (Marlina, 2019). According to Montgomery and Groat in Ghufron, there are several reasons why learning style is important in education, including adjusting to students' knowledge base, tasks, personalities, and talents to make the learning process more beneficial (Zuana, Rumfot, Aziz, Handayani, & Lestari, 2023). Learning styles are important for accommodating students' different knowledge bases, which encompass how students understand, remember, and process material. By understanding students' learning styles, teachers can adapt teaching methods to fit students' needs and preferences. Moreover, by understanding students' learning styles, teachers can assign tasks that align with students' knowledge base, personalities, and talents. Considering students' learning styles during the learning process helps them better understand the material and overcome difficulties they face during the process. The learning process carried out according to students' different learning styles can improve their understanding and memory (Hassan, Habiba, Majeed, & Shoaib, 2019). Thus, considering students' learning styles during the learning process will improve their understanding of the material, allowing teachers to adapt their approach accordingly.

According to Ramadian, Cahyono, & Suryati (2019), There are three primary learning styles: visual, auditory, and kinesthetic. According to Braden, Visual literacy is the skill to interpret, utilize, and create images effectively, (Aisami, 2014). Auditory learning styles process and understand information through tone, emphasis, and speed (Gilakjani, 2012). Students with a kinesthetic learning style understand material better when they take an active, hands-on approach or learn through movement (Gilakjani, 2012). These three learning styles process and understand learning material in different ways. By identifying students' learning styles, teachers have a reference to choose appropriate teaching methods for the learning process. Addressing each student's learning style aligns with the differentiated learning approach to meet every student's needs. Differentiated learning acknowledges students' differences in learning from various aspects, one of which is learning style. Therefore, before implementing differentiated learning, the primary thing teachers must understand is the students' learning styles to accommodate their needs.

Differentiated learning is relatively new in Indonesia. However, understanding students' learning styles has been practiced even before differentiated learning was introduced in Indonesia. Lestari & Djuhan (2016), conducted research titled "Analysis of Visual, Auditory, and Kinesthetic Learning Styles in the Development of Student Learning Achievement". This research aimed to identify the visual, auditory, and kinesthetic learning styles of students in improving their learning achievement in social studies subjects. Furthermore, Wassahua (2016), in her research titled "Analysis of Students' Learning Styles on Mathematics Learning Outcomes in Set Theory for Seventh Grade Students of SMP Negeri Karang Jaya, Namlea District, Buru Regency", aimed to describe students' learning styles and how they influenced their mathematics learning outcomes. Differentiated learning has been widely implemented in Indonesia in line with the application of the "Merdeka" curriculum. One of the schools implementing differentiated learning is SMKN 10 Jeneponto. The implementation of differentiated learning at SMKN 10 Jeneponto is aligned with the "Merdeka" curriculum and

has been applied since 2022. This research aims to explore how teachers identify each student's learning style in the implementation of differentiated learning at SMKN 10 Jeneponto.

METHOD
Research Design

This research used a mixed methods approach, which combined qualitative and quantitative elements. A mixed methods approach was a research methodology in its own right, (Dawadi, Shrestha, & Giri, 2021). The mixed methods approach was used to obtain a comprehensive understanding of students' learning styles by combining quantitative data from questionnaires and qualitative insights from teacher interviews. This approach provided a deeper and more accurate analysis by integrating numerical trends with detailed descriptions of students' learning preferences. This research explored how teachers identified students' characteristics, specifically their learning styles, before implementing differentiated instruction. The research was conducted at SMKN 10 Jeneponto. The subjects in this research were English teachers and class X students at SMKN 10 Jeneponto. The samples in this research were all English teachers in class X TKJ, consisting of 24 students. In determining the teachers as the research sample, total sampling was used. To determine the student sample, the researchers used random sampling. The selection of students was done using random sampling by determining which class would be used as the research subject.

Technique of Data Collection

This research used two data collection techniques, namely qualitative and quantitative. For qualitative data, the researchers used interviews, and for quantitative data, the research used documentation.

a. Interview

An interview is a dialogue aimed at collecting descriptions of the interviewee's experiences, focusing on how they interpret the meaning of the phenomena being discussed, (Kvale, 1996; Alshenqeeti, 2014Interviews were carried out to collect information on how teachers identify each student's learning style in the practice of differentiated instruction. Before conducting the research, the researchers prepared several questions related to the research objectives. However, the researchers could also ask questions beyond those that had been prepared. The researchers conducted interviews with three English teachers at SMKN 10 Jeneponto regarding how they identify students' learning styles.

b. Questionnaire

According to Sugiyono (2017), a questionnaire is a data collection method carried out by providing a series of written questions or statements to respondents to answer. A questionnaire is a data collection method conducted by providing various questions related to the research problem (Prawiyogi, Sadiah, Purwanugraha, & Elisa, 2021). This questionnaire was used by teachers to identify students' learning styles. The questionnaire consisted of 35 questions with three options: option a for visual, option b for auditory, and option c for kinesthetic. The results of this questionnaire were analyzed by researchers to help strengthen the interview findings.

c. Documentation

Document study is a qualitative data collection method that involves examining and analyzing documents created by the subject or by others related to the subject (Nasution, 2023). In this research, the researchers used documentation techniques to support data from interviews and questionnaires. Through this documentation technique, the researchers also obtained the learning style questionnaire and the learning style results from the class being studied.

Technique of data analysis

In analyzing the data that has been collected through interviews and documentation. The researchers then analyzed the data through three stages. According to Miles and Huberman (1994), there are three interactive patterns carried out in analyzing qualitative data, namely:

a. Data Reduction

Data reduction is the process of choosing, concentrating, simplifying, abstracting, and transforming raw data that arise from written field notes, (Rijali, 2018). The researchers recorded and summarized important points during the research process and compiled them to clarify the research results. Through the data reduction process, the researcher aimed to understand how teachers identify each student's learning style in the implementation of differentiated learning.

b. Data Display

Data display has been considered an important step during the qualitative data analysis or the writing-up stages (Miles & Huberman, 1994; Verdinelli & Scagnoli, 2013). Data display is a way of presenting information concisely, efficiently, and in detail, summarizing longer pieces of information. Through data display, the researchers present the research findings in detail to achieve the research objectives.

c. Drawing Conclusion

Conclusion is one of the most important aspects of qualitative research (Nugrahani, 2014). The final step in data analysis is drawing conclusions to help readers easily understand the content or findings of the research. At the conclusion stage, the researchers present the findings briefly, concisely, and clearly so that the core of the research is more transparent and easier to comprehend.

The researchers used descriptive statistics for quantitative data analysis. Descriptive statistics was a statistical analysis method used to provide an overview or description of the data that had been collected. The main purpose of descriptive statistics was to summarize and organize data systematically so that it could be understood and interpreted more easily (Sudirman, et al., 2020). In descriptive statistics, the researchers calculated the relative frequency and mean of the students' learning style questionnaire results.

Frequency

Frequency showed the number of occurrences of data values with certain categories (Wiswasta, Sukamerta, Wedagama, & Agung, 2017). The relative frequency distribution was a frequency distribution whose frequency was not expressed in the form of absolute numbers or absolute values, but each class was expressed in the form of percentage numbers (%) or relative numbers (Adiputra, 2022). The relative frequency distribution calculation technique was done by dividing the frequency distribution number (n) multiplied by 100% with the formula.

$$F = \frac{\text{Class Frequency}}{\text{Total Data}} \; x \; 100\%$$

Description:

- Class Frequency: The number of occurrences of a data in a particular class.
- Total Data: The total of all observed data.
- Relative frequency results are usually expressed as a percentage (%).

Mean

Mean is influenced by extreme values. Mean is calculated by summing all observed data values and then dividing by the amount of data (Wiswasta, Sukamerta, Wedagama, & Agung, 2017). The mean formula is:

$$Mean = \frac{\sum X}{N}$$

Description:
- $\sum X$ = Sum of all data values.
- N   = Amount of data.

FINDINGS AND DISCUSSION
Findings

Based on the results of interviews with teachers, the following was how they detected student characteristics, namely learning styles and student abilities.

1. Learning Styles

In detecting students' learning styles, there were two ways that teachers used, namely students filled out questionnaires conducted by counseling teachers and further interviews were done by teachers. The following was the explanation:

a. Questionnaire from counseling teacher

Counseling teachers assisted teachers in detecting students' learning styles through questionnaires. The questionnaire prepared by the counseling teachers aimed to identify students' learning preferences, such as visual, auditory, or kinesthetic. After the students filled in the questionnaires, the counseling teachers provided the data to the subject teachers to be used in designing learning strategies, as stated by Teacher 2 and Teacher 3 in the following extract:

> **Extract 1 (Teacher 2: 20/02/2024)**
> "Previously, the students had been given a diagnostic test by the school counselor, so we, the teachers, immediately received the results of the students' learning styles, such as visual, auditory, and kinesthetic."

From Teacher 2, it was explained that to find out students' learning styles, the counseling teacher had done it beforehand. BK teachers prepared questionnaires related to learning styles. Each answer given by students determined their learning style, whether visual, auditory, or kinesthetic. The same thing was also conveyed by Teacher 3 in the following extract:

> **Extract 2 (Teacher 3: 20/02/2024)**

"If the student's learning style was first tested by the BK teacher through a questionnaire, the results were given to me."

Teacher 2 explained that students' learning styles had been tested in advance by the BK teacher through a questionnaire, from the results of the questionnaire the BK teacher submitted the results to the teacher.

The learning style survey from the school counselor consisted of 35 questions, each with three answer choices. The survey was designed by the counselor to identify students' learning preferences, whether visual, auditory, or kinesthetic. Based on the survey, it was found that the teacher prepared 35 questions to determine the students' learning styles, whether visual or auditory. Based on the survey, here are the test results of the students from class X.TKJ at SMKN 10 Jeneponto:

Table 1. Questionnaire results of learning styles of students in class X.TKJ

No.	Students Name	Visual	Auditory	Kinesthetic	Dominant Learning Styles
1.	AS	10	15	10	Auditory
2.	AH	16	15	4	Visual
3.	EP	7	21	7	Auditory
4.	Fn	14	10	11	Visual
5.	Fi	15	16	4	Auditory
6.	H	15	12	8	Visual
7.	IA	20	7	8	Visual
8.	Ir	14	12	9	Visual
9.	Is	12	16	7	Auditory
10.	J	16	10	9	Visual
11.	Ma	16	15	4	Visual
12.	Me	11	13	11	Auditory
13.	MCT	17	12	6	Visual
14.	MJ	13	13	9	Visual, Auditory
15.	NAP	14	10	11	Visual
16.	Na	14	10	11	Visual
17.	Nu	11	15	9	Auditory
18.	P	11	14	10	Auditory
19.	RAP	14	9	12	Visual
20.	RE	15	9	11	Visual
21.	SE	10	19	6	Auditory
22.	T	10	17	8	Auditory
23.	VA	16	7	12	Visual
24.	WAP	15	10	10	Visual

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Frequency and Percentage learning styles students
Visual

$$F = \frac{\text{Class Frequency}}{\text{Total Data}} \; x \; 100\%$$

$$F = \frac{14}{24} \; x \; 100\%$$
$$F = 0.5833 \; x \; 100\%$$
$$F = 55.33\%$$

Auditory
$$F = \frac{\text{Class Frequency}}{\text{Total Data}} \; x \; 100\%$$
$$F = \frac{9}{24} \; x \; 100\%$$
$$F = 0.375 \; x \; 100\%$$
$$F = 37.5\%$$

Visual-Auditory
$$F = \frac{\text{Class Frequency}}{\text{Total Data}} \; x \; 100\%$$
$$F = \frac{1}{24} \; x \; 100\%$$
$$F = 0.0417 \; x \; 100\%$$
$$F = 4.17\%$$

Mean

Visual
$$Mean = \frac{\sum X}{N}$$
$$Mean = \frac{10 + 16 + 7 + 14 + 15 + 15 + 20 + 14 + 12 + 16 + 16 + 11 + 17 + 13 + 14 + 14 + 11 + 11 + 14 + 15 + 10 + 10 + 16 + 15}{24}$$
$$Mean = \frac{326}{24}$$
$$Mean = 13.58$$

Auditory
$$Mean = \frac{\sum X}{N}$$
$$Mean = \frac{15 + 15 + 21 + 10 + 16 + 12 + 7 + 12 + 16 + 10 + 15 + 13 + 12 + 13 + 10 + 10 + 15 + 14 + 9 + 9 + 19 + 17 + 7 + 10}{24}$$
$$Mean = \frac{307}{24}$$
$$Mean = 12.79$$

Kinesthetic
$$Mean = \frac{\sum X}{N}$$

$$Mean = \frac{\begin{array}{c}10 + 4 + 7 + 11 + 4 + 8 + 8 + 9 + 7 + 9 + 4 + 11 + 6 + 9 + 11 + 11 + 9 \\ 10 + 12 + 11 + 6 + 8 + 12 + 10\end{array}}{24}$$

$$Mean = \frac{207}{24}$$

$$Mean = 8.63$$

Based on the analysis of quantitative data using descriptive statistics, the results showed that the most dominant learning style among students was the visual learning style, with a relative frequency of 58.33% or 14 out of 24 students, and a mean score of 13.58. The auditory learning style ranked second, with a relative frequency of 37.5% or 9 out of 24 students, and a mean score of 12.79. Meanwhile, the visual-auditory learning style had the lowest relative frequency, at 4.17% or 1 out of 24 students, indicating that very few students used a combination of sight and hearing in the learning process. The kinesthetic learning style had the lowest mean score, at 8.63, indicating that this preference was less dominant compared to the visual and auditory learning styles. Overall, the analysis results indicated that most students tended to use the visual learning style more than other learning styles.

Based on the results of the learning style survey, out of 24 students in class X.TKJ, there were 14 students with a visual learning style, 1 student with a visual-auditory learning style, and 9 students with an auditory learning style. From the table, it was found that no student had a single learning style without involving other learning styles. Every student had aspects of visual, auditory, and kinesthetic learning styles, but one style was more dominant. From the results of the student learning style test, there were three dominant representatives from the test results, namely AS, AH, and MJ. AS was more dominant in auditory learning, but he could also learn through visual or kinesthetic styles, as the difference between visual and kinesthetic to auditory was only 5 points. AH, with a visual learning style, had only a 1-point difference. MJ had a visual-auditory learning style because he had equal points in both, with a score of 13. This showed that each student could learn with different learning styles depending on the material or subject, but one learning style would be more dominant. Based on the results of the interview, it was seen that the counseling teacher detected students' learning styles by distributing questionnaires. This was done to help subject teachers recognize the characteristics of each student.

c. Interview by subject teacher

After the learning style test was conducted by the counseling teacher, the results were given to each teacher. Some teachers then conducted follow-up interviews to further explore students' learning styles, ensuring a better understanding of how each student learns. This was stated by Teacher 1 during an interview session with the researchers in the following extract:

Extract 3 (Teacher 1 (20/02/2024).
"The Merdeka curriculum and differentiated learning are something new, but before that, I already knew my students. However, when differentiated learning was implemented, I had to group the students based on their learning styles. So, I conducted interviews to determine their learning styles, even though I could already make some guesses. But I needed to confirm them. My approach was to ask the students directly, one by one. For example, during the interviews, I brought learning materials, either in the form of readings or videos, and showed them to the students to see if they preferred learning by reading, watching, or

practicing directly. I also usually asked the students, before the lesson started, who preferred learning by reading, watching and listening, or practicing directly. From there, I observed who raised their hands. For the group division, if I separated the visual and auditory learners, the groups would become too large, so I created several smaller visual and auditory groups."

Teacher 1 used interviews to identify students' learning styles by providing reading texts and videos, asking students if they preferred learning through reading, watching, listening, or hands-on practice. This helped the teacher tailor materials to match students' learning styles. The interviews were conducted in-depth and before the learning process to ensure appropriate learning strategies were developed without disrupting the students' learning.

2. Students Ability

Knowing student characteristics was not only done before learning began. There were student characteristics that teachers learned about after the learning process took place, namely student abilities. As stated by teacher 1 in the interview session in the following extract:

Extract 4 (Teacher 1: 20/02/2024).
"*To assess my students' abilities, I didn't use any specific method or strategy; I just observed the students in their daily activities. However, it wasn't easy to determine this, and it usually took at least 6 meetings. In assessing these abilities, there were both formative and summative evaluations. To observe student behavior, I conducted observations, such as noticing whether a student participated actively during small group discussions, shared ideas, or if there were students who played more and were less focused. That's where I monitored their progress. Actually, it wasn't always 6 weeks, sometimes it could be 3 weeks. If by the second meeting a student participated more actively, occasionally shared ideas, but was still less focused in learning, I would take note of that progress.*"

Teacher 1 identified students' learning styles over 3 to 4 meetings by observing their participation in group discussions, idea-sharing, and focus during lessons. She needed multiple meetings to consistently observe these behaviors. Different things were expressed by teacher 3 in the following extract:

Extract 5 (Teacher 3: 20/02/2024).
"*Before starting the lesson, I conducted a diagnostic test to determine the students' abilities, as the learning style test had already been administered by the school counselor. The responsibility for assessing the students' abilities was left to each subject teacher. I prepared general questions related to the subject, with around 10 English-related questions suitable for the students I taught. The question format was adjusted, either multiple-choice or essay. I usually provided questions related to vocabulary or the use of tenses. If a student answered fewer than 5 questions correctly, I classified their ability as low; if they answered around 7 correctly, I classified it as medium; and if they answered all or only 1 incorrectly, I classified it as high. However, before starting any new lesson or material, I prepared 3-5 trigger questions to gauge the students' understanding of the topic I was about to teach. For the trigger questions, not all students had to answer, because during this time, whenever I asked the questions, none of them were answered by all the students.*"

Teacher 3 conducted a diagnostic test at the start of the semester to assess students' abilities with 10 vocabulary and tense-related questions. Students were categorized as low, medium, or high ability based on their scores. Before new material, the teacher used 3-5 trigger questions, only requiring answers from those able to respond. Each teacher had their own method for assessing student characteristics, with abilities being assessed during the learning process, while identifying learning styles took more time.

Discussion

The results found that in detecting student characteristics, there are two characteristics that teachers pay attention to, namely learning styles and student abilities, namely:

1. Learning Styles

In detecting students' learning styles, there were two ways that teachers used, namely students filled out questionnaires conducted by counseling teachers and interviews conducted by subject teachers, namely:

a. Questionnaire from counseling teacher

The process of identifying students' learning styles began through questionnaires prepared and administered by counseling teachers. This approach effectively gathered data about students' learning preferences (visual, auditory, or kinesthetic) allowing teachers to tailor their instruction according to the needs of each student. These three learning styles visual, auditory, and kinesthetic (VAK) are based on how students comprehend and process information (Ramadian, Cahyono, & Suryati, 2019). Students were tested by the counseling teachers before lessons began, and teachers only received the test results. Sari (2014) and Syawahid & Putrawangsa (2017) also used questionnaires to identify students' learning preferences, confirming that questionnaires can effectively detect learning styles. The survey results indicated that 14 students had a dominant visual learning style, 9 students favored auditory learning, and 1 student demonstrated a balanced preference between visual and auditory learning.

The visual learning style was the most dominant among students in class X.TKJ at SMKN 10 Jeneponto, with a percentage of 58.33%, or 14 out of 24 students showing a preference for visual learning. This finding suggests that most students learn more effectively through visual materials such as diagrams and written information. The mean score for the visual learning style was 13.58, higher than both auditory and kinesthetic learning styles. The auditory learning style was the second most preferred, with a frequency of 37.5% or 9 out of 24 students, and a mean score of 12.79. This indicates that many students benefit from learning through discussions and verbal explanations. Wiedarti (2018) noted that although students may predominantly use one style, they can absorb information through combinations of styles, such as visual-auditory, visual-kinesthetic, or auditory-kinesthetic. Only one student (4.17%) had a balanced preference between visual and auditory learning styles, suggesting that combining visual and auditory methods can enhance their understanding and retention. Wibowo (2016) also stated that students are not limited to one learning style, although one style is usually more dominant. The kinesthetic learning style, although present in all students to some extent, was the least dominant, with a mean score of 8.63. This indicates that learning through direct methods or hands-on experiences is not the primary method for most students, but it still plays a role in their learning process.

It is important to note that no student exhibited a pure learning style. All students displayed aspects of visual, auditory, and kinesthetic learning styles, although one was more dominant. This supports the idea that learning styles are flexible and students may exhibit multiple preferences depending on the material or subject being taught. The presence of three representative students AS, AH, and MJ illustrates the diversity of learning styles. AS demonstrated a dominant auditory learning style but could also learn through visual or kinesthetic methods. AH primarily had a visual learning style, while MJ showed a balanced visual-auditory learning style. These findings highlight the need for teachers to employ various teaching approaches to accommodate diverse learning styles. A variety of teaching methods employed by educators to cater to the diverse learning styles of students is crucial in contemporary higher education, (Yang, 2024).

b. Interview by Subject Teacher

The learning style interview was conducted by the teacher after obtaining the results of the questionnaire test conducted by the counseling teacher. However, not all teachers did it. In interview activities, teachers tried to explore student characteristics more deeply. This interview aimed to help the teacher find out the learning methods preferred by students, so that students could understand the material more easily. The interview activity was carried out before starting learning at the beginning of the semester. After conducting the interview, the teacher began to develop a learning strategy or model that was tailored to the results of the interview. In research conducted by Ritonga and Rahma (2021), they used interviews as the next stage after students filled out questionnaires. In the research, they analyzed students' learning styles in online learning based on student interest. This interview method not only confirmed the results of the questionnaire but also provided an opportunity for teachers to adjust their teaching methods and materials to fit each student's preferences. The detailed approach taken by Teacher 1, using videos, reading texts, and direct questions during the interview, exemplified a proactive and personalized strategy in understanding learning styles. This highlighted the importance of validating quantitative data from questionnaires with qualitative, individualized methods such as interviews. In a research conducted by Angkat, Novianti, and Ramadani (2022) regarding the variations in learning styles in Indonesian language education at the elementary level, the researchers conducted interviews with students to identify their learning styles. In the research conducted by Lestari and Djuhan (2021), the teacher interviewed students with kinesthetic learning styles by asking several questions, such as whether the students learned using body language and whether they read while walking.

2. Students' Ability

In terms of student abilities, the research findings revealed that teachers used various methods to assess and monitor student progress. Teacher 1, for example, relied heavily on observation during classroom activities, noting student engagement, participation, and behavior over several sessions. This formative assessment technique allowed her to gradually measure students' abilities in a natural and low-pressure environment. The flexibility of time provided—ranging from 3 to 6 weeks to make accurate assessments—illustrated how observing students in different contexts over time could provide a more comprehensive understanding of their abilities. Research conducted by Estari (2020) explained that understanding student characteristics during the learning process was better so that learning objectives could be achieved effectively. To understand children, educators need to utilize all information sourced from both the internal and external aspects of the child, (Janawi, 2019).

On the other hand, Teacher 3 adopted a more formal approach by conducting diagnostic tests at the beginning of the semester. One way to determine students' ability levels was by conducting a diagnostic test, (Widiyatmoko & Shimizu, 2018). Mutmainna, Mania, and Sriyanti (2018) conducted research by developing diagnostic tests to determine students' abilities or understanding in mathematics. Vellayati, Nurmaliah, Sulastri, Yusrizal, and Saidi (2020) identified the level of students' conceptual understanding of hydrocarbon material using diagnostic tests. These tests, which focused on specific subject content such as vocabulary and grammar in English, provided a quick and informative snapshot of students' academic abilities. By classifying students into low, medium, and high ability groups based on their test performance, Teacher 3 was able to identify where students stood and adjust lessons accordingly. Additionally, the use of trigger questions at the beginning of new material allowed the teacher to continuously measure students' understanding throughout the semester, ensuring that instruction proceeded accurately. Teachers created questions for students that were incorporated into the lesson plan design to stimulate speaking intelligence, curiosity, initiate discussions among peers or with teachers, and encourage observation, (Maulida, 2022).

The ability to detect and assess students' learning styles and abilities was crucial for the successful implementation of differentiated instruction. Differentiated instruction required teachers to design lessons that accommodated the diverse needs, strengths, and weaknesses of students. Based on the findings, the teachers at SMKN 10 Jeneponto developed practical and adaptable methods to understand their students' characteristics, enabling effective student grouping and tailored teaching. However, it was important to note that despite the structured approaches employed—through questionnaires, interviews, and diagnostic tests—there remained diversity in students' performance and learning preferences. Teachers had to remain flexible and adaptive, revisiting their initial assessments and making ongoing adjustments as students progressed. The reliance on both quantitative methods (questionnaires, tests) and qualitative methods (observations, interviews) offered a comprehensive approach to understanding students but also highlighted the need for continuous monitoring and re-evaluation.

CONCLUSION

The findings of this study highlight the importance of recognizing and accommodating diverse learning styles to enhance the learning experience. The majority of students in class X.TKJ at SMKN 10 Jeneponto demonstrated a dominant visual learning style, while auditory learning was the second most preferred, and kinesthetic learning was the least dominant. However, all students exhibited aspects of visual, auditory, and kinesthetic learning styles, indicating that learning preferences are flexible and may vary depending on the material or subject being taught. This suggests that no single teaching method is effective for all students. Therefore, teachers should implement a variety of teaching strategies to cater to these diverse learning styles, enhancing student engagement and improving learning outcomes. By combining visual, auditory, and kinesthetic approaches, teachers can better support individual learning preferences and promote a more inclusive and effective learning environment.

Moreover, in identifying students' abilities, teachers conducted direct observations during the learning process. These observations were not only limited to students' behavior and participation in class but also to their ability to answer the trigger questions provided by the teacher. These questions were designed to explore students' critical thinking, creativity, and conceptual understanding. Through these observations, teachers could more concretely assess students' interests and abilities, making the teaching approaches more personalized and

effective. By combining questionnaires, interviews, and observations, teachers gained a comprehensive understanding of students' learning styles and abilities. This understanding enabled teachers to apply more appropriate teaching methods, allowing students to learn in ways that best suited their characteristics and potential.

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