An Exploration of Differentiated Instruction in Teaching English to Improve Students' English Literacy at Vocational Schools in Jeneponto District

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Abstract	Original Research Article

This study aims to examine the impact of differentiated instruction on improving English literacy among vocational high school students in Jeneponto Regency, identify the most effective differentiation strategies, and explore the challenges teachers face in its implementation. The research employed a mixed-methods approach, combining quantitative data (pre-tests and posttests) and qualitative data (observations and questionnaires). The number of participants was 150 students from varied vocational schools. Using purposive sampling, two classes were taken as the samples (XI TKJT1 and XI TKJ2). The samples comprised 30 students in the quasi-experimental class and 30 in the control class. The findings showed that differentiated instruction significantly improved students' literacy, with a significance value of 0.020 and an R Square of 0.179. In the quasi-experimental class, there were significant score increases in reading skill (from 73.50 to 91.83) and writing skill (from 70.17 to 85.37), while in the control class, there was a bit of improvement in reading skill (from 58.70 to 72.17) and writing skill (from 54.43 to 69.57). The product differentiation emerged as the most effective strategy, allowing students to express their understanding through various media based on their strengths. The challenges faced by teachers included time constraints, limited resources, and a lack of conceptual understanding. Proposed solutions involved professional training, adaptive classroom management, providing varied learning resources, and utilizing educational technology. Teacher-student collaboration in designing learning activities also enhanced the effectiveness of this strategy..

Keywords: Differentiated Learning, Mixed Methods, Teaching Strategies, Educational Technology, Teacher Challenges.

INTRODUCTION

Students in Indonesian vocational high schools (SMKs) continue to face considerable challenges in reading comprehension and broader literacy skills. According to the 2023 National Assessment (Asesmen Nasional) conducted by the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek, 2023), SMK students underperform in literacy compared to their peers in general education tracks, especially in tasks requiring analytical thinking, reflection, and interpretation of extended texts. These literacy tasks, modelled on international assessments like PISA, demand higher-order cognitive skills beyond basic reading, revealing a persistent gap in the ability of vocational students to engage with complex, real-world textual materials.

Several studies (e.g., Ahmadi, Ismail, & Abdullah, 2013) reinforce these findings, suggesting that vocational students' reading comprehension is hindered by limited vocabulary knowledge and difficulty in inferring meaning and synthesizing information. While reading is vital for understanding instructional and occupational texts, many SMK students also struggle with writing, particularly in organizing ideas and constructing grammatically accurate sentences. These deficiencies in foundational literacy not only impact academic success but also reduce students' readiness for employment, where comprehension of manuals, technical texts, and communication in English is increasingly important.

In response to these issues, the government has introduced teacher training programs and promoted classroom strategies to strengthen literacy instruction in SMKs. Under the Kurikulum Merdeka (Independence Curriculum), the emphasis has shifted toward student-centred learning that accommodates learners' individual needs. This shift aligns with the growing recognition that effective instruction must reflect students' diverse abilities, backgrounds, and learning preferences.

Differentiated instruction (DI), as conceptualized

by Tomlinson (2011), offers a pedagogical framework for addressing these diverse learning profiles. DI involves the proactive modification of content, process, product, and learning environment to maximize each student's learning potential. In the context of English instruction in vocational schools—where students often differ significantly in readiness, interest, and language proficiency—DI allows for instruction that is both inclusive and responsive. Wiggins and McTighe (2006) argue that without differentiation, instruction in diverse classrooms risks being ineffective and demotivating, particularly for students with lower prior achievement.

Vocational education places a premium on practical English skills applicable in real-life professional scenarios. According to Shi (2024), integrating real-world communication tasks—such as simulations of business meetings or job interviews—can enhance the relevance and engagement of English instruction. Differentiated instruction supports such integration by allowing teachers to tailor content to occupational contexts while meeting students at their skill levels.

Beyond academic content, DI is grounded in understanding how students learn. Gardner's theory of multiple intelligences (Gardner, Gabriel, & Lee, 1999) posits that students vary in their cognitive strengths, such as linguistic, spatial, bodily-kinesthetics, and interpersonal intelligences. DI addresses this diversity, increasing both the effectiveness and enjoyment of the learning process.

Research supports the efficacy of DI in creating inclusive learning environments (Hall, Hislop, & Haworth, 2002). When implemented effectively, DI ensures that high-achieving students remain challenged while struggling students receive the support needed to progress.

Integrating DI with the specific needs of vocational education also entails embedding technical and occupational vocabulary into instruction. Marzano (2015) emphasizes that content relevance enhances motivation, and aligning English literacy activities with students' vocational fields—such as hospitality, engineering, or tourism—supports both language development and job preparedness.

Technology offers additional pathways for differentiation. Levy (2008) highlights that digital tools enable personalized learning experiences, particularly valuable in resource-constrained vocational schools. Interactive platforms, multimedia content, and adaptive learning systems can support individualized pacing and reinforce core literacy skills.

Although the benefits of DI are clear, its implementation is not without challenges. Teachers often face large class sizes, time constraints, and limited institutional support. As Tomlinson (2005) notes, DI demands sustained effort in planning, ongoing assessment, and instructional agility. Nevertheless, research shows that even small-scale implementation of DI strategies—such as choice boards or scaffolded reading tasks—can lead to measurable improvements in engagement and literacy outcomes (Hall, 2002).

Motivation is a crucial factor in literacy development, and differentiated instruction can play a key role by offering tasks aligned with students' interests and abilities (Mirvis & Csikszentmihalyi, 1991). Giving students autonomy in how they engage with content—through choice of texts, activities, or project formats—can increase their ownership of learning (Zimmerman, 2022). Furthermore, DI fosters critical thinking and problem-solving by encouraging students to approach learning from different perspectives, a skill essential for adapting to the dynamic challenges of the workforce (Perkins, 1992).

Finally, as emphasized by Sternberg and Zhang (2005), the ability to adapt teaching to meet diverse learner needs is increasingly essential in a globalized and fast-changing world. By incorporating differentiated instruction into English literacy teaching, vocational schools in Indonesia can better prepare students for success, not only in academic and workplace settings but also as lifelong learners.

The foundation of this study is rooted in Differentiated Instruction (DI) theory as developed by Tomlinson (2001), which posits that effective teaching must be responsive to students' readiness, interests, and learning profiles. In the context of English language learning, DI allows educators to modify content, process, product, and learning environment to accommodate individual differences.

Differentiated learning is a pedagogical strategy that adapts teaching techniques, resources, and assessments to suit the diverse learning needs of students. According to Tomlinson (2001), diverse education needs to adapt materials, methods, and products that are appropriate to the diverse levels of readiness, interests, and learning profiles of students. Tomlinson's paradigm emphasizes the need for instructors to provide different learning routes to ensure that all students can achieve their goals. Critical learning target without regard for their starting place. (Tomlinson 2001) explains that instead of starting at the beginning of the curriculum guide, instructors in the differentiated classrooms start where the kids are. The instructors recognize and expand on the premise that students differ in many ways. Therefore, they also understand and act on the premise that instructors must be prepared to use a number of learning modalities, appeal to a variety of interests, and apply different teaching speeds and levels of complexity to engage students in the learning process. Teachers in differentiated classrooms ensure that as a child learns and develops, he or she competes more with himself or herself. Without assuming that one student's learning path is like other teachers, teachers in differentiated classrooms offer an individualized approach for each student to learn as fully and as quickly as they can. These instructors believe that high expectations should be set for children. They strive to help struggling, advanced, and intermediate students think and work harder than they planned, achieve more than they thought possible, and build the belief that learning involves risk, effort, and personal achievement. These instructors also aim to ensure that each student is continually confronted with the reality that hard work is the path to success.

(Tomlinson 1999) presents the fundamental aspects of differentiation that assist instructors in personalizing instruction to meet the varying needs of students. Tomlinson highlights that differentiation is a proactive method in which instructors adjust various components of education to meet students' preparation levels, interests, and learning profiles. The four primary elements from differentiation, according to Tomlinson, are:

1. **Content**: This relates to what students learn. Teachers can vary content by providing different materials, resources, or reading levels based on students' abilities and prior knowledge. For example, students can study the same subject through different readings or assignments that are appropriate to their abilities, understanding and interest.
2. **Process**: This concerns how students understand information. Teachers can diversify the process by utilizing different teaching tactics or activities that suit different learning styles. Some students may engage in hands-on activities, while others may prefer textual exercises or discussions to digest the material.
3. **Product**: This is about how students demonstrate what they have learned. Tomlinson suggests instructors offer students a variety of opportunities to communicate their knowledge, such as developing a project, writing an essay, or making a presentation. This allows students to demonstrate their abilities and preferences while achieving learning objectives.
4. **Learning Environment**: This factor involves the physical or social context in the classroom. Teachers can change the learning environment to increase comfort and productivity, providing spaces that can be adapted to different types of learners. For example, some children may prefer to work alone in a quiet place, while others thrive in group work or interesting situations.

The researcher can conclude that differentiated learning is a dynamic and ongoing process. Continuously review and modify your learning strategies based on your students' needs.

Education has changed over time, with different scholars and experts offering different frameworks and perspectives. One popular theory is the sociocultural method, which emphasizes the value of social relationships and cultural background in the development of reading skills. According to this theory, literacy is not just about reading and writing, but also about knowing and analysing the world around us. This perspective emphasizes the role of language and communication in shaping our thoughts and experiences, and emphasizes the need for a dynamic and interactive approach to teaching literacy (Wray, 2004).

The concept of literacy in this study is framed around the ability to read and write effectively in English, drawing from Gee's (2004) sociocultural approach and Kern's (2000) multidimensional model of literacy, which emphasizes not just decoding texts but also constructing meaning in authentic contexts. Supporting these foundations, Vygotsky's Zone of Proximal Development (ZPD) underscores the importance of scaffolded instruction within a learner's potential development zone, while Gardner's Theory of Multiple Intelligences validates the use of diverse instructional strategies that align with students' cognitive strengths.

(Gee 1987) Literacy is described as the mastery of secondary language use (i.e., the use of language in secondary conversation). There are two types of literacy:
a. Dominant literacy is the knowledge of the use of a secondary language used in what was referred to above as the "dominant discourse".
b. Strong literacy is the mastery of the use of a secondary language used in secondary discourse that can serve as a meta-discourse to attack primary discourse or other secondary discourses, including dominant discourse.

Wray (2004:7) stated that the ability and the willingness to read and write to construct meaning from printed texts, in a way that meets the standards of a particular social environment. Second, the meaning of literacy refers to reading and writing. You may be familiar with the idea that literacy includes reading and writing, although reading has traditionally received more attention in elementary schools. Reading and writing are methods for creating meaning from texts (Pearson and Tierney, 1984). In the case of reading, the text already exists, whereas in the case of writing, the text must be made. Both reading and writing need the reader or writer to actively interact with the material to understand it. The process of constructing meaning involves decoding words, knowing the language, and analysing the author's message. In reading and writing, people must also consider the context in which the text is located, including the purpose of the text, the audience for which it is intended, and the larger social and cultural norms that shape its meaning. Overall, literacy is a complex and multifaceted skill that requires reading and writing to navigate and interact effectively in a given society. Without literacy skills, individuals will have difficulty understanding the world around them and interacting effectively with others. By improving their reading and writing skills, people can not only explain themselves more easily but also critically examine the information presented to them. In today's digital age, where information is constantly bombarding us from a variety of sources, being literate is more important than ever to filter out the noise and gain useful knowledge. Ultimately, reading enables people to think critically, interact effectively, and participate fully in society. (Kern, 2000) Kern (2000: 16) literacy is the use of methods that are grounded in social, historical, and cultural contexts to create and understand meaning through text. Literacy includes at least tacit knowledge of the relationships between textual patterns and the contexts in which they are used and, ideally, the ability to think critically about those relationships. Because it is purpose-sensitive, literacy is dynamic and can change across and within discourse groups and cultures. Literacy relies on a range of cognitive skills, knowledge of written and spoken language, knowledge of genres, and cultural knowledge.

1. Literacy involves perception. Writers and readers engage in a double act of interpretation—the writer interprets the world (events,feelings, ideas, and so on), and the reader then interprets the writer's interpretation based on his or her own view of the world.
2. Literacy involves teamwork. Writers write for readers, even as they write for themselves. Their choices about what to say and what not to say are based on their understanding of the reader. Readers, in turn, must add their own goals, knowledge, and experiences to make the writer's work meaningful.
3. Literacy involves norms. . How people read and write text is not universal, but is controlled by cultural standards that grow through use and are modified for individual reasons.
4. Literacy involving norm. How people read And write text is No universal, but are controlled by cultural

standards that grow through use and are modified for individual reasons.

5. Literacy includes cultural information. . Reading and writing operate within a particular system of attitudes, beliefs, customs, goals, and values. Readers and writers who operate outside a particular cultural system are at risk of being misunderstood or misrepresented by those who operate within that cultural system.

6. Literacy involves problem solving. Because words are always embedded in linguistic and situational contexts, reading and writing involve searching for relationships between words, between larger units of meaning, and between texts and the real or imagined world

7. Literacy involves thinking and self-reflection. Readers and writers think about language and its relationship to the world and themselves.

8. Literacy involves language. Literacy is not just about writing systems or just about lexical and grammatical knowledge; literacy requires knowledge of how language is used in spoken and written contexts to create discourse

English literacy is a critical skill for vocational school students, as it enables them to communicate effectively in both academic and workplace contexts. According to Marzano 2015), literacy involves not just reading and writing but also listening and speaking, making it a multi-dimensional skill that vocational students must master to succeed in their careers.

Wiggins and McTighe (2006) advocate for the use of backward design in instructional planning, wherein educators begin by identifying the desired learning outcomes and then develop instructional activities that purposefully guide students toward achieving those objectives. Flexible grouping, tiered assignments, and varied questioning are strategies that can help vocational students engage with English literacy content at their own pace. (Carol Ann Tomlinson, 2005) notes that differentiation requires teachers to remain flexible in their approach, adjusting tasks and assessments based on ongoing student assessments.

Technology also enables vocational students to engage with English literacy through interactive and engaging formats, which can improve motivation and learning outcomes. Csikszentmihalyi (1990) argues that using technology in ways that match students' interests and learning styles can foster a state of "flow," where learners are fully immersed and focused on their tasks.

(Pendidikan et al. 2024) The general goals of Kurikulum Merdeka for vocational schools by the end of phase F are that learners use oral, written, and visual texts in a variety of text types with a variety of relevant topics to communicate according to the situation, goal, and target audience/reader. Learners create organized oral, written, and visual writings in English with a bigger range of words to discuss and express desires/feelings/opinions. Learners understand oral, written, and visual writings to learn something/get information, and for fun. Their understanding of books improves. Implicit inference skills when understanding information, and the ability to assess different kinds of writings in English, have grown.

(Pendidikan et al. 2024) learning outcomes for each part of the English course are as follows:

1. Listening – Speaking
   Students use English to interact with teachers, friends and others in a range of situations and for a range of reasons. They use and react to questions and use techniques to start and sustain conversations and discussion. They understand and spot the main ideas and important details in oral texts of discussions or presentations on youth-related issues. They use English to share views on youth-related problems and to explore youth-related interests. They give views and make comparisons. They begin to use unconscious elements (gestures, speed and/or pitch) to strengthen/support the message/information being conveyed.)

2. Reading – Reviewing
   Students read and react to a range of texts. They read to learn or to find facts. They identify and evaluate specific features and major ideas of a variety of texts. These texts may be in the form of written or digital texts, including visual, multimedia or interactive texts. They are building knowledge of major ideas, problems or plot development in a variety of texts. They spot the author's purposes and build simple inferential skills to help them understand implied information from the texts.

3. Writing – Presenting
   Students write a range of fiction and non-fiction texts, through guided tasks, showing a awareness of purpose and audience. They plan, write, review and edit texts with some evidence of self-correction strategies in writing norms. They describe thoughts and use common/daily vocabulary and verbs in their work. They show information using different modes of presentation in print and digital forms to fit different groups and to achieve different goals.

METHODOLOGY

This study uses a mixed approach, which is a type of research that combines qualitative and quantitative data collection and analysis methods. According to (Creswell 2022),, a mixed methods approach helps academics to discuss complex research topics by combining the capabilities of qualitative and quantitative approaches. In this study, quantitative methods were used to measure the impact of differentiated learning on students' English literacy skills, while qualitative methods were used to explore students' and teachers' experiences and perceptions regarding the implementation of differentiated learning in vocational schools. (Clark 2020) Also emphasized that mixed methods allow flexibility in data collection and analysis, thus allowing for a better understanding of the research topic. Interpretation of findings through triangulation. That combination of pre-test and post-test assessment (quantitative) with observation (qualitative) ensures that research captures not only measurable outcomes but also contextual and personal elements that influence the success of differentiated education. This comprehensive approach coincides with the objective of evaluating both the impact and the practical use of individualized education in promoting English literacy.

In research, a sample is defined as a subset of individuals or elements selected from a larger population for the purpose of conducting a study. (Cohen 2007) A sample is used to represent the population and helps researchers to make inferences about the entire group without needing to collect data from every individual. Sampling is a key step in research since it helps to save time, decrease expenses, and lessen the logistical issues involved with investigating huge populations. The author underlines that the selection of a sample should be done carefully to ensure it is reflective of the population's features. Various sampling strategies, such as random sampling, stratified sampling, and convenience sampling, can be applied, depending on the study objectives and the characteristics of the population. By utilizing a well-chosen sample, researchers can acquire trustworthy and accurate results that contribute to the knowledge of the study subject and ease generalization to the larger population.

In relation to the definition above, the sampling technique used is a purposive sampling technique for pretest and post-test treatments. The research sample consisted of 60 students, consisting of 30 students for the quasi-experimental group and 30 students for the control group. This is clearly shown in the following table.

Table 3 Number of Research Samples at SMKN 6 Jeneponto

No.	School Name	Major	Sample	Class
1.	UPT SMKN 6 Jeneponto	XI TKJT1	30	Quasi-experiement Group
2	UPT SMKN 6 Jeneponto	XI TKJT2	30	Control Group
Total			60	

Data collection techniques are an important component of research, as they determine how information is collected to answer research questions effectively. According to Cohen 2007), data collection techniques refer to systematic procedures used to obtain information from various sources to gain insight into a particular phenomenon or research subject. This technique underlines that the choice of data collection method should fit with the research objective, question, and the nature of the research.

FINDINGS AND DISCUSSION

1. The Implementation of Differentiated Learning in English Language Learning Influences the Improvement of English Literacy of Vocational School Students

In this section, the researcher prescribed the data of the study in relation to the effect of differentiated instruction in English teaching on students' improvement of English literacy, the most effective differentiated instructional strategies for improving English literacy in vocational school students with diverse proficiency levels and the challenges and solutions in the implementation of differentiated instruction in English Teaching.

The following statistical results were based on the data collected from two main questionnaires. The implementation of the differentiated instruction questionnaire, which measured the extent to which teachers implemented differentiated strategies in class across dimensions of content, process, product, and learning environment. Students' English literacy skills questionnaire, which measured students' reading and writing ability as fundamental aspects of literacy based on indicators that aligned with the curriculum and functional use of language.

Table 1 The Effect of Differentiated Instruction on English Literacy

No.	Analytical Aspect	Statistical Result	Conclusion/Interpretation
1	Correlation Strength (R)	R = 0.423	There was a moderate positive correlation between DI and students' literacy. Higher DI implementation tended to improve literacy.
2	Explained Variance (R²)	R Square = 0.179; Adjusted R^2 = 0.164	17.9% of literacy improvement was explained by DI. The rest was due to other factors.
3	Model Significance (ANOVA)	F = 17.594; Sig. = 0.020 < 0.05	The model was statistically significant, meaning DI had a real overall effect on literacy outcomes.
4	Partial Influence (Coefficients)	Coefficient B = 6.391; t = 4.195; Sig. = 0.000 < 0.05	DI had a positive and significant partial effect; each unit increased in DI raises literacy score by 6.391 points.

Based on the table 13, the correlation test (R = 0.423), the R Square (0.179), and the significance values (p = 0.020 and p = 0.000) were outcomes of a linear regression test that was done to check the correlation between the level of differentiated instruction application (independent variable) and literacy proficiency of students (dependent variable). The 0.020 < 0.05 significance value in the ANOVA test confirms that differentiated instruction is statistically significant in impacting students' literacy. Then, the coefficient B =

6.391 indicates that every unit of application of differentiated instruction, students' literacy score improves by 6.391 points.

The findings above validate the expectation that the more effective the instruction is, the greater the gain will be in students' English literacy, particularly in vocational schools where students demonstrate diverse levels of readiness and learning needs. These findings validate the expectation that the more effective various instruction is, the greater there will be gain in students' English literacy, particularly in vocational schools where students demonstrate diverse levels of readiness and learning needs.

2. The Most Effective Specific Differentiated Learning Strategy in Improving English Literacy in Vocational School Students with Different Ability Levels

Table 2 Comparison of Pre-test and Post-test Scores in Reading and Writing between Quasi-Experimental and Control Classes

Skill	Class	Pretest Score	Posttest Score	Score Improvement
Reading	Quasi Experimental	73.50	91.83	18.33
Reading	Control	58.70	72.12	13.47
Writing	Quasi Experimental	70.17	85.37	15.20
Writing	Control	57.17	68.90	15.13

The table indicates that the two classes advanced their reading and writing abilities from pre-test to post-test; however, the quasi-experimental class showed more advanced gains in both skills relative to the control class. The results affirmed the effectiveness of differentiated instruction in improving English literacy skills among vocational high school students.

To decide the effectiveness of differentiated instruction on the students' English literacy, a T-Test analysis was conducted between the pretest and post-test scores of the control and quasi-experimental classes. The reason for the analysis was to determine the comparison of the students' performance in reading and writing skills prior to and after the instructional intervention. The results below show the T-Test values compared with the T-Table reference, which identifies if the differences were statistically significant or not.

Table 3 The T-Test of the students' Pretest and Posttest in Quasi Experiment and Control Class

Skills	Test	T-Test Value	T-Table Value	Result
Reading	Pretest	39.784	1.67155	Significant
	Posttest	45.059	1.67155	Significant
Writing	Pretest	37.298	1.67155	Significant
	Posttest	40.101	1.67155	Significant

Based on the Table 28, the T-Test of students' pretest and post-test reading and writing skills shows that all the T-Test computed values are significantly higher than the T-Table value of 1.67155 corresponding to a significance level $p = 0.05$ and a degree of freedom (df = 58). Particularly, the T-Test value for reading is 39.784 (pretest) and 45.059 (post-test), whereas that of writing is 37.298 (pretest) and 40.101 (post-test). As all T-Test values are greater than the critical value in the T-Table, it can be inferred that there is a significant difference between the pretest and post-test scores of the students. This affirms that the application of differentiated instruction in the quasi-experimental class had a big and significant effect in enhancing the reading and writing skills of the students.

3. Effective differentiated Learning Strategy in the Increase English Literacy in Students with Different Ability Levels

This study examined students' perceptions of three main forms of differentiation applied by teachers in English classes, namely, content differentiation, process differentiation, and product differentiation. The following data was taken and counted from the distributed questionnaires to all of the students from varied schools. The students responded to questionnaires to describe the extent to which differentiated instruction strategies enhance the English literacy of students.

Table 29 Effective differentiated Learning Strategy in the Increase English Literacy of Students
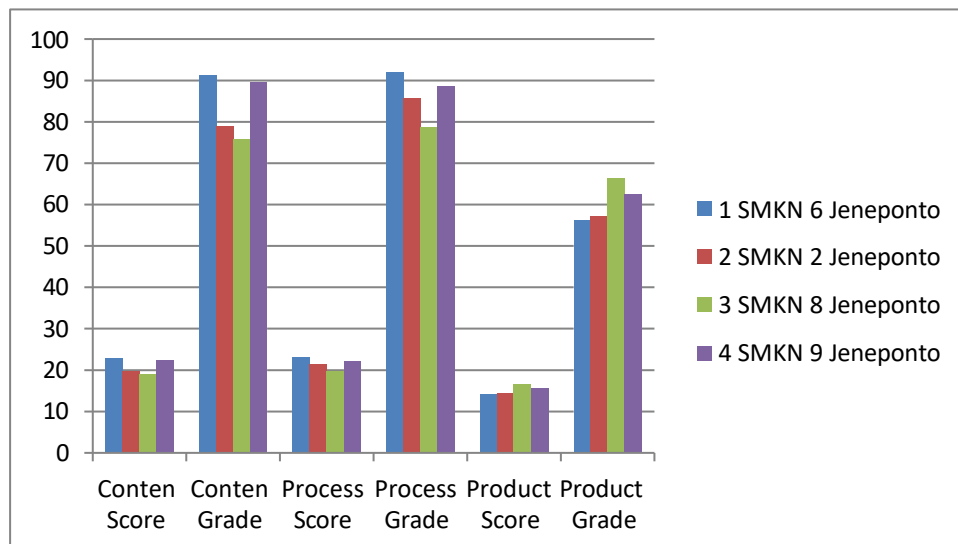

The table 29 showed that the content differentiation indicates that students benefit when they are given a choice of materials according to their interests or readiness levels. The average score in this category is relatively high, reflecting that access to a variety of learning resources and freedom to choose materials are considered to facilitate student understanding. The process differentiation shows competitive results with content. The learning process that is adjusted to the learning style and pace of each student helps to increase active engagement in class. However, in some cases, challenges arise in time management and implementation in heterogeneous groups. The product differentiation appears to be the category with the highest mean scores, indicating that students feel most able to express their understanding through a variety of end products. Options such as presentations, videos, posters, or essays. Giving students the freedom to showcase their learning outcomes greatly increases their confidence and creativity.

4. Challenges and Solutions in Implementing Differentiated Learning in English Language Teaching

In implementing differentiated learning, there are several challenges faced by teachers when teaching English with differentiated instruction, and providing some solutions to overcome these obstacles. This can be shown in the following image and the following graph.

Table 30 Challenge and Solution in the Implementation of Differentiated Learning in English Language Teaching
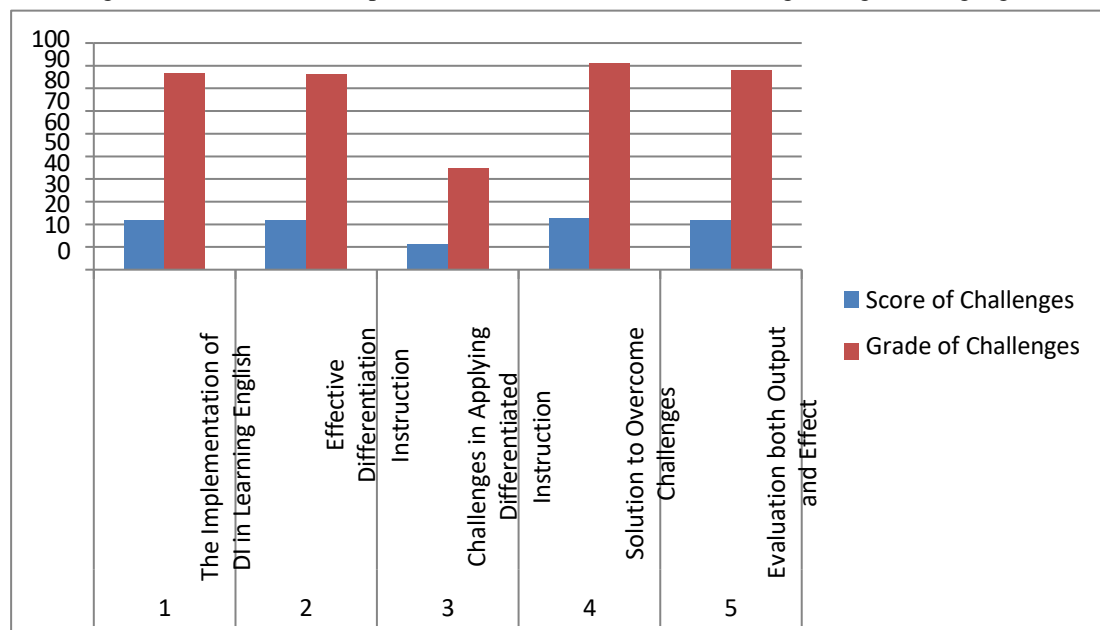
Based on Table 30, the implementation of DI in English language learning (Score: 21.7, Score: 86.8), this shows that most teachers face challenges in implementing DI in general in English language learning. A score of 86.8 shows that the challenges are felt to be quite significant. The effective differentiated learning (Score: 21.6, Score: 86.4). This challenge refers to how teachers implement DI strategies effectively, for example, in adjusting learning content, processes, or products according to students' needs. A high score indicates that teachers have difficulty implementing it optimally. The challenge in applying differentiated instruction (Score: 11.2, Mark: 44.8) specifically highlights more concrete barriers to DI practice, such as limited time, resources, or teacher knowledge. A score of 44.8 is lower than the previous two indicators, which may indicate that these technical challenges are more identifiable and perhaps easier to overcome.

Based on existing data, the solutions considered effective by teachers in overcoming obstacles to implementing differentiated learning included several important aspects. The teacher felt that professional training is very helpful in improving their ability to implement different learning strategies. In addition, support from colleagues and principals is also considered important in providing encouragement and new ideas to overcome obstacles in the classroom. The provision of varied teaching materials is a significant supporting factor because it allows teachers to adjust the materials according to students' needs. Equally important, collaboration with students in designing lessons is considered to increase the effectiveness of the learning process while improving their English literacy. Finally, a better understanding of students' individual needs is key to overcoming challenges because it helps teachers adjust their approaches to be more targeted.

CONCLUSION

Based on the research findings, Differentiated Instruction (DI) has been proven to significantly improve English literacy among vocational high school students. The significant increase in scores in reading and writing skills indicates that instruction tailored to the students' needs, interests, and readiness levels can optimize the learning process and help students reach their full potential in English. This study emphasizes the importance of a more flexible and responsive approach to individual differences in the classroom, especially in vocational education settings where students often have highly diverse levels of ability.

Among the various differentiation strategies implemented, product differentiation proved to be the most effective approach in improving English literacy. Product differentiation allowed students to express their understanding through various media according to their strengths and interests, such as posters, videos, or essays. This approach not only boosted student engagement and motivation but also gave them a greater sense of achievement, as they were able to demonstrate their learning outcomes in a more creative way that suited their learning style.

However, despite the positive results, teachers needed systemic support for the successful implementation of DI on a consistent basis. The challenges faced by teachers, including time constraints, limited resources, and insufficient understanding of DI concepts, showed that this change required a greater investment in professional training and the development of adaptive learning resources. Therefore, educational policies supporting ongoing teacher training and improved classroom resources were essential for the successful implementation of DI.

This study also opens up important implications for future research, particularly in the context of longitudinal studies that could explore the long-term impact of DI on student literacy development. Furthermore, a broader study involving various regions in Indonesia, both urban and rural, would provide a more comprehensive picture of the challenges and opportunities in implementing DI across different vocational education contexts. Future research could also explore the role of educational technology in supporting more effective and efficient DI implementation.

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