Implementation of Differentiated Instruction in Product Component to Improve EFL Students Reading Comprehension

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Abstract

Reading skills are essential in learning English, particularly for foreign language students. Reading also provides comprehensible input for others' skills in English language development. This study addresses the conventional teaching methods hindering optimal reading comprehension among tenth-grade students. This study employed classroom action research to improve student's reading comprehension scores, particularly in recount text material. The preliminary phase identified issues with inflexible assessment methods that lack to consider individual student differences. Two-cycle study utilizing differentiated instruction was conducted at a State Senior High School in Yogyakarta to address challenges in teaching recount text. The implementation of differentiated instruction improved reading comprehension in recount texts through various product components (PPT, Video, Audio, Comic, Text), specifically targeting 35 students in grade 10 phase E. The results of this study indicate that the implementation of differentiated instruction in product components in the classroom can be useful as a medium for tailoring students' needs. The application of differentiated instruction also resulted in several changes, including the mindset of English teacher, students' learning abilities and activities, and students score in recount text improvement. However, the study does not extensively explore external factors that may have influenced students' reading comprehension.

Keywords: *Classroom Action Research; Differentiated Instruction; EFL Students; Product Component; Reading Comprehension*

Introduction

Reading is the primary means of four significant language learning skills. There is evidence that reading plays a pivotal role that should be taught and mastered by students, including English foreign language students. The existing body of research on reading states that reading is essential for the learner because it provides access to further experimental language and a bridge to continuous learning (Strevans, 1977). Similarly, Hodgson (1960) claimed that reading is a process carried out and used by a reader to get a message that the author submits through words or written language. Additionally, one of the types of reading skills is reading comprehension. Reading means understanding what is being read. According to Smith and Robinson (1973), reading comprehension means understanding and pronouncing the words

found in the text and understanding the content of what is read. Reading could not be separated from comprehension. Hence, reading with comprehension means understanding what is read.

However, Mogea (2023) agreed that understanding text is not easy. It requires a process through which readers become aware of an idea, understand its experimental background, and interpret it concerning their previous knowledge and purposes (Kennedy, 1981). Due to the complexities in reading comprehension, a solution is needed to enhance the quality of activities in reading class. According to Nyoman et al. (2013), The Integration of ICT enables teachers to develop reading instruction in various activities. Technology helps teachers organize reading classes so that it helps teachers come up with more varied ideas.

The development of ICT is rapid and has a significant influence in various fields, including the world of education. In this era of globalization, the importance of ICT cannot be denied. According to Umar and Hassan (2015), Integrating Information and Communication Technology (ICT) within the educational framework is pivotal in complementing and facilitating teachers' professional growth and enhancing students' learning capabilities. Besides that, Hidayati (2016) argued that the potential benefits of incorporating ICT would be beneficial in ELT, leading to better ELT outcomes because ICT allows teachers and students access to a broader range of resources, authentic materials, and more interactive learning environments.

ICT allows students to learn independently by reading many resources to increase their knowledge, so student-centered learning becomes an activity that is very likely to occur in class (Chinyere Henrietta Maduabuchi 2016). Karamti (2016) discovered that using technology in teaching reading consistently did better than teaching without technology (Bin Noordan & Md. Yunus, 2022). Therefore, ICT integration in teaching reading will help provide a better meaning of learning. The teacher`s crucial role is to integrate ICT into the classroom and provide students with technology (Zak, 2015). However, teachers need to pay attention to the students` differences. Aslan and Wahyudin (2020) highlighted the importance of recognizing different student learning needs and the potential consequences of using a single approach and learning style for all students. This mismatch can lead to gaps in students' learning outcomes, leaving those with lower abilities or different learning styles behind, while students with higher abilities may feel less supported.

The Independent curriculum, as the new curriculum in Indonesia, also emphasizes the importance of teachers in considering students` differences. The independent curriculum is a curriculum that is developed by schools and is not regulated by the government. This curriculum is designed to meet the needs of students in the local context. Since differentiated instruction can accommodate the different learning necessities of students, differentiated instruction can be integrated into the independent curriculum. To implement the method effectively and meet the necessities of students, teachers must retain the ability to differentiate their instruction effectively; differentiated instruction is a validated and empirically supported strategy that effectively addresses the diverse learning requirements of students (Caubergs, et al., 2017). Differentiated instruction is a customized teaching strategy that provides instruction to meet all students' learning needs. In differentiated instruction, the instructions are given based on students' interests, preferences, and problems.

According to Kotob and Abadi (2019), the application of differentiated instruction significantly improves the academic performance of students who have previously been identified as having low educational achievement. Differentiated instruction has been defined as a beneficial teaching method for dealing with classes comprising students with various ability levels. This is the case because differentiated instruction allows teachers to modify their lessons specifically to the needs of individual students. Therefore, teachers who do not consider the existing differences will likely make students less interested because the method or approach used by the teacher is considered less attractive. According to the results of observations and interviews in this study, it can be concluded that the method applied by the

teacher in teaching recount text tends to be more traditional. The traditional method is where the teacher uses a lecture to instruct students about what they will do. Then, students were divided into several groups and tasked to present the topic from their workbook in recount text material. However, all groups present theirs in front of the class individually. Through this activity, the researchers found that it lacks effectiveness and generates several issues with students' reading comprehension performance. Firstly, a presentation for all groups is more likely lack to meet all the student's needs and interests. It is the lack of consideration of each individual's learning needs that results in lower engagement and achievement levels. Lastly, a lack of interest and motivation has a negative impact on their reading comprehension performance particularly in recounting text material.

Furthermore, teachers should provide a common approach in giving assessments to all students by presentation format. This means that, all students have the assessment in similar products based on the presentation project even the fact is that students have their own preferences and particular interests that will affect their motivation in doing things (Deci & Ryan, 2020). This was recognized that it still lacks tailoring students' needs. The problems mentioned require several enhancements so that students comprehend the text as a learning objective can be achieved. Therefore, learning is needed to accommodate the needs and diversity of learners. In order to increase students' reading comprehension skills, differentiated instruction is a considerable solution to accommodate student individuals' needs. Based on (Purbad et al., 2021) stated that teaching through differentiated instruction should pay attention to three components readiness to learn, learning styles, and student interest.

Therefore, the independent curriculum in senior high school has been seen to meet students; learning needs and characteristics. There are several phases in the independent curriculum. According to Ahyar et. al (2022), the phases are divided into three owing to the grade, as phase E is for grade X, and phase F is for grade XI and XII. On the one hand, phases are intended to classify students' abilities to their level, which refers to teaching at the right level. In implementing the independent curriculum in Indonesia, teachers, acting as facilitators, must be able to accommodate students' diverse learning needs. Additionally, Aslan and Wahyudin (2020) highlighted the importance of recognizing different student learning needs and the potential consequences of using a single approach and learning style for all students. This mismatch can lead to gaps in students' learning outcomes, leaving those with lower abilities or different learning styles behind, while students with higher abilities may feel less supported.

Implementing the independent curriculum has posed challenges for teachers, particularly in developing lesson plans that align with the new curriculum format and cater to students' needs. A study on the implementation of the independent curriculum in Indonesia revealed that English teachers faced difficulties in various aspects, such as determining lesson objectives, understanding the format of the lesson plan, developing indicators of achievement, assessment, and enriching the instrument, and creating lesson plans suitable for students' needs. Furthermore, the independent curriculum offers flexibility to educational units to design learning activities that involve the participation of teachers and students, emphasizing the importance of improving the quality of learning as the primary focus. This flexibility requires teachers to be adept at tailoring their teaching methods to meet the diverse learning needs of their students.

Consequently, in the context of English language learning, teachers need to adopt strategies that cater to the diverse needs of English language learners. For instance, incorporating language skills across the curriculum and using various engagement strategies can help address the diverse learning needs of students, including English language learners. Implementing the independent curriculum in Indonesia underscores the need for teachers to be responsive to students' diverse learning needs and to adapt their teaching methods to ensure that all students are adequately supported in their learning journey. Similarly, English is one of the subjects in the independent curriculum for senior high school. Therefore, teachers could create learning content, products, and processes. Teachers are also required to carry out summative assessments to determine students understanding.

Therefore, teachers can create content, products, and learning processes. Teachers are also required to carry out summative assessments to determine student understanding. In short, this research tries to modify differentiated instruction by integrating it with ICT. The students will be divided into several groups based on their preferences to create several products such as comics, text, audio, video, and PPT recount texts, which they compose by interviewing a person who inspires them and making it into recount text, the last, design based on model products they choose. Differentiated instruction carried out in this paper was obtained to improve students' reading comprehension scores in recount text to grade X students.

Method

. This study was conducted to improve the students' engagement in a recount text project of the tenth grade E5 students of public senior high school in Yogyakarta. In a classroom action research, the teacher is the main investigator and focuses their research on academic problems identified in class. As a result, data collection has been done in stages known as cycles. This approach particularly has several models, this study applied to Kurt Lewin's model. Furthermore, this model was developed into several phases of cycles. First and foremost, the researcher asked to identify the problems that currently exist in class particularly in engagement of projects about recount text.
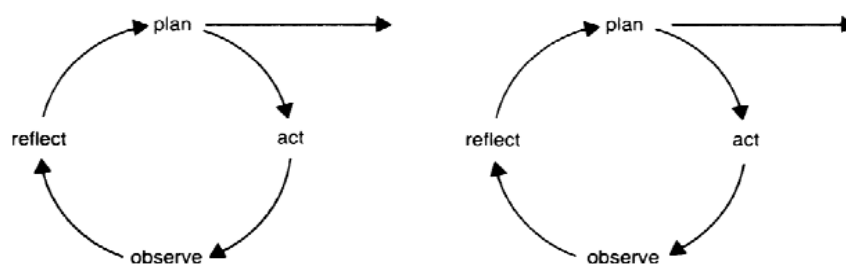

Figure 1. The model of Classroom Action Research by Kurt Lewin

The study's aim was to explore the learning outcomes in recount text that may be carried out according to the learning needs of students. This study was conducted at Yogyakarta Senior High School in grade X phase E, with 34 students participating. The study consisted of three stages: (1) a preliminary study to obtain information regarding challenges in reading skills, particularly for recount text material; (2) the first cycle used to know students' improvement through the implementation of differentiated instruction in learning recount text; and (3) the second cycle enhanced the activities through the differentiated instruction method to improve student's learning outcomes in accordance with the expected research target. In addition, each cycle consisted of four steps: planning, action, observation, and reflection, according to the Kurt Lewin model and Kemmis & Taggart (1988). The researchers collected data from the students' test results during two cycles to obtain data on improving their reading comprehension in recount text. In addition, the data collection was carried out from observation and a structured interview to learn about students' challenges and responses in implementing differentiated instruction.

Result and Discussion

This study, conducted at one of the State Senior High Schools in Sleman, Yogyakarta, from August to October 2023, delves into the challenges and potential solutions surrounding the teaching of recount text. The preliminary study scrutinizes the teacher's strategies, students' pre-test results, and their feedback. Observation findings reveal common instructional methods lacking individualized support, leading to identified problems in organization, presentation, interaction, and content knowledge.

In addition, the pre-test underscores a significant gap in students' comprehension, with only 20% meeting the passing grade. Interviews further expose difficulties with challenging words, confusion in event sequencing, and a need for varied learning approaches. The study introduces differentiated instruction in Cycle 1, aiming to address these challenges. Despite early observations highlighting engagement issues, the cycle indicates a positive shift as students demonstrate their abilities through diverse projects based on preferences. However, the need for improvement in gallery walk activities and critical thinking emerges, urging ongoing adjustments in subsequent cycles. This ongoing research underscores the importance of tailored instructional strategies to bridge comprehension gaps and enhance students' overall learning experiences.

The Enhancing of Reading Comprehension Scores

The reading comprehension score of students in the recount text material is increased compared to the pre-liminary and post-implementation results in which Cycle I and Cycle II phases. The pre-test aimed to assess the knowledge and understanding of 35 students about recount texts. The pre-test was given through a Google Form. The minimum passing score for English subjects in this school is 75. As a result, the researcher determined the minimal score for this pretest to be the same as the minimum passing score in the school. The type of pre-test was multiple choice, which consisted of 20 questions. It means the students need to answer 15 questions to pass the minimum score equivalent to 75%.

Table 1. Reading Comprehension Score in Preliminary Study

No	Description	Scores
1	Lowest score	25
2	Highest score	80
3	Average score	10.63
4	Fulfilled passing grade	7
5	Have not passed	28
6	Percentage of passed	20%

Based on the pre-test result, the average point of the test was 10.63 over 20 points, with the highest number of correct answers being 10. The pre-test data result showed that more than half of the students could not pass the minimum passing score for an English subject in recount text material. Therefore, the pre-test results on recount text for our cohort of 35 students have revealed a noteworthy challenge in the student's overall comprehension and proficiency. While we observed a commendable highest score of 20 points, the average score of 10.63 points indicates a significant gap between the highest achiever and most students. With the passing grade presumably set at a higher threshold, it is evident that a substantial portion of the students did not meet the expected level of proficiency. The median score of 11 points and the range of scores from 5 to 16 points further emphasize the diversity in performance and the need for improvement across the entire spectrum. These findings underscore the urgency and importance of our forthcoming instructional interventions. The current approach may not be effectively catering to the diverse needs of the students, and targeted improvements are essential to ensure a more equitable distribution of comprehension and achievement, ultimately enabling all students to meet or exceed the passing grade.

Cycle 1 of Classroom Action Research focused on implementing differentiated instruction to enhance students' reading comprehension scores. This pedagogical strategy tailored teaching methods to accommodate diverse learning styles and interests. The cycle, conducted from September 26th to October 17th, involved meticulous planning and collaboration with an English teacher. Initial observations identified challenges, including students' limited understanding of recount text and monotonous teaching methods.

The cycle comprised four meetings, starting with observing a regular English class. Identified issues included students' disengagement during group activities and presentations. A pre-test was conducted in the second meeting to gauge students' initial comprehension before applying the new method. The third meeting introduced differentiated instruction, allowing students to choose project formats based on their preferences. The fourth meeting involved a gallery walk to showcase group projects, revealing a need for improvement in critical thinking and grammar-related feedback.

Reflections after Cycle 1 highlighted challenges in students' learning of recount text, emphasizing the importance of early identification for strategy refinement. While a positive shift was observed in the third meeting, with students demonstrating their ability to create diverse projects, challenges persisted, particularly regarding the pre-test scores and the need for improvement in specific activities. These reflections informed plans for adjustments in Cycle 2, emphasizing the ongoing nature of the research process.

Table 2. Reading Comprehension Score in Cycle 1

No	Description	Scores
1	Lowest score	30
2	Highest score	90
3	Average score	70,65
4	Fulfilled passing grade	16
5	Have not passed	19
6	Percentage of passed	45.71%.

The analysis of Cycle 1 post-test results indicates a range of scores, with the lowest recorded at 30 and the highest at 90. The average score for the post-test stands at 81.03, showcasing a significant improvement from the pre-test mean score of 10.63. Notably, 45.71% of students fulfilled the passing grade, with 16 students achieving this benchmark. However, 19 students have not yet attained a passing grade. Despite some students' challenges, the overall findings suggest positive progress in students' reading comprehension scores, reflecting the impact of the implemented teaching strategies during Cycle 1. Adjustments and further interventions may be considered to address the needs of students who have not yet reached the passing grade, ensuring continuous improvement in reading comprehension skills.

Figure 2. The Examples of Product Components by Students

Therefore, Cycle 2 was conducted based on the reflections from Cycle 1, addressing the reading comprehension scores that did not meet the passing grade. The primary focus was on resolving issues identified in the Cycle 1 reflection stage. Two meetings were held, retaining the same structure as Cycle 1. Reflections highlighted a lack of engagement during the gallery walk due to students' limited understanding of the recount text. The researchers decided to reteach the basics and principles of recounting text before the gallery walk. Two major revisions were made: updating teaching materials and

refining gallery walk questions. The teaching materials included real-life examples of recount texts related to inspirational figures to familiarize the students with real-life context. Revised gallery walk questions were designed to cover key principles taught earlier.

In the first meeting on October 20th, 2023, students revisited recount text basics through review questions and examples. The second activity involved a gallery walk with revised questions guiding students to focus on recounting text principles. The second meeting continued the gallery walk, emphasizing student understanding through follow-up questions. It concluded with a post-test to assess comprehension. Cycle 2 analysis revealed the effectiveness of using real-life examples to enhance students' understanding of recount text in everyday situations. Students demonstrated proficiency in recounting text structure and language function. Post-test results indicated a significant improvement in reading comprehension scores, emphasizing the success of differentiated instruction within product components.

Table 3. Reading Comprehension Score in Cycle 2

No	Description	Scores
1	Lowest score	60
2	Highest score	95
3	Average score	81.03
4	Fulfilled passing grade	27
5	Have not passed	8
6	Percentage of passed	77.14%

Following our instructional interventions, the post-test results for recount text indicate a commendable improvement in student performance. The average score increased significantly to 81.03 out of 100 points, with a median score of 85 and a broader range of scores from 60 to 95. This positive shift underscores the effectiveness of our tailored instructional methods, addressing initial challenges identified in the pre-test. The contrast between pre-test and post-test results signifies academic uplift and validates the importance of adapting instructional approaches to diverse learning needs. In Cycle 2, the post-test analysis reveals an average score of 81.03, with 77.14% of students meeting the passing grade. This marks a substantial improvement compared to the pre-test, where only 45.71% met the passing criteria. Although 23% of students (eight individuals) did not pass, the positive trend indicates a noteworthy enhancement in reading comprehension skills. While a third cycle would be ideal for a 100% passing rate, feasibility constraints, such as logistical challenges and resource limitations, led to the decision to forego it. This underscores the pragmatic aspects of academic research, emphasizing adaptability and informed decision-making within the constraints of educational studies.
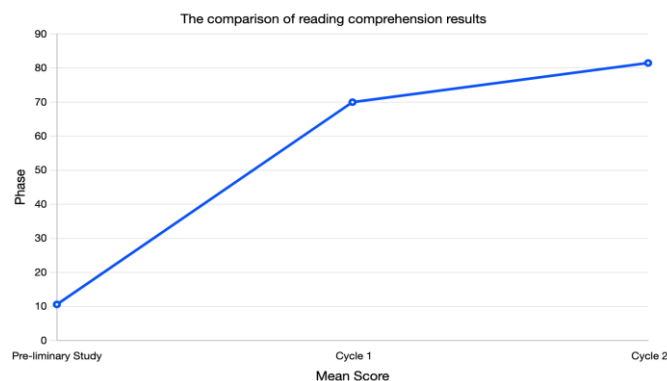

Figure 1. The comparison of reading comprehension scores

In conclusion, this study, conducted at a State Senior High School in Sleman, Yogyakarta, aimed to address challenges in teaching recount text through a systematic approach. The preliminary study identified instructional gaps, leading to comprehension issues in the pre-test, where only 20% met the passing grade. Differentiated instruction was introduced in Cycle 1, showcasing a positive shift as students engaged in diverse projects based on preferences. However, challenges persisted, emphasizing the ongoing nature of the research process. Cycle 2, informed by reflections from Cycle 1, focused on resolving issues identified in the previous cycle.

Furthermore, two meetings were held, retaining the same structure, with revisions to teaching materials and gallery walk questions. Real-life examples were incorporated to enhance understanding, leading to a commendable improvement in reading comprehension scores. Post-test results in Cycle 2 revealed an average score of 81.03, with 77.14% of students meeting the passing grade, marking a substantial improvement from the pre-test. The comparison between the pre-test, Cycle 1, and Cycle 2 underscores the effectiveness of tailored instructional methods. While challenges persisted, the positive trajectory in post-test scores affirms the impact of interventions. Feasibility constraints led to the decision to forego a third cycle, highlighting the pragmatic aspects of academic research. Overall, this research emphasizes the importance of adapting instructional approaches to bridge comprehension gaps and enhance students' learning experiences.

Discussion

Differentiated instruction is an approach to teaching that involves tailoring instruction to meet the diverse needs of students in a classroom. The research findings from both cycles provide valuable insights into the effectiveness of differentiated instruction in improving students' reading comprehension skills. According to a study by Tomlinson and Allan (2000), differentiated instruction can help students develop a deeper understanding of the material they are reading by providing them with opportunities to engage with the text in a variety of ways. This approach can be particularly effective for students who struggle with reading comprehension, as it allows them to work at their own pace and focus on the areas where they need the most support.

According to Tomlinson (2017), in integrating differentiated instruction, teachers may modify the components of the curriculum including content, process, and product, in accordance with students' learning profiles, willingness, and areas of interest. In the case of implementing differentiated instruction, the teacher has already made adaptations to the content, process, and product according to the students' learning profiles and areas of interest, which exclusively addressed the students' learning style. Students' learning profiles are linked to their best learning method. In general, differentiating processes according to the students' learning profiles encourages them to figure out a concept in accordance with their preferred learning styles (Ginja & Chen, 2020).

The preliminary study uncovered significant challenges faced by students in comprehending recount texts, including difficulties in organizing ideas, delivering confident presentations, lack of interaction, and struggles with content knowledge and relevance. These findings are consistent with previous research on reading comprehension, which has identified a range of factors that can impact students' ability to understand what they are reading. For example, research has shown that students who lack background knowledge on a topic may struggle to comprehend the material (Hirsch, 2003), while those who have difficulty with vocabulary may struggle to understand the meaning of key words and phrases (Beck, McKeown, & Kucan, 2002).

Despite these challenges, differentiated instruction has been shown to be an effective approach for improving students' reading comprehension skills. In a study by Vaughn et al. (2011), for example, students who received differentiated instruction showed significant gains in reading comprehension

compared to those who received traditional instruction. Similarly, a study by Tomlinson et al. (2003) found that students who received differentiated instruction showed greater gains in reading comprehension than those who received non-differentiated instruction.

Therefore, the research findings suggest that differentiated instruction can be an effective approach for improving students' reading comprehension skills, particularly for those who struggle with this aspect of learning. However, it is important for teachers to be aware of the challenges that students may face in comprehending texts and to provide appropriate support to help them overcome these obstacles. By tailoring instruction to meet the diverse needs of students, teachers can help all students develop the skills they need to succeed in reading and beyond.

Observational findings during Cycle 1 highlighted common instructional strategies that fell short in meeting individual needs, leading to lower engagement and varied comprehension levels. The pre-test results further emphasized the substantial gap in students' understanding of recount texts, with only 20% meeting the minimum passing score. Interviews with students revealed specific challenges such as difficulty with challenging words, confusion with event sequences, boredom with topics, issues with presentation projects, and a desire for varied learning approaches (Lunsford, 2017). A study by Yuen et al. (2023) provides insights into the challenges and opportunities of implementing differentiated instruction amid the COVID-19 pandemic. The study found that differentiation can be approached through various dimensions, such as teaching arrangements, learning environments, and instructional materials. By addressing these dimensions, teachers can create a more inclusive and effective learning environment for students with diverse needs.

Another study by Suwartingsih (2021) found that differentiated instruction improved students' learning outcomes in comprehending recount texts. The study used a cyclical approach, with each cycle consisting of planning, action research, observation, and reflection. The results showed an increase in learning outcomes from pre-action to Cycle I and further improvement from Cycle I to Cycle II. This suggests that differentiated instruction can be effective in enhancing students' reading comprehension skills. In conclusion, the observational findings and related studies support the idea that differentiated instruction can be an effective approach for improving students' reading comprehension skills, particularly for those who struggle with this aspect of learning. However, it is essential for teachers to be aware of the challenges that students may face in comprehending texts and to provide appropriate support to help them overcome these obstacles. By tailoring instruction to meet the diverse needs of students, teachers can help all students develop the skills they need to succeed in reading and beyond.

In addition, The implementation of differentiated instruction during Cycle 1 interventions allowed students to create final projects based on their preferences, leading to an overall positive shift in students' engagement and excitement. The post-test results demonstrated a significant improvement, with 45.71% of students fulfilling the passing grade. Cycle 2, which incorporated revisions based on Cycle 1 reflections, also led to commendable post-test results, with an average score of 81.03 and 77.14% of students fulfilling the passing grade.

A study by Yuen et al. (2023) provides insights into the challenges and opportunities of implementing differentiated instruction amid the COVID-19 pandemic. The study found that differentiation can be approached through various dimensions, such as teaching arrangements, learning environments, and instructional materials. By addressing these dimensions, teachers can create a more inclusive and effective learning environment for students with diverse needs (Mirawati et al., 2022). Furthermore, Suwartingsih (2021) found that differentiated instruction improved students' learning outcomes in comprehending recount texts (Maknuun et al., 2023.) The study used a cyclical approach, with each cycle consisting of planning, action research, observation, and reflection. The results showed an increase in learning outcomes from pre-action to Cycle I and further improvement from Cycle I to Cycle

II, suggesting that differentiated instruction can be effective in enhancing students' reading comprehension skills.

The post-test results of both cycles underline the positive impact of differentiated instruction on reading comprehension. Real-life examples, personalized projects, and targeted interventions contributed to enhanced understanding and proficiency. These findings align with the literature on differentiated instruction, emphasizing its role in accommodating diverse learning styles and promoting student engagement (Tomlinson, 2017). In conclusion, the implementation of differentiated instruction, as evidenced by the post-test results and supported by related studies, has shown a positive impact on students' reading comprehension skills. The use of real-life examples, personalized projects, and targeted interventions has contributed to enhanced understanding and proficiency, highlighting the effectiveness of differentiated instruction in meeting diverse learning needs and promoting reading comprehension skills by using product components such as text, PPT, audio, comic and text.

Conclusion

This study aimed to pursue the efficiency of Differentiated Instruction implementation in fulfilling the students' different learning needs and preferences. The purpose of this research is to find out how students' reading comprehension can be improved through the implementation of differentiated instruction with product components of recount text. The research posed two cycles of treatment implementation. The core concept of this research is that differentiated instruction can facilitate effective and efficient English learning activities for students by utilizing a wide range of processes, products, and content to accommodate their diverse learning styles. This approach allows students to explore their individual learning preferences, which is an underlying assumption of this study. According to the findings of this study, Differentiated instruction is effective at anticipating the diverse learning styles and preferences of students by offering a variety of learning processes and products to meet the students' various learning requirements. Additionally, this research discovered that differentiated instruction benefits students' intellectual development and fascination for the subject matter. Empirical evidence substantiates these findings, including pretest scores, recorded initial and post-implementation class conditions, and post-test scores. Lastly, teachers need to anticipate the learning styles and the references of their diverse student populations to improve student learning outcomes, according to the findings of this study. As a result, the study findings demonstrate that differentiated instruction is a worthwhile strategy for addressing students' varying learning styles and preferences. This is achieved by offering a range of learning processes and products to meet the individual learning demands of students. Additionally, this study revealed that varied instruction has positively impacted students' cognitive growth and interest in the subject matter. The validity of these findings is supported by empirical evidence, including pretest scores, observations of the initial and subsequent class conditions, and post-test scores. The researchers propose two future research recommendations, including expanding the population sample size or number of students participating in the study and investigating potential differentiated instruction designs that may have diminished shortfalls than those identified in this study.

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