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Differentiated Instruction and the Learners' Learning Engagement

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ABSTRACT

The study aimed to evaluate the impact of differentiated instruction on learning engagement among Grade 5 learners in the San Fernando I District, Division of Bukidnon, during the 2023-2024 academic year. It specifically focused on assessing the level of differentiated instruction utilization in terms of assessment, lesson planning, content, process, and product, as well as identifying the learners' engagement in active participation, collaboration, and feedback responsiveness across all learning areas. The study involved 235 Grade 5 learners selected through simple random sampling and employed a descriptive-correlational research design. The data collection was facilitated using questionnaires adapted from Whipple (2012) and Hart et al. (2011), while the data analysis utilized mean, standard deviation, and Pearson product-moment correlation. The findings indicated that teachers exhibited a very high level of differentiated instruction utilization, showcasing a robust implementation of tailored teaching methods to meet diverse student needs. In terms of learning engagement, collaboration among learners was observed to a very large extent, whereas active participation and feedback responsiveness were evident to a large extent. However, the study found no significant relationship between the utilization of differentiated instruction and the learners' engagement levels. Given these results, it is recommended that future research should further investigate the correlation between differentiated instruction and learners' engagement, potentially offering more comprehensive insights. This could help in understanding the nuanced impacts of differentiated teaching methods on various aspects of student engagement in learning.

Key Words: *Differentiated Instruction and Learning Engagement*

Introduction

Across all learning areas in schools, there is a pervasive challenge to sustain student engagement. The abstract and seemingly irrelevant nature of some subjects, combined with the intricacies of historical content and ineffective teaching methods, creates an overall atmosphere of disinterest. The absence of diverse perspectives in the curriculum and an overemphasis on rote memorization, at the expense of critical thinking, further exacerbate this issue. Students, regardless of the learning domain, may struggle to connect the material to their daily lives, leading to a widespread disengagement. Addressing these common concerns across all subjects is imperative to cultivate a more universally engaging and relevant learning experience for students in diverse academic areas.

Differentiated instruction, as emphasized by Waid (2016), emerges as a crucial strategy for fostering engagement across all learning areas. By acknowledging and accommodating the diverse learning needs and preferences present in classrooms across various subjects, instructors can effectively address variations in students' prior knowledge, interests, and learning styles. This tailored approach contributes to the creation of a more inclusive and engaging learning environment. For instance, students grappling with abstract historical concepts may benefit from hands-on activities or visual aids, while those with a passion for specific historical periods can delve into more advanced materials. This personalized instructional method not only enhances accessibility to content but also empowers learners to take control of their learning, enabling them to engage with the subject matter in ways that align with their individual interests across all learning areas.

Effectively addressing the relevance gap that often hinders student engagement across all learning areas, differentiated instruction emerges as a potent intervention. Through the use of diverse teaching methods and resources, educators can establish meaningful connections between the subject matter and students' real-life experiences and current events. Tailored lessons can be crafted to incorporate contemporary issues and diverse perspectives, enhancing the content's relatability. When learners perceive the value and relevance of their education in various subjects, they naturally become more active and inquisitive critical thinkers. Essentially, the implementation of differentiated instruction not only caters to the unique needs of individual learners but also serves as a transformative approach, turning learning across all areas into a subject that fosters engagement, critical thinking, and a lifelong interest in comprehending the complexities of the world.

Despite the increasing research focus on differentiated instruction and its impact on learning engagement, a distinct research gap persists in understanding the application and effectiveness of this instructional approach in the context of education across all learning areas within District I of San Fernando, Bukidnon. While broader educational studies have highlighted the advantages of differentiated instruction, limited attention has been given to examining the specific challenges and opportunities posed by this approach within the local context. The need for research in this specific area becomes evident, as

it holds the potential to uncover insights that are uniquely relevant to the educational landscape of District I and contribute to a more comprehensive understanding of the role of differentiated instruction in enhancing learning engagement across various subjects.

Consequently, an exploration of the application and results of differentiated instruction in District I of San Fernando, Bukidnon, holds the potential to offer crucial insights into its relevance and effectiveness within a specific cultural and regional context. This investigation could pave the way for the development of more targeted and efficient strategies aimed at enhancing learners' engagement across all learning areas. Understanding how differentiated instruction aligns with the unique educational landscape of District I could contribute valuable knowledge, enabling educators to tailor their approaches to better suit the local context and, in turn, foster more meaningful and impactful learning experiences for students across diverse subjects.

Conceptual Framework

The study on differentiated instruction and learning engagement is firmly rooted in Howard Gardner's Theory of Multiple Intelligences, which he initially introduced in 1983. This theory marks a departure from the conventional understanding of intelligence as a single, unitary concept measured by standardized tests like IQ (Gardner, 1991). Instead, Gardner's theory posits that individuals possess a diverse array of distinct intelligences, each reflecting their ability to excel in various tasks and problem-solving situations, valued differently across different cultures.

Gardner's journey towards formulating this theory can be traced back to his involvement in a research project sponsored by the Bernard van Leer Foundation. This project, focused on exploring human potential, specifically sought to establish a link between human cognition and the biological and behavioral sciences. In pursuit of this ambitious goal, Gardner was tasked with compiling a comprehensive book, documenting the existing knowledge regarding the intricate connection between human cognition and these sciences. This substantial research undertaking ultimately laid the foundation for Gardner's Theory of Multiple Intelligences (Gardner, 2011b).

The financial support from the van Leer Foundation proved instrumental in allowing Gardner to combine his prior research on brain damage with the insights he had gained about cognitive development. His studies in cognitive development illuminated seven distinct ways in which children master symbol use, encompassing a wide spectrum of abilities, including singing, drawing, and storytelling. In collaboration with his colleagues, Gardner drew from literature spanning multiple fields, including psychology and anthropology, to discern the most comprehensive taxonomy of intellectual capacities (Gardner, 2011b).

Gardner’s decision to label these diverse capacities as “intelligences” spark controversy but also played a significant role in popularizing his theory. He noted that this terminology was pivotal in disseminating his work globally and ensuring its recognition. However, it is important to acknowledge that Gardner's theory faced skepticism from various psychologists who held contrasting views on the nature of intelligence. For instance, his perspectives on intelligence diverged from those of psychologists like Richard Herrnstein, who emphasized a substantial genetic component in determining IQ. Gardner even critiqued Herrnstein's co-authored work, "The Bell Curve," arguing that it encouraged a focus on the intellectual elite without offering effective strategies for educating individuals who did not perform well on traditional IQ tests (Gardner, 2001).

According to Gardner, an intelligence denotes an individual's capacity to solve problems or perform tasks deemed valuable within one or more cultures. In the early 1980s, he identified seven distinct intelligences, subsequently adding an eighth about a decade later (Checkley, 1997). These intelligences encompass linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal, intrapersonal, and naturalistic intelligences. Gardner observed that linguistic intelligence appeared to be the most universally shared across human societies because, without proficiency in semantics, phonology, syntax, and pragmatics, individuals would encounter significant challenges in effectively navigating the world. In contrast, the abilities of gymnasts, mathematicians, musicians, and visual artists often appear enigmatic and distant to the average person, highlighting the incredible diversity in human cognitive strengths and talents (Gardner, 2011b).

The Theory of Multiple Intelligences (MI) by Howard Gardner can be a powerful framework for applying differentiated instruction and enhancing learning engagement. By recognizing and addressing the diverse intelligences within a classroom, teachers can tailor their teaching methods and materials to better align with students' individual strengths and preferences. For example, a lesson on history can incorporate various activities, such as storytelling for linguistic learners, mathematical analysis for logical-mathematical learners, or music and art for those with musical and visual-spatial intelligences, respectively. This approach not only makes the content more accessible and relatable to students but also empowers them to engage with the subject matter in ways that resonate with their unique cognitive strengths, fostering a deeper connection to the material and, consequently, greater learning engagement.

In this study, *differentiated instruction* is an inclusive teaching approach that recognizes and accommodates the diverse learning needs and preferences of students. It encompasses several interconnected factors: *assessment* involves gauging students’ prior knowledge and skills, enabling teachers to tailor instruction effectively; *lesson planning* revolves around designing varied activities and strategies that cater to different learning styles; *content* encompasses modifying curriculum materials to be accessible and relevant to all students; *process* entails adjusting the methods of teaching to suit various skill levels, interests, and readiness; and *product* encourages students to showcase their understanding in diverse ways, ensuring they can demonstrate mastery through their individual strengths. The ultimate aim of differentiated instruction is to foster higher levels of *learning engagement*, as it empowers students to take ownership of their education and engages them through materials and methods that align with their unique cognitive strengths, creating a more inclusive and effective learning environment. Figure 1 shows the schematic diagram of the study.

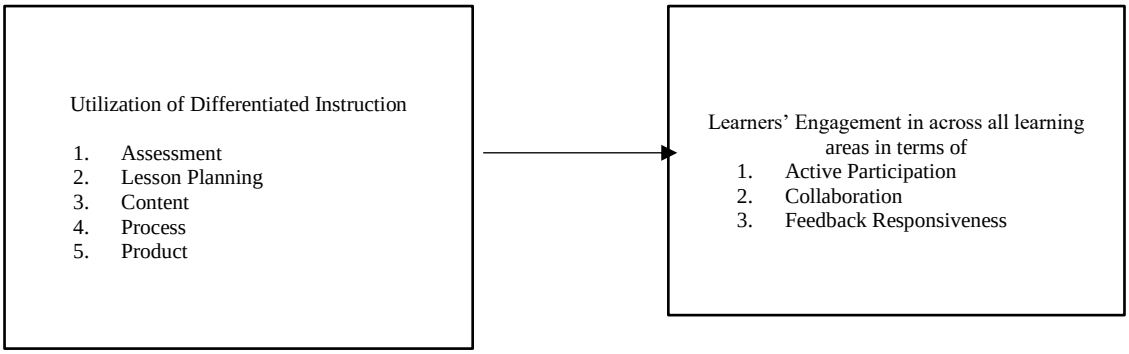

Figure 1. Schematic diagram showing the relationship between the independent and dependent variables of the study

Statement of the Problem

The objective of this study was to assess the influence of employing differentiated instruction on learning engagement among Grade 5 learners as they approach education across all learning areas in San Fernando I District, Division of Bukidnon, during the academic year 2023-2024. Specifically, this study sought to answer the following questions:

1. What is the level of utilization of differentiated instruction in terms of assessment, lesson planning, content, process, and product?
2. What is the level of learners' learning engagement in approaching all learning areas in terms of active participation, collaboration, and feedback responsiveness?
3. Is there a significant relationship between the utilization of differentiated instruction in terms of assessment, lesson planning, content, process, product, and learning engagement in approaching all learning areas?

Delimitation of the Study

This research specifically concentrated on assessing how teachers employ differentiated instruction in their teaching approaches across all subjects. The assessment of differentiated instruction encompasses its application in various facets, including assessment methods, content delivery, instructional processes, and final product expectations. The primary focus of this study revolved around the examination of the level of learning engagement exhibited by Grade 5 learners as they navigate the curriculum across all subjects. The study was carried out in District I of San Fernando, situated within the educational jurisdiction of the Division of Bukidnon, throughout the academic year 2023-2024, with a specific emphasis on the geographical and educational context of this District.

Review of the Literature

Differentiated Instruction

Differentiated instruction is an educational philosophy that emphasizes adapting teaching methods to meet the diverse needs of students, with the goal of ensuring all students succeed (Schleicher, 2016). This approach involves proactively modifying curricula, teaching methods, resources, and learning activities to align with individual learning needs. The need for differentiation has grown due to the increasing diversity in classrooms, including mixed-ability groupings and the inclusion of culturally and linguistically diverse students, as well as special education students (Tomlinson, 2015). Differentiation supports equity by allowing students to develop at their own pace, although practical implementation remains challenging for many teachers (Van Casteren et al., 2017). Research indicates a gap between teachers' understanding of differentiation and their actual application of these methods in classrooms (Schleicher, 2016).

Assessment

Assessment in the context of differentiated instruction, also known as constructive assessment, aims to provide feedback during instruction to enhance teaching and learning (Pophan, 2018). Unlike summative assessments, which summarize achievement at the end of a period, assessment for learning is integrated into the teaching process and helps close the gap between a student's current understanding and learning objectives (Heritage, 2022). This approach involves ongoing collection and utilization of assessment data to adjust teaching methods and guide students toward their goals (Herman, 2020). It includes various classroom activities and encourages active participation through self-assessment and peer assessment, aiding in identifying learning needs and adapting teaching strategies (Sadler, 2019; Black & William, 2019).

Lesson Planning

Lesson planning is essential for creating an effective learning environment that incorporates differentiated instruction (Rusznyak & Walton, 2011). It involves preparing materials, instructional strategies, and timing to meet diverse student needs (Whitton et al., 2014). Lesson plans help bridge educational theory and practice, guiding teachers in addressing students' varying abilities and learning profiles (Vdovina & Gaibisso, 2013). However, many teachers, especially novices, find lesson planning within the context of differentiation challenging and time-consuming (Senior, 2016). Effective lesson plans integrate differentiated instruction principles, supporting teachers in organizing curriculum content and anticipating potential issues (McCutcheon, 2020). They also serve external purposes, such as guiding substitute teachers and fulfilling administrative requirements (Choy et al., 2013).

Content

Differentiated instruction requires teachers to adapt their teaching methods to meet students' diverse needs, focusing on content, process, and product (Tomlinson, 2021). Teacher self-efficacy, or their belief in their capabilities to achieve desired teaching outcomes, is crucial for successful differentiation (Dixon et al., 2014). Quality teaching involves engaging students through various strategies, including open-ended questions, problem-solving, and project-based learning (Ollerton, 2014). Understanding and applying multiple intelligences in teaching can enhance learning experiences and foster creativity (Tomlinson, 2021). Differentiation should provide meaningful, authentic tasks and allow student choice to capture interest and improve performance (Kondor, 2017; Strahan et al., 2022).

Process

Implementing differentiated instruction involves teachers' knowledge and perceptions, influenced by factors such as content knowledge, teacher-student ratios, and time constraints (King, 2020). While teachers generally understand differentiation concepts, actual implementation is often limited due to perceived challenges and time consumption (Wan, 2017). Professional development is recommended to enhance teachers' efficiency in differentiating instruction (Dixon et al., 2014). Studies reveal a disconnect between understanding and executing differentiation, with teachers often defaulting to a teacher-centered approach despite being prepared for differentiated strategies (Whipple, 2022; Lockley et al., 2017). Action research has shown that differentiated instruction can improve student motivation and engagement when effectively implemented (Martin & Pickett, 2018).

Product

Differentiated instruction has been shown to positively impact student engagement and interest when tailored to diverse ability levels (Johnsen, 2018). However, some students, especially those with exceptional needs, may still require specialist support beyond differentiation (Tomlinson, 2015). Teachers' attitudes towards differentiation and their willingness to adopt new strategies significantly influence its success (Tomlinson, 2015). Research indicates that differentiated instruction can improve performance in subjects like mathematics but may not be as effective in others, such as literacy (Hodge, 2017). Despite recognizing the importance of addressing academic diversity, many teachers struggle to consistently implement differentiation, often reverting to one-size-fits-all approaches (Tomlinson et al., 2018).

Learning Engagement

Learning engagement is defined as students' willingness, need, desire, and compulsion to actively participate in and succeed in the learning process (Bomia et al., 2017). It encompasses learners' attitudes toward their educational experiences and their disposition toward lifelong learning (Mandernach et al., 2021). Engagement is demonstrated through learners' interest, interactions, and motivation in the subject matter (Briggs, 2015). Factors such as attitude, personality, motivation, effort, and self-confidence are closely linked to engagement, with studies showing a positive correlation between course interaction quality and student grades (Jaggars & Xu, 2016). Assessing engagement levels enables teachers to design lessons that foster active participation, and in online settings, various tools are available to collect data on student participation (Gray & DiLoreto, 2015).

Active Participation

Active student participation in curriculum design requires reevaluating teacher and student roles, affecting social dynamics and educational hierarchies (Cook-Sather, 2014). Higher education has traditionally been instructor-centric, limiting the exploration of new roles for educators and learners (Bovill et al., 2016). Institutional structures can pose barriers to fostering student engagement, necessitating a shift toward a more democratic educational process (Bovill et al., 2016). Encouraging active participation involves redefining traditional roles and integrating students' voices into the learning process.

Collaboration

Collaboration is promoted through engaging students in collaborative learning activities, leveraging diverse perspectives to build knowledge (Puntambekar, 2016). Effective collaborative learning includes elements such as positive interdependencies, face-to-face interactions, personal responsibilities, interpersonal skills, and group processing (Johnson et al., 2018). Group learning allows students to express opinions relevant to their

cultural identities, enhancing their understanding of various backgrounds and refining social interaction skills (Siew et al., 2016). This exchange fosters a deeper comprehension of the lesson and supports social development through knowledge sharing.

Feedback Responsiveness

Feedback responsiveness is crucial for learning and assessment, providing students with insights into their performance and guiding their development (Brown, 2017). Feedback helps students monitor, manage, and take responsibility for their learning processes (Nichol, 2017). It serves purposes such as error correction, understanding enhancement, skill development, metacognition promotion, and ongoing study encouragement (Gibbs & Simpson, 2014). Feedback can be delivered in various forms, including written comments, oral communication, email exchanges, and self- or peer-feedback, offering comprehensive insights into student progress.

Research Methodology

The study employed a descriptive-correlational research design to explore the relationship between teachers' use of differentiated instruction and learners' engagement. Differentiated instruction aspects included assessment, lesson planning, content, process, and product. The study focused on Grade 5 learners across all learning areas, using quantitative analysis to describe and determine correlations between these variables. The research was conducted in San Fernando I District, Division of Bukidnon, a predominantly mountainous area. The study included various schools with different accessibility levels, from easily reachable to remote, highlighting the diverse educational environments within the district. The respondents included Grade 5 teachers and learners. For learners, 235 Grade 5 learners were selected using simple random sampling from a total population of 603 to ensure representativeness. For teachers, complete enumeration was used for all 26 Grade 5 teachers in the district to gather comprehensive insights into their use of differentiated instruction. Two primary sources were used for the research instruments. The questionnaire assessing teachers' differentiated instruction was adapted from Whipple (2012), while the questionnaire focusing on learners' engagement was based on Hart, Stewart, and Jimmerson (2011). Responses were recorded using a 5-point Likert scale. The instrument's reliability was confirmed with a high Cronbach's alpha score of 0.922, indicating strong internal consistency.

Permissions were obtained from the Schools Division Superintendent and School Principals/Heads. The researcher facilitated the distribution and collection of questionnaires, ensuring ethical considerations such as confidentiality and anonymity. Data were coded, recorded, and subjected to statistical analysis. Several statistical tools were employed to analyze the data. To assess the extent of teachers' utilization of differentiated instruction, mean and standard deviation measures were applied. Learners' learning engagement was also evaluated using mean and standard deviation. Pearson product-moment correlation analysis was used to explore the relationship between teachers' differentiated instruction and learners' engagement.

Findings

Assessment

Table 1 indicates that the use of differentiated instruction in assessment is very high, with an overall mean of 4.60 and a standard deviation of 0.442, reflecting teachers' effectiveness in meeting diverse learning needs through varied assessment methods like tests, projects, presentations, and portfolios. The highest-rated indicator is gauging learners' readiness and adjusting lessons accordingly, with a mean of 4.65 and a standard deviation of 0.485, closely followed by verifying learners' understanding at the end of sessions, also with a mean of 4.65 but a higher standard deviation of 0.629. These practices highlight teachers' responsiveness and commitment to ensuring comprehension and engagement, fostering a dynamic, inclusive learning environment. The lowest-rated, though still high, indicator is assessing prior knowledge before introducing new topics, with a mean of 4.50 and a standard deviation of 0.583, suggesting a need for greater emphasis on pre-assessment to enhance differentiated instruction. This approach aligns with Lumpkin's (2022) and Dong, Jong, and King's (2020) emphasis on the importance of continuous understanding checks and recognizing prior knowledge for effective learning.

Table 1

Level of Utilization of Differentiated Instruction in terms of Assessment

Indicators	Mean	SD	Interpretation
I gauge whether my learners are prepared to learn and adjust the lesson accordingly.	4.65	0.485	Very High
I ensure to verify if my learners have grasped the lesson's content by the end of the session.	4.65	0.629	Very High
I make an effort to understand how each learners prefers to learn.	4.62	0.571	Very High
I regularly check my learners understanding of the material as we progress, not just at the lesson's conclusion.	4.58	0.578	Very High

Indicators	**Mean**	**SD**	**Interpretation**
Before I delve into a new topic, I assess what my learners already know.	4.50	0.583	Very High
Overall	4.60	0.442	Very High

Lesson Planning

Table 2 demonstrates that teachers extensively utilize differentiated instruction in lesson planning, with a mean score of 4.56 and a standard deviation of 0.470, reflecting a strong commitment to addressing diverse learner needs. The highest-rated indicator is the integration of language, literacy, quantitative skills, and values into subject areas, with a mean of 4.73 and a standard deviation of 0.533, highlighting the emphasis on interdisciplinary teaching. Another top indicator is the alignment of lesson objectives with appropriate teaching methods, activities, and resources, also scoring a mean of 4.73 with a lower standard deviation of 0.452, underscoring the effective tailoring of instructional approaches to learning outcomes. Additionally, the clear explanation of learning goals and procedures to learners scores highly, with a mean of 4.69 and a standard deviation of 0.549, emphasizing the importance of transparent communication for learner empowerment. The lowest-rated indicator, though still high, is the provision of accurate and current content using effective methodologies, with a mean of 4.27 and a standard deviation of 0.827, suggesting an area for improvement. These findings indicate that teachers prioritize interdisciplinary integration, alignment of objectives with methods, and clear communication, though there is room to enhance the delivery of up-to-date content (Panergayo, Gregana, & Panoy, 2022; Hatmanto & Rahmawati, 2023).

Table 2

Level of Utilization of Differentiated Instruction in terms of Lesson Planning

Indicators	Mean	SD	Interpretation
I integrate language, literacy, quantitative skills, and values in my subject area.	4.73	0.533	Very High
I align lesson objectives with appropriate teaching methods, activities, and resources.	4.73	0.452	Very High
I clearly explain learning goals, instructional procedures, and content to learners.	4.69	0.549	Very High
I create situations fostering the use of high-order thinking skills in learners.	4.38	0.697	Very High
I provide precise and current content using effective methodologies.	4.27	0.827	Very High
Overall	4.56	0.470	Very High

Content

Table 3 shows a high utilization of differentiated instruction in terms of content, with a mean score of 4.60 and a standard deviation of 0.487, indicating that teachers are effectively tailoring lesson plans to meet diverse learner needs. This commitment to inclusivity and engagement highlights the importance of differentiated instruction in promoting academic success and learner-centered education. The highest-scoring indicators from Table 4 are "In structuring our lessons, I make sure the content is meaningful and relevant" and "I establish connections between the lessons and real-life scenarios, relating them to current events in the world," both with a mean of 4.69 and a standard deviation of 0.549. These scores reflect a focus on making content relatable and engaging, enhancing learners' understanding and motivation by connecting lessons to their experiences and real-world events. Other high-scoring indicators emphasize the importance of clear learning objectives and diverse resources to support varied learning needs. However, the indicator "I employ various teaching aids, not solely relying on the textbook" has the lowest mean of 4.38 and a standard deviation of 0.637, suggesting an area for improvement in using a broader range of teaching aids to enhance engagement and understanding. This approach aligns with Parrish (2022) and Noonan (2019), who advocate for human interaction, relevance, and diverse teaching tools to foster motivated and effective learning.

Table 3

Level of Utilization of Differentiated Instruction in terms of Content

Indicators	Mean	SD	Interpretation
In structuring our lessons, I make sure the content is meaningful and relevant.	4.69	0.549	Very High
I establish connections between the lessons and real-life scenarios, relating them to current events in the world.	4.69	0.549	Very High
I explicitly communicate what I want my learners to know and achieve.	4.62	0.637	Very High
I provide diverse tools to aid learning, such as study guides or collaborative work with classmates.	4.62	0.637	Very High
I employ various teaching aids, not solely relying on the textbook.	4.38	0.637	Very High
Overall	4.60	0.487	Very High

Process

Table 4 reveals that differentiated instruction is implemented at a notably high level regarding the process, with a mean of 4.45 and a standard deviation of 0.455. This indicates that teachers employ a variety of instructional strategies, such as project-based learning, cooperative learning, and flipped classroom methods, tailored to address the diverse needs of learners. Techniques like differentiated assignments, flexible grouping, and scaffolding activities further highlight a commitment to creating unique learning experiences that cater to individual learning styles and preferences, maximizing academic achievement by fostering deeper comprehension and engagement. The highest-rated indicator, "I encourage learners to be active participants in their learning journey, allowing them a voice in how assignments are approached," with a mean of 4.62 and a standard deviation of 0.571, suggests that learners feel empowered and motivated, leading to a more meaningful educational experience. Another high-rated indicator, "I strategically group learners based on readiness, interests, or preferred learning styles," with a mean of 4.54 and a standard deviation of 0.761, emphasizes the importance of personalized learning experiences. However, the indicator with the lowest mean, "I empower learners to choose their learning preferences, whether working in groups or independently," with a mean of 4.23 and a standard deviation of 0.863, suggests an area for improvement in granting learners more agency in their learning choices. This aligns with Alhawiti (2023), who emphasizes the importance of learner autonomy in fostering a sense of ownership and independence in the learning process. Overall, while differentiated instruction is highly utilized, enhancing learner empowerment could further enrich the educational experience.

Table 4

Level of Utilization of Differentiated Instruction in terms of Process

Indicators	Mean	SD	Interpretation
I encourage learners to be active participants in their learning journey, allowing them a voice in how assignments are approached.	4.62	0.571	Very High
I strategically group learners based on readiness, interests, or preferred learning styles.	4.54	0.761	Very High
I arrange the classroom to facilitate different activities, catering to both group work and individual tasks.	4.46	0.706	Very High
I occasionally adjust the pace of our lessons to accommodate learner needs.	4.42	0.504	Very High
I empower learners to choose their learning preferences, whether working in groups or independently.	4.23	0.863	Very High
Overall	4.45	0.455	Very High

Table 5 shows a very high utilization of differentiated instruction in terms of product, with a mean score of 4.44 and a standard deviation of 0.569. This indicates that teachers effectively modify lesson plans to meet diverse learning preferences, skill levels, and interests by offering alternative assessments like presentations, projects, or written assignments, and implementing tiered tasks. High scores for indicators such as "I offer learners the opportunity to demonstrate their understanding in various ways" (mean of 4.54) and "I appreciate creativity and encourage different approaches to assignments" (mean of 4.46) reflect a strong emphasis on diverse, creative learning opportunities. This aligns with O'Neill and Padden (2021), who stress the importance of varied evaluation techniques. However, the indicator "I incorporate different types of assessments" has the lowest mean of 4.38, suggesting a need for more varied assessment methods. DeLuca and Lam (2014) highlight that diverse assessments foster inclusivity and ensure all learners can effectively demonstrate their understanding, thereby boosting engagement and academic success.

Table 5

Level of Utilization of Differentiated Instruction in terms of Product

Indicators	Mean	SD	Interpretation
I offer learners the opportunity to demonstrate their understanding in various ways.	4.54	0.647	Very High
I appreciate creativity and encourage learners to explore different approaches to assignments.	4.46	0.706	Very High
I ensure that projects, assignments, and products align with learners' interests.	4.42	0.578	Very High
I provide options for working independently, with a partner, or in small groups.	4.38	0.697	Very High
I incorporate different types of assessments to allow learners to showcase their knowledge.	4.38	0.752	Very High
Overall	4.44	0.569	Very High

Active Participation

Table 6 indicates a high level of learners' engagement in active participation across all learning areas, with a mean of 4.14 and a standard deviation of 0.748, promoting critical thinking, collaboration, and deeper understanding. For instance, in Social Studies, learners might engage in group discussions, debates, or hands-on activities like examining primary sources or role-playing historical figures, fostering empathy and a deeper connection with the material. The highest mean score, "I participate in group projects and hands-on activities for all subjects" (mean of 4.36, standard deviation of 0.956), highlights a strong commitment to collaborative and experiential learning, enhancing teamwork, problem-solving, creativity, and communication skills. Another high-scoring indicator, "I enjoy reading and discussing topics from various subjects" (mean of 4.27, standard deviation of 1.009), indicates a genuine interest in exploring diverse subjects, enriching learners' perspectives and analytical skills. However, the indicator "I connect current events to what I have learned in different subjects" had a lower mean of 3.94 (standard deviation of 1.265), suggesting a need for improvement in linking classroom learning with real-world contexts. Enhancing this connection can deepen learners' understanding of the relevance of academic knowledge to real-world issues, fostering critical thinking and informed decision-making. Bui, Duong, and Nguyen (2022) emphasize the importance of versatile skills for navigating complex problems, suggesting that strengthening the application of learned concepts to current events can enhance academic achievement and cultivate lifelong learning habits essential for future success.

Table 6

Level of Learners' Learning Engagement in Approaching All Learning Areas in terms of Active Participation

Indicators	Mean	SD	Interpretation
I participate in group projects and hands-on activities for all subjects.	4.36	0.956	Very Large Extent
I enjoy reading and discussing topics from various subjects.	4.27	1.009	Very Large Extent
I engage my mind in thinking deeply about information from various learning areas.	4.13	1.090	Large Extent
I actively contribute to class discussions and share ideas in all subjects.	4.03	1.198	Large Extent
I connect current events to what I have learned in different subjects.	3.94	1.265	Large Extent
Overall	4.14	0.748	Large Extent

Collaboration

Table 7 shows a high level of learner engagement in collaboration, with an overall mean of 4.24 and a standard deviation of 0.711, indicating active peer collaboration on academic challenges. In Social Studies, group projects foster skills like communication, teamwork, and problem-solving. Collaborative learning across disciplines helps learners apply knowledge in real-world contexts, promoting a vibrant, intellectually curious environment. The high mean score of 4.37 for "I actively contribute to group projects and activities in all learning areas," with a standard deviation of 0.893, highlights strong commitment to teamwork. For example, in science, learners collaborate on experiments, and in language arts, group projects deepen understanding through shared insights. A mean score of 4.30 and a standard deviation of 1.080 for "I ask questions to understand better in all subjects" reflects a proactive approach, enhancing comprehension and enriching the learning environment. La Rocca, Margottini, and Capobianco (2014) noted that engaged learners in group projects and questioning demonstrate critical thinking and effective learning, leading to improved academic outcomes. Conversely, "I respect and consider the opinions of others in class discussions for every subject," with a mean of 4.14 and a standard deviation of 1.069, indicates a slightly lower extent of valuing diverse perspectives. This suggests a need for a more inclusive environment where all viewpoints are respected. Moore, Boardman, and Ferrell (2019) highlight that respecting diverse opinions fosters effective collaboration and essential skills for understanding varied perspectives in academic and real-world contexts.

Table 7

Level of Learners' Learning Engagement in Approaching All Learning Areas in terms of Collaboration

Indicator	Mean	SD	Interpretation
I actively contribute to group projects and activities in all learning areas.	4.37	0.893	Very Large Extent
I ask questions to understand better in all subjects.	4.30	1.080	Very Large Extent
I connect what I learn in all subjects to my own life.	4.20	1.046	Very Large Extent
I collaborate with peers in all subjects, fostering a positive learning environment.	4.17	1.061	Large Extent
I respect and consider the opinions of others in class discussions for every subject.	4.14	1.069	Large Extent
Overall	4.24	0.711	Very Large Extent

Feedback Responsiveness

Table 8 presents learners' engagement levels in terms of feedback responsiveness, indicating a mean of 4.05 and a standard deviation of 0.807, suggesting receptivity to feedback but room for improvement in actively incorporating it to enhance learning experiences. High mean scores for indicators like willingness to share ideas and opinions in debates and group activities (mean of 4.19, standard deviation of 1.030) and attentiveness during class discussions (mean of 4.17, standard deviation of 1.095) reflect learners' inclination for active participation and listening, fostering a collaborative and respectful learning environment. Kong (2021) highlights that sharing ideas enhances understanding and critical thinking. Conversely, the indicator on seeking additional resources yielded a lower mean of 3.91 and a standard deviation of 1.293, indicating potential for improvement in proactive engagement with supplemental materials. Understanding the relationship between differentiated instruction and learning engagement across assessment, lesson planning, content delivery, process, product, and feedback responsiveness is crucial for optimizing teaching effectiveness and student outcomes across all subjects, fostering a holistic approach to tailored education.

Table 8

Level of Learners' Learning Engagement in Approaching All Learning Areas in terms of Feedback Responsiveness

Indicators	Mean	SD	Interpretation
I willingly share my ideas and opinions during debates and group activities for every subject.	4.19	1.030	Large Extent
I pay attention when people talk about different subjects in our class.	4.17	1.095	Large Extent
I make an effort to understand and appreciate other cultures and societies in every subject.	4.04	1.158	Large Extent
I actively participate in discussions and engage with feedback for all subject areas.	3.93	1.191	Large Extent
I go the extra mile by doing additional research and using videos for all subjects.	3.91	1.293	Large Extent
Overall	4.05	0.807	Large Extent

Relationship between Utilization of Differentiated Instruction and Learning Engagement in Approaching All Learning Areas

Table 9 explores the relationship between differentiated instruction utilization across domains (assessment, lesson planning, content, process, and product) and learning engagement (active participation, collaboration, and feedback responsiveness) in all learning areas. Non-significant correlations between differentiated instruction and learning engagement in assessment, lesson planning, content, and product domains (ranging from -.110 to .003, with p-values > .05) suggest that implementing differentiated instruction in these areas may not directly impact overall engagement. However, a moderate positive correlation ($r = .346$) between differentiated instruction in the process domain and learning engagement hints at a potential trend towards increased engagement, though not statistically significant ($p = .084$). This underscores the importance of how instruction is delivered in influencing student engagement. Teachers should consider both the presence and effectiveness of differentiated instruction, particularly in the instructional process, to optimize student engagement. While the findings challenge assumptions about the universal impact of differentiated instruction on engagement, they emphasize the need for nuanced approaches and ongoing research to understand its effects fully. The researchers fail to reject the null hypothesis, suggesting no significant relationship between differentiated instruction utilization and learning engagement. This contrasts with previous studies, such as Liou et al. (2023), which highlight the benefits of differentiated instruction in enhancing learning outcomes, engagement, and academic performance.

Table 9

Test of Significant Relationship between the Utilization of Differentiated Instruction in terms of Assessment, Lesson Planning, Content, Process, Product, and Learning Engagement in Approaching All Learning Areas

Indicators	r	p-value	Interpretation
Assessment	.110	.594	Not Significant
Lesson Planning	.026	.901	Not Significant
Content	.018	.929	Not Significant
Process	.346	.084	Not Significant
Product	.003	.987	Not Significant
Overall	.053	.797	Not Significant

Conclusions and Recommendations

On the basis of the findings of the study, the following conclusions are drawn:

The study concludes that teachers demonstrate a robust implementation of differentiated instruction, highlighting their commitment to adapting teaching methods to address learners' diversity effectively.

In terms of learners' engagement, the findings suggest that collaboration among learners was notably strong, while active participation and responsiveness to feedback were also substantial, indicating a conducive learning environment.

However, the lack of a significant relationship between teachers' utilization of differentiated instruction and learners' engagement levels indicates a need for further exploration into the factors influencing student engagement beyond instructional methods alone.

In light of the study's findings on the utilization of differentiated instruction and its impact on student engagement, several recommendations can be proposed for learners, teachers, school heads, and future researchers.

Teachers are encouraged to continue implementing differentiated instruction effectively while also fostering a supportive environment that promotes active participation and responsiveness to feedback among students.

School heads should consider providing professional development opportunities for teachers to enhance their skills in implementing differentiated instruction and promoting student engagement, while also fostering a culture of collaboration among both educators and students.

Future researchers may benefit from exploring additional factors that influence student engagement beyond instructional methods, such as classroom environment, student motivation, and socio-emotional factors, to provide a more comprehensive understanding of effective teaching practices and their impact on student learning.

References

Alhawiti, N. M. (2023). The influence of active learning on the development of learner capabilities in the college of applied medical sciences: Mixed-methods study. *Advances in Medical Education and Practice, 14*, 87–99. https://doi.org/10.2147/AMEP.S392875

Black, P. J., & William, D. (2019). Assessment and classroom learning. *Assessment in Education: Principles, Policy, and Practice, 5*(1), 7-74. https://doi.org/10.1080/0969595980050102

Bomia, L., Beluzo, L., Demeester, D., Elander, K., Johnson, M., & Sheldon, B. (2017). *The impact of teaching strategies on intrinsic motivation.* Retrieved from ERIC database (ED418825

Bovill, C., Cook-Sather, A., Felten, P., Millard, L., & Moore-Cherry, N. (2016). Addressing potential challenges in co-creating learning and teaching: Overcoming resistance, navigating institutional norms and ensuring inclusivity in student–staff partnerships. *Higher Education*, *71*(2), 195–208. doi: 10.1007/s10734-015-9896-4

Briggs, A. (2015, Feb.). *Ten ways to overcome barriers to student engagement online.* Online Learning Consortium, Retrieved from http://onlinelearningconsortium.org/news_item/tenways-overcome-barriers-student-engagement-online/

Brittin, R. V. (2015). Pre-service and experienced teachers' lesson plans for beginning instrumentalists. *Journal of Research in Music Education 53*(1), 26–39.

Brown, S. (2017). Feedback & feed-forward. Bulletin, 22, Centre for Bioscience. www.bioscience.heacademy.ac.uk

Bui, P. U., Duong, H. T., & Nguyen, B. L. (2022). The effectiveness of experiential learning in teaching arithmetic and geometry in sixth grade. *Frontiers in Education, 7*, Article 858631. https://doi.org/10.3389/feduc.2022.858631

Checkley, K. (1997). The first seven and the eighth: A conversation with Howard Gardner. *Educational Leadership, 55*(1), 8-13.

Choy, D., Wong, A. F., Lim, K. M., & Chong, S. (2013). Beginning teachers' perceptions of their pedagogical knowledge and skills in teaching: A three year study. *Australian Journal of Teacher Education, 38*(5), 68–79

Christopher, C. A. (2009). *Differentiated instruction in the secondary across all learning areas classroom.* Graduate Research Papers, University of Northern Iowa. Retrieved from https://scholarworks.uni.edu/grp

Cook-Sather, A. (2014). Student-faculty partnership in explorations of pedagogical practice: A threshold concept in academic development. *International Journal for Academic Development*, *19*(3), 186–198. doi: 10.1080/1360144X.2013.805694

DeLuca, C., & Lam, C. Y. (2014). Preparing teachers for assessment within diverse classrooms: An analysis of teacher candidates' conceptualizations. *Teacher Education Quarterly, Summer, 41*(3), 7-28. Retrieved from https://files.eric.ed.gov/fulltext/EJ1078652.pdf

Dixon, F. A., Yssel, N., McConnell, J. M., & Hardin, T. (2014). Differentiated instruction, professional development, and teacher efficacy. *Journal for the Education of the Gifted, 37*(2), 111-127.https:://doi:10.1177/ 0162353214529042

Dong, A., Jong, M. S.-Y., & King, R. B. (2020). How does prior knowledge influence learning engagement? The mediating roles of cognitive load and help-seeking. *Frontiers in Psychology, 11*, 591203. https://doi.org/10.3389/ fpsyg.2020.591203

Dunn, R., Craig, M., Favre, L., Markus, D., Pedota, P., Sookdeo, G. & Terry, B. (2020). No light at the end of tunnel vision: Steps for improving lesson plans. *The Clearing House 83*(5), 194–206.

Eady, K. V. (2018). *Differentiated instruction: An implementation review.* (Order No. 3320642, Capella University). ProQuest Dissertations and Theses, 130.

Farrell, T. S. C. (2022). *Lesson planning.* In Richards, J. C. & Renandya, W. A. (Eds). Methodology in Language Teaching: An Anthology of Current Practice (pp. 30–39). New York: Cambridge University Press.

Gardner, H. (1991). *To open minds.* New York: Basic Book.

Gardner, H. (2001). *Cracking open the IQ box.* The American Prospect. Retrieved from https://prospect.org/ civil-rights/cracking-open-iq-box/

Gardner, H. (2011a). *Multiple intelligences: The first thirty years.* Harvard Graduate School of Education. Retrieved from https://howardgardner01.files. wordpress.com/2012/06/intro-frames-of-mind_30-years.pdf

Gardner, H. (2011b). *Frames of mind: The theory of multiple intelligences.* New York: Basic Books.

Gardner, H. (2011b). *Frames of mind: The theory of multiple intelligences.* New York: Basic Books.

Gibbs, G., & Simpson, C. (2014). Conditions under which assessment supports students' learning. *Learning and Teaching in Higher Education, 1,* 3-31

Gray, J., & DiLoreto, M. (2015, August). *Student satisfaction and perceived learning in online learning environments: The mediating effect of student engagement.* Paper presented at the Annual Meeting of the National Council of Professors of Educational Leadership, Washington, D.C.

Hart, S. R., Stewart, K., & Jimerson, S. R. (2011). *The student engagement in schools questionnaire (SESQ) and the Teacher engagement report form-new (TERF-N): Examining the preliminary evidence* (Doctoral dissertation). University of California, Santa Barbara. Available from ERIC, ResearchGate, Semantic Scholar, Dimensions. Scinapse, and OUCI

Hatmanto, E. D., & Rahmawati, F. (2023). Unleashing the potential: Exploring attitudes and overcoming challenges in implementing differentiated instruction in the Philippines' English language classrooms. *E3S Web of Conferences*, *425*(4), 02001. https://doi.org/10.1051/ e3sconf/ 20234 2502001

Heritage, M. (2022). *From formative assessment: Improving teaching and learning.* Paper presented at the CRESST 2007 Assessment Conference, Los Angeles, CA.

Herman, J. L. (2020). *Coherence: Key to next generation assessment success* (CRESST Policy Brief). Los Angeles, CA: CRESST.

Hodge, P. H. (2017). *An analysis of the impact of a prescribed staff development program in differentiated instruction on student achievement and the attitudes of teachers and parents toward that instruction* (Unpublished EdD thesis). University of Alabama, Alabama, USA.

Ishak, Z., & Amjah, D. Y. P. H. (2015). An exploratory study on students' engagement in across all learning areas of year 7. *Journal of Management Research, 7*(2), 433. http://dx.doi.org/10.5296/jmr.v7i2.6934

Jaggars, S. S., & Xu, Di (2016). How do online course design features influence student performance? *Computers and Education, 95,* 270-284. https://doi: 10.1016/j.compedu.2016.01.014

Johnsen, S. (2018). Adapting instruction with heterogenous groups. *Gifted Child Today, 26*(3), 5- 6.

Johnson, A. P. (2020). It's time for madeline hunter to go: A new look at lesson plan design. *Action in Teacher Education, 22*(1), 72–78.

King, S. (2020). *Factors associated with inclusive classroom teachers' implementation of differentiated instruction for diverse learners.* (Order No. 3433402, Tennessee State University). ProQuest Dissertations and Theses, 134.

Kong, Y. (2021). The role of experiential learning on students' motivation and classroom engagement. *Frontiers in Psychology, 12,* Article 771272. https://doi.org/10.3389/fpsyg.2021.771272

Kondor, C. (2017*). One size may not fit all, but the right teaching strategies might: The effects of differentiated instruction on the motivation of talented and gifted students* (Unpublished master's thesis). Portland State University, Portland, OR. (ERIC Document Reproduction Service No. ED497701)

Kyriakides, L., Creemers, B., and Charalambous, E. (2018). Equity and quality dimensions in educational effectiveness. Dordrecht: Springer International Publishing. https://doi: 10.1007/978-3-319-72066-1

La Rocca, C., Margottini, M., & Capobianco, R. (2014). Collaborative learning in higher education. *Open Journal of Social Sciences, 2*(2), 61-66. https://doi.org/10.4236/jss.2014.22009

Lockley, J., Jackson, N., Downing, A., & Roberts, J. (2017). University *instructors' responses on implementation of differentiated instruction in teacher education programs.* Online Submission.

Lumpkin, A. (2022). Checking for understanding strategies using formative assessments for student learning. *Global Research in Higher Education, 5*(1), 50. https://doi.org/10.22158/grhe.v5n1p50

Mandernach, B. J., Donnelli-Sallee, E., & Dailey-Hebert, A. (2021). *Assessing course student engagement*. In R. Miller, E. Amsel, B. M. Kowalewski, B.B. Beins, K. D. Keith, & B. F. Peden (Eds.), Promoting Student Engagement: Techniques and Opportunities (pp. 277- 281). Society for the Teaching of Psychology, Division 2, American Psychological Association

Martin, M & Pickett, M. (2018). *The effects of differentiated instruction on motivation and engagement in fifth-grade gifted math and music students.* Online Submission

Miller, L. (2019). *Reflective lesson planning: Promoting learner autonomy in the classroom.* In R. Pemberton, S. Toogood, & A. Barfield (Eds.), Maintaining Control: Autonomy and Language Learning (pp. 109–124). Hong Kong: Hong Kong University Press.

Moore, B., Boardman, A. G., & Ferrell, A. (2019). Enhancing collaborative group processes to promote academic literacy and content learning for diverse learners through video reflection. *SAGE Open*, *9*(3), 1-15. https://doi.org/10.1177/2158244019861480

Nicol, D. (2017). Assessment for learner self-regulation: Enhancing achievement in the first year using learning technologies. *Assessment and Evaluation in Higher Education, 34*(3), 335-352.

Noonan, S.J. (2019). *Pedagogies for diverse learners tools for discovery and development.* https://rowman.com/ISBN/9781475855937/Pedagogies-for-Diverse-Learners-Tools-for-Discovery-and-Development

N.R.C. (National Research Council). (2021). Taking science to school. Washington, DC: National Academies Press.

OECD (2018). *The resilience of students with an immigrant background. Factors that shape well-being.* Paris: OECD Publishing. https://doi: 10.1787/9789264292093-en

Ollerton, M. (2014). *Differentiation in mathematics classrooms.* Mathematics Teaching. Association of Teachers of Mathematics. Retrieved from http://www.highbeam.com/doc/1P3-3330389961.html

O'Neill, G., & Padden, L. (2021). Diversifying assessment methods: Barriers, benefits and enablers. *Innovations in Education and Teaching International, 59*(4), 398-409. https://doi.org/10.1080/14703297.2021.1880462

Panergayo, A. A., Gregana, C., & Panoy, J. F. (2022). Investigating the factors affecting the teaching efficacy of Filipino science teachers: A correlational study. *Jurnal Pendidikan Progresif, 12*(1), 33-44. https://doi.org/10.23960/ jpp.v12.i1.202203

Parrish, N. (2022). To increase student engagement, focus on motivation. https://www.edutopia.org/article/to-increase-student-engagement-focus-on-motivation/

Popham, W. J. (2008). *Expanding dimensions of instructional objectives.* Upper Saddle River, NJ: Prentice-Hall.

Puntambekar, S. (2016). Analyzing collaborative interactions: Divergence, shared understanding and construction of knowledge. *Computers and Education, 47*(3), 332–351.

Rusznyak, L. & Walton, E. (2021). Lesson planning guidelines for student teachers: A scaffold for the development of pedagogical content knowledge. *Education as Change, 15*(2), 271–285.

Ruys, I., Keer, H. V. & Aelterman, A. (2022). Examining pre-service teacher competence in lesson planning pertaining to collaborative learning. *Journal of Curriculum Studies 44*(3), 349–379.

Sadler, D. R. (2019). Formative assessment and the design of instructional systems. *Instructional Science, 18,* 119-144. https://doi.org/10.1007/ BF00117714

Schleicher, A. (2016). *Teaching excellence through professional learning and policy reform: Lessons from around the world.* Paris: International Summit on the Teaching Profession; OECD Publishing. https://doi: 10.1787/978 926425 2059-en

Senior, R. (2016). *The experience of language teaching.* New York, Cambridge University Press.

Siew, M. T., Noorizah Mohd Noor., Adzuhaidah M. Taha., Lay, S. N., & Noor Baizura Abdul Aziz. (2016). Effects of social networking on malaysian secondary school students: Attitudes, behaviours and awareness of risks. *Pertanika Journal of Social Science & Humanities, 87*(1), 157-168.

Sizemore, E. A. (2015). *A phenomenological study of differentiated instruction for fifth grade gifted and high ability learners through "math in focus"* (Order No. 3732639). Available from ProQuest Dissertations & Theses Global. (1757808219).

Strahan, D., Kronenberg, J., Burgner, R., Doherty, J., & Hedt, M. (2022). Differentiation in action: Developing a logic model for responsive teaching in an urban middle school. *Research in Middle Level Education, 35*(8), 1-17.

Tomlinson, C. (2015). Teaching for excellence in academically diverse classrooms. *Society 52*, 203–209. https://doi: 10.1007/s12115-015-9888-0

Tomlinson, C. A. (2015). Grading and differentiation: Paradox or good practice? *Theory into Practice, 44*(3), 262-269.

Tomlinson, C. A. (2021). *How to differentiate instruction in mixed ability classrooms* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. A., Moon, T. R., & Callahan, C. M. (2018). How well are we addressing academic diversity in the middle school? *Middle School Journal, 29*(3), 3-11.

Van Casteren, W., Bendig-Jacobs, J., Wartenbergh-Cras, F., Van Essen, M., & Kurver, B. (2017). *Differentiation and differentiation skills in secondary education.* Nijmegen: ResearchNed.

Vdovina, E. & Gaibisso, L. C. (2013). Developing critical thinking in the English language classroom: A lesson plan. *ELTA Journal 1,* (1), 54–68

Waid, N. (2016). *Across all learning areas teachers' use of differentiated instruction to help struggling learners* (Doctoral dissertation). Walden University. Retrieved from https://scholarworks.waldenu.edu/dissertations/

Wan, S. W. (2017). Differentiated instruction: Are Hong Kong In-service teachers ready? *Teachers and Teaching: Theory and Practice, 23*(3), 284-311

Whipple, K. A. (2012). *Differentiated instruction: A survey study of teacher understanding and implementation in a Southeast Massachusetts School District. (Doctoral dissertation).* Northeastern University, Boston, Massachusetts. Available from Digital Repository Service, ProQuest, and Semantic Scholar.

Whipple, K. A. (2012). *Differentiated instruction: A survey study of teacher understanding and implementation in a southeast Massachusetts school district.* (Order No. 3525802, Northeastern University). ProQuest Dissertations and Theses, 139

Whitton, D., Sinclair, C., Barker, K., Nanlohy, P., & Nosworthy, M. (2014). *Learning for teaching: Teaching for learning.* Southbank, Victoria: Thomson Social Science Press.