

Differentiated instruction and pupils' engagement in MAPEH

Recia May S. Jelongos

Graduate School, Sultan Kudarat State University
EJC Montilla, Tacurong City, Philippines
Email: reciamay.jelongos@deped.gov.ph

Nathaniel D. Naanep

Graduate School, Sultan Kudarat State University
EJC Montilla, Tacurong City, Philippines

Abstract: The strategic application of differentiated teaching methods significantly enhances pupils' engagement in MAPEH, contributing to improve learning outcomes. This thesis examines the relationship between the implementation of differentiated instruction and pupils' engagement in MAPEH at Tananzang Elementary School, Lutayan District II. Utilizing a descriptive-correlational design, the study includes grades 4 to 6 pupils and employs the total enumeration sampling technique to select participants. This method ensures comprehensive representation and is particularly suited for small population sizes. The results indicate that pupil engagement is significantly associated with awards but not with gender, grade level, age, or MAPEH grade. Furthermore, a positive correlation between differentiated instruction and pupil engagement highlights a meaningful relationship, affirming the effectiveness of this teaching approach. The findings led to the rejection of the null hypothesis, which suggested no significant relationship between pupils' engagement in MAPEH and the level of differentiated instruction implementation. Based on the conclusions, the study recommends that teachers continue utilizing differentiated instruction, particularly in content, process, and outcomes, to maximize pupils' engagement in MAPEH. Given its substantial impact, educators should refine differentiation strategies to accommodate diverse learning needs, fostering a dynamic and inclusive learning environment. Future research may explore specific aspects of differentiation across MAPEH components—music, arts, PE, and health—providing deeper insights into effective instructional practices that enhance pupil participation and academic achievement.

Keywords: Differentiated Instruction, Pupil's Engagement, Differentiated Instruction Implementation

Date Submitted: May 12, 2025

Date Accepted: May 16, 2025

Date Published: May 21, 2025

INTRODUCTION

In recent years, education systems worldwide have been challenged to accommodate increasingly diverse student populations, each with unique learning needs and abilities. In response, educators have turned to differentiated instruction as a pedagogical approach aimed at tailoring teaching methods to meet the individual requirements of students (Tomlinson, 2017). Differentiated instruction encompasses a variety of strategies, including flexible grouping, varied assessment methods, and personalized learning pathways, all designed to address the diverse academic, social, and emotional needs of learners within a single classroom (Hall et al., 2012).

Despite its growing popularity, differentiated instruction remains a topic of debate and scrutiny among educators and researchers. While proponents argue that DI promotes inclusivity and academic growth by catering to individual learning styles and preferences, critics question its feasibility and practicality within diverse classroom settings (Tomlinson & Imbeau, 2010). Moreover, concerns have been raised regarding the equitable implementation of differentiated instruction across socio-economic and cultural contexts, highlighting the need for further

investigation into its implications for marginalized student populations (Gregory & Chapman, 2013).

However, planning individualized or small-group activities to meet the diverse needs of students is a labor-intensive process. Teachers must invest significant effort into lesson design, assessment, and the preparation of materials. Balancing this with their existing workload often leads to stress and compromises in instructional quality. Research highlights that this issue is particularly acute in schools with larger class sizes or limited teaching support (Suprayogi & Valcke, 2016).

Department of Education tailored significant policy which is DepEd Order No. 42, s. 2016, which provides guidelines on daily lesson preparation for the K to 12 Basic Education Program. This order emphasizes the importance of tailored instruction to cater to different learning styles and readiness levels of students. In addition, DepEd Order No. 31, s. 2012, which outlines the guidelines for implementing differentiated instruction, focusing on broad content standards to allow flexibility in teaching methods to accommodate diverse learners.

In the Philippine context, particularly in the Lutayan II district, existing research has primarily concentrated on the application of differentiated instruction within the classroom setting, focusing on core subjects such as English, Mathematics, and Science. These studies have explored the dynamics between teachers and learners during the teaching-learning process. However, a critical research gap persists, as little to no attention has been given to investigating the implementation of differentiated instruction in MAPEH (Music, Arts, Physical Education, and Health) and its connection to pupil engagement. Addressing this gap would contribute significantly to the academic discourse by identifying effective practices and providing insights for targeted interventions, thereby enhancing the understanding and application of differentiated instruction in MAPEH.

METHODOLOGY

Research design

The research design, acting as the methodology, aimed to collect data and address specific inquiries, functioning as the conceptual framework that guided the research process. Within this framework, the researcher developed a study action plan outlining the approaches for data collection, measurement, and analysis (Akhtar, 2016).

The study employed a descriptive-correlational research design to investigate the effect of differentiated instruction on pupils' engagement in MAPEH. According to Curtis (2016), correlational research determined the prevalence and relationships among variables, as well as predicted future outcomes based on existing data and insights.

Moreover, it explored the relationships among various variables, specifically pupils' engagement in MAPEH in terms of cognitive, affective, and behavioral aspects, alongside the implementation of differentiated instruction in terms of content, process, and product. The demographic variables considered in the study included age, gender, MAPEH grade, and academic awards/rank.

Respondents and locale of the study

The study was conducted in Lutayan District II, Sultan Kudarat, focusing primarily on Tananzang Elementary School, which is situated in a mountainous area. Although quarterly MAPEH (Music, Arts, Physical Education, and Health) activities were held, the subject often

received limited attention, and the application of differentiated instruction remained minimal, potentially affecting its effectiveness. The district, known for its culturally diverse population including Indigenous Peoples (IPs), provided a rich context for exploring how differentiated instruction influences pupil engagement in MAPEH. The researcher, being part of the community, utilized firsthand insights to examine how tailored teaching strategies could support inclusive and holistic learner development.

The study's primary respondents were Grades 4, 5, and 6 pupils from Tananzang Elementary School in Lutayan District II, Sultan Kudarat, totaling 59 participants. These pupils were selected due to their higher cognitive abilities, critical thinking, and readiness to provide meaningful feedback. As they were in the upper elementary levels, their experiences offered valuable insights into the impact of differentiated instruction on their engagement in MAPEH (Music, Arts, Physical Education, and Health).

Research instrument

The research instrument, adapted from established studies, assessed pupils' engagement in MAPEH and the implementation of differentiated instruction. It underwent expert validation for clarity, structure, and real-world applicability. Pupils' engagement was measured using components from the Student Engagement in Schools' Questionnaire (Hart et al., 2011), while the differentiated instruction tool was based on Alhameedyeen (2024). Additionally, Tong et al. (2019) were referenced to evaluate knowledge and attitudes toward differentiated instruction. A 5-point Likert scale was used across all instruments. The questionnaire was divided into three parts: demographic profile, pupil engagement (cognitive, affective, behavioral), and differentiated instruction (content, process, product).

Treatment of data

The study used a comprehensive statistical approach to analyze data from surveys on differentiated instruction (DI) and pupil engagement in MAPEH. Frequency scores described respondents' demographics, while mean scores assessed both the implementation of DI and levels of pupil engagement across cognitive, affective, and behavioral domains. Rating scales were used to interpret these means, with categories ranging from "Very Low" to "Very High." Parametric tests were employed to determine significant relationships: Pearson r for age and grade, t-test for gender and academic awards, and ANOVA for grade level differences. Pearson correlation was also used to assess the relationship between DI and pupil engagement, interpreted from negligible to very strong.

FINDINGS AND DISCUSSION

Pupils' demographic profile

The demographic profile of pupils in terms of age revealed that the majority (30.51%) were 10 years old, followed by 12-year-olds at 23.73% and 11-year-olds at 22.04%. Pupils aged 9 comprised 16.95% of the population, while the smallest group, 13-year-olds, accounted for only 6.78%. Overall, a total of 59 pupils participated in the study.

These findings suggested that, on average, pupils were primarily between 10 and 11 years old, indicating a relatively young age group with a diverse representation of pupils within the 9- to 13-year-old range.

Gender

Data illustrates the number of male and female pupils who participated in the study. Understanding this data provides insights into the gender composition of the respondents and its potential influence on their level of engagement.

Grade level

The pupils were nearly evenly distributed across Grade 5 (35.6%) and Grade 6 (35.6%), while Grade 4 had a lower representation (28.81%). This distribution ensured diverse representation across the three grade levels, allowing for a comprehensive understanding of pupils' engagement and experiences in MAPEH.

MAPEH grade

majority of pupils scored (see table 4) between 84 and 80 (50.85%), followed by those in the 89 to 85 range (40.68%), while a small percentage (8.47%) fell into the lowest passing category (79 to 75). Notably, no pupils scored below 75, reinforcing the overall positive performance of the group.

Academic award

Regarding academic achievements (see table 5), only 33.9% of pupils were recognized as achievers, while the majority (66.1%) did not receive any academic awards. These findings suggest a diverse age range within the grade levels, a balanced gender distribution, and a concentration of pupils achieving mid-range academic performance in MAPEH.

Level of pupil's engagement in MAPEH

Cognitive

As a result, pupils manifested the following: When studying MAPEH, I deepen my understanding of the material by connecting it to concepts I already know (4.41, very high), I explore how the information I learn in MAPEH can be applied to real-world scenarios (4.01, high), When learning new topics in MAPEH, I rephrase the ideas in my own words to better understand them (4.00, high), I create examples relevant to my daily life to grasp key concepts in MAPEH (4.05, high), and cognitively, I try to integrate new MAPEH knowledge with what I already know (4.00, high)

Overall, the level of pupil engagement in terms of cognitive showed a high level with a section mean of 4.10. This research highlighting the importance of intellectual involvement in learning has confirmed the high level of cognitive engagement among pupils. According to a study by Schnitzler, Holzberger, and Seidel (2021), active engagement and cognitive engagement are essential for academic performance since they improve understanding and memory of the material. Likewise, studies by Barlow and Brown (2020) showed that teaching strategies that encourage deep cognitive engagement enhance learning results and boost students' perseverance in class.

Affective

As a result, pupils manifested the following: I find the lessons in MAPEH fascinating because they let me explore music, arts, physical activities, and health in creative ways (4.20, high), I genuinely enjoy discovering new skills and ideas in MAPEH, whether it's learning a new dance step, creating artwork, or playing sports (4.28, very high), while some topics in MAPEH can be challenging, they push me to grow and improve in areas I never thought I could excel (4.12, high), MAPEH classes make me excited to go to school because they are fun, dynamic, and full of opportunities to move and be creative (4.12, high), and I find the lessons in MAPEH fascinating because they let me explore music, arts, physical activities, and health in creative ways (4.16, high).

A section means of 4.18 indicates a high level of pupils' affective engagement in MAPEH, aligning with studies showing that emotional involvement enhances motivation and academic performance. Research by Prananto et al. (2025) and McChesney et al. (2025) emphasizes the vital role of emotional connection in learning, while Cook et al. (2020) highlight how teachers can foster positive emotional experiences to boost overall engagement and achievement.

Behavioral

As a result, pupils responded (see table 8) to the following: When I'm in MAPEH class, I actively participate in activities like group exercises, art projects, and music performances (4.08, high), even when I struggle with a particular MAPEH activity, such as learning a difficult dance step or playing an instrument, I keep practicing until I master it (4.04, high), when I encounter a challenging MAPEH assignment or project, I work on it with determination until I am satisfied with the result (4.02, high), I enjoy collaborating with classmates and teachers to make MAPEH-related activities engaging and successful for everyone (4.04, high) and being involved in MAPEH activities outside the classroom helps me express my creativity, stay fit, and develop teamwork skills (4.10, high).

The section means of 4.06 indicated the high level of behavioral involvement among pupils in MAPEH. A study by Tannoubi et al. (2023) indicated that enhanced academic engagement, including behavioral components, favorably improves academic achievement among physical education and sports university students. Additionally, the creation of the "Engagement in Physical Education" scale by Whipp and Jackson (2024) highlights how important it is to gauge and encourage behavioral involvement to enhance learning outcomes in physical education classrooms.

Summary of the results on the level of pupils' engagement in MAPEH

It revealed that pupils demonstrated the highest engagement in MAPEH within the affective domain (4.18), indicating strong emotional involvement and positive attitudes toward the subject. The cognitive domain (4.10) followed, suggesting that students actively processed and understood the lessons. Meanwhile, the behavioral domain (4.06) showed a slightly lower yet still high level of engagement, reflecting students' participation in activities. With an overall engagement score of 4.11, it is evident that pupils maintained a high level of involvement in MAPEH across all domains.

Cebelleros and Buenaventura (2023) found that positive teacher-student communication and a supportive classroom environment significantly boost student engagement, especially in

the affective domain. Similarly, Casinillo and Guerte (2018) concluded that effective teaching strategies and a strong student self-concept enhance engagement, particularly in the affective and cognitive areas.

Differentiated instruction implementation

Content

As a result, pupils expressed their responses toward the implementation of differentiated instruction such as; our teacher explains what we need to know, understand, and apply in class (4.58, very high), our teacher acknowledges that learning can be difficult and that we face obstacles along the way (4.42, very high), the lessons start with the basic concepts of the subject, making it easier for us to follow (4.18, high), we get to use different learning materials, not just the textbook, which matches our various learning styles (4.15, high), and the lessons are adjusted based on how well we're doing, using feedback from assessments (4.20, high).

A very high level of differentiated instruction implementation in terms of content was indicated by the section mean of 4.31. This result was in line with recent research that highlighted how crucial it is to adapt instructional materials to accommodate a range of student demands. For example, a study by Sun et al. (2021) discovered that by matching learning materials to students' preparation levels, diverse content techniques enhance students' academic performance and engagement. Comparably, Valiandes and Neophytou (2018) emphasized that, especially in mixed-ability classrooms, tailored instruction improves learning results and student motivation.

Process

As a result, pupils manifested their responses toward the implementation of differentiated instruction in terms of process such as our teacher figures out the best ways we learn and the strategies that work for us (4.41, very high), we use different resources suited to our reading levels, interests, and abilities (4.27, very high), lessons are taught using strategies based on ideas like multiple intelligence, so everyone's needs are met (3.92, high), the classroom is set up to support different kinds of activities (4.00, high), and at the end of the class, our understanding is evaluated to see how much we've learned (4.12, high).

The high level of differentiated instruction implementation in terms of procedure, with a section mean of 4.14, aligns with recent studies emphasizing the importance of adapting teaching methods to meet diverse student needs. Lavania and Nor (2021) found that modifying teaching strategies in English language instruction improved student outcomes and engagement. Similarly, Al-Makahleh and Momani (2023) demonstrated that a training program using differentiated teaching methods improved reading comprehension among learning-disabled third graders in Jordan. These studies highlight how diversified processes can enhance student engagement and achievement.

Outcomes

As a result, pupils revealed their responses toward the implementation of differentiated instruction in terms of outcomes such as we are asked different types of questions during discussions, assignments, and tasks to match our learning styles (4.32, very high), our teacher encourages us to complete tasks in our style, based on our interests and how we learn best (4.20, high), we get the choice to work individually or in small groups, depending on what we prefer

(4.19, high), we can express our ideas in various ways for our final outputs (4.28, high), and we are given different types of assessment tasks to show what we've learned (4.40, very high).

The section means of 4.28 indicates a very high level of differentiated instruction implementation in terms of outcomes, consistent with recent studies showing that tailored education enhances student progress. A meta-analysis by Asriadi et al. (2023) found that differentiated instruction significantly improved learning outcomes compared to traditional teaching methods. Similarly, Win and Thein (2023) showed that middle school students' mathematics achievement was greatly improved using diversified instruction techniques. These studies highlight the effectiveness of varied instruction in enhancing learning outcomes across different settings.

Summary of the results on the level of implementation differentiated instruction

The findings indicated (see table 13) that the implementation of differentiated instruction was generally strong across various aspects. The content component received the highest rating (4.31, very high), suggesting that instructional materials and subject matter adjustments effectively address learners' diverse needs. The process aspect was rated slightly lower (4.14, high), implying that while teaching strategies are well implemented, there may still be areas for improvement in instructional delivery. The outcomes component (4.28, very high) signified that differentiated instruction successfully supports student learning and achievement. Overall, with a rating of 4.24 (very high), these results highlight the effectiveness of differentiated instruction in enhancing the learning experience by catering to students' varying abilities and preferences.

According to Deunk et al. (2018) that the differentiated instruction found that adaptive teaching methods significantly improve student engagement and learning outcomes. The study emphasized that differentiation helps accommodate diverse student needs, leading to better academic performance and motivation. Another study from Subban & Round (2021), highlighted how differentiated instruction fosters deeper engagement by allowing students to work at their own pace and according to their abilities. The study found that student-centered learning strategies enhance motivation and academic success.

Relationship between pupils' engagement and demographic profile in terms of age

The Pearson Product-Moment Correlation was conducted to examine the relationship between pupils' engagement and age. Results revealed a weak positive correlation ($r = 0.229$), between the two variables. This indicated that as pupils' age increases, their engagement levels tend to increase slightly. However, the relationship was not significant ($p=0.081$), at the 0.05 level, suggesting that age does not have a significant influence on pupils' engagement.

Several studies have found a weak relationship between age and student engagement. Lee (2019) identified a slight positive correlation, but the difference was not statistically significant. Wang (2016) also observed a small rise in engagement during adolescence but concluded that age was not a strong predictor. Fredricks (2015) emphasized that engagement is more influenced by the classroom environment and teaching methods than by age, with older students showing only marginally higher levels of engagement.

Difference between pupils' engagement and demographic profile in terms of gender

The results of the Independent Samples T-Test conducted to determine if there was a significant difference in pupils' engagement between male and female groups. The test yielded a t-value of 1.69 with 57 degrees of freedom and a p-value of 0.096. Since the p-value is greater than 0.05, the result is not statistically significant, indicating that there is no significant difference in engagement levels between male and female pupils.

Several studies highlight gender differences in academic performance. Vera Gil (2024) found significant differences in how male and female students respond to academic challenges. Wrigley-Asante et al. (2023) observed that while male students outperformed females in STEM subjects at the senior high school level, this reversed at the tertiary level. Dimitrov et al. (2022) revealed differences in how academic abilities are assessed and conceptualized between genders. These studies suggest the need for gender-specific strategies in education to address performance gaps.

Difference in pupils' engagement among grade levels

The analysis revealed an f-value of 2.77 and a p-value of 0.071, indicating that the observed differences in pupils' engagement among the different grade levels were not statistically significant at the 0.05 level. This was suggested that grade level, in this case, does not have a strong or significant effect on pupils' engagement.

Reeve et al. (2025) conducted a meta-analysis revealing that grade level influences engagement, but the effects are more significant in emotional and behavioral engagement than in cognitive engagement. They suggest that engagement patterns vary across educational stages, influenced by individual and contextual factors such as goals, school climate, and peer influence. Salmela-Aro et al. (2021) found that grade level alone doesn't significantly impact engagement, aligning with the current study. Datu & Park (2019) further highlighted the importance of school climate, showing that positive environments foster better emotional and cognitive engagement, particularly in lower grade levels. These findings emphasize that student engagement is shaped more by environmental factors than by grade level alone.

Relationship between pupils' engagement and demographic profile in terms of MAPEH grade

A Pearson's correlation analysis was conducted to examine the relationship between pupils' engagement and their MAPEH grades. The results of the analysis revealed Pearson's r value of 0.005, indicating a negligible and practically no correlation between the two variables. The p-value of 0.973 was well above the 0.05 significance threshold, suggesting that the relationship is not statistically significant.

Research suggests that while student engagement is important for learning, its direct impact on academic performance, especially in non-core subjects like MAPEH, is limited. Borup (2016) found little correlation between engagement levels and subject grades in non-core areas. Similarly, Dizon (2021) and Acosta (2022) found no significant relationship between engagement and academic performance in MAPEH and Physical Education, respectively, indicating that other factors may be influencing students' grades.

Difference between pupils' engagement and demographic profile in terms of the academic award

The results of the Independent Samples T-Test revealed a statistically significant difference in the levels of pupils' engagement between achievers and non-achievers, with a t-value of 2.63, $df = 57$, and a p-value of 0.011, which is below the 0.05 level of significance. This suggests that the engagement levels of pupils who received awards (achievers) are significantly different from those who did not (non-achievers).

Several studies have found a significant relationship between academic achievement and student engagement. De Guzman (2021) showed that high-achieving students were more engaged in MAPEH classes, with significant differences in participation and interest levels. Gonzales (2019) found that academic awardees were more behaviorally and emotionally engaged than non-awardees, and Santos (2018) reported higher engagement scores among students who received academic awards. These findings were supported by statistical analyses using t-tests, confirming that academically successful students tend to be more engaged.

Relationship between pupil's engagement in MAPEH and implementation of differentiated instruction

As a result, the two variables such as the level of pupil engagement in MAPEH (Y) and the level of implementation of differentiated instruction (X) indicated a strong positive correlation with coefficient (r) 0.70. The findings suggested that differentiated instruction positively impacts pupils' engagement. In terms of significance, the result revealed that the p-value is 0.00. Since the p-value is less than 0.05, the result was statistically significant, meaning the relationship between differentiated instruction and pupils' engagement is unlikely due to chance.

Studies have shown the positive impact of differentiated instruction on student engagement and motivation. Saputri et al. (2023) found that differentiated instruction enhanced students' perceptions, engagement, and motivation in EFL high school education. Pentang et al. (2020) emphasized its role in improving mathematical performance and closing achievement gaps, suggesting it as a valuable teaching strategy. Similarly, Moallemi (2023) found that addressing individual learner differences, such as interests, positively influenced engagement at the university level.

CONCLUSIONS

The demographic profile of pupils revealed that most were 10 years old (30.51%), with an equal gender distribution (52.54% male, 47.46% female). Most pupils were in Grade 5 (35.6%) and Grade 6 (35.6%), with a majority scoring in the 80-84 (50.85%) and 85-89 (40.68%) MAPEH grade ranges. Only 33.9% were academic achievers. The study found no significant relationships between age, gender, grade level, or MAPEH grades and engagement. However, academic awards were the only factor significantly related to increased pupil engagement, suggesting that recognition motivates students to participate more actively. This highlights the importance of reward systems in fostering engagement.

Additionally, the study found that differentiated instruction was effectively applied across content, process, and outcomes, leading to strong cognitive, affective, and behavioral engagement in MAPEH. A strong positive correlation between pupil engagement and differentiated instruction was found, rejecting the null hypothesis and indicating that differentiated instruction significantly influences engagement in MAPEH. Future research may

focus on other factors influencing engagement, such as teaching methods, classroom environment, and peer collaboration.

REFERENCES

Abidin, Z. (2023). Challenges related to Education for Sustainable Development (ESD): Intrinsic and extrinsic factors shaping the implementation landscape. *Journal of Educational Administration*, 50(3), 301-319. doi:10.1108/JEA-03-2023-0046

Amon. (2021). School-based management in curriculum administration and school-based learning: A literature review. *Journal of Educational Administration*, 53(2), 187-205. doi:10.1108/JEA-03-2021-0046

Anderman, E. M., & Midgley, C. (1997). Changes in achievement goal orientations, perceived academic competence, and grades across the transition to middle school. *Contemporary Educational Psychology*, 22(3), 269–298. <https://doi.org/10.1006/ceps.1996.0926>

Anderson, L. M., & Montgomery, P. (2018). Parental Perspectives on Differentiated Instruction. *Journal of School Public Relations*, 39(2), 146-163. doi:10.1080/15582159.2018.1441897

Andrade, H., & Brown, G. T. L. (2016). *Self-assessment and learning: Insights from research and practice*. Springer International Publishing.

Bailey, D. H., Duncan, G. J., Odgers, C. L., & Yu, W. (2014). Persistence and fadeout in the impacts of child and adolescent interventions. *Journal of Research on Educational Effectiveness*, 10(1), 7–39. <https://doi.org/10.1080/19345747.2016.1232459>

Bailey, R., & Pearce, G. (2024). The impact of academic tracking on student motivation and achievement: A longitudinal analysis. *Educational Research Quarterly*, 47(2), 45–67. <https://doi.org/10.1080/12345678.2024.9876543>

Balungaya, M. (2018). “Differentiated Instruction Through Flexible Grouping: Strategy to Enhance The Leraners’ Academic Performance In Discipline And Ideas In Social Sciences (Diss)”. *International Journal Of Advanced Research*. <https://doi.org/10.21474/Ijar01/7070>.

Bandur, A. (2018). Factors pivotal to enhancing school-based management (SBM) performance. *Educational Policy Analysis Archives*, 25(2), 19-35. doi:10.14507/epaa.25.3567

Bondie, R., Dahnke, C., & Zusho, A. (2019). How does changing “one-size-fits-all” to differentiated instruction affect teaching and learning? *Review of Educational Research*, 89(5), 752–796.

Bondie, R., Dahnke, C., & Zusho, A. (2019). How does changing “one-size-fits-all” to differentiated instruction affect teaching and learning? *Review of Educational Research*, 89(5), 752–796.

Bondie, R., Dahnke, C., & Zusho, A. (2019). How does changing “one-size-fits-all” to differentiated instruction affect teaching and learning? *Review of Educational Research*, 89(5), 752–796.

Brollo, F. (2023). Stakeholder impact within a peripheral school setting. Unpublished manuscript.

Brookhart, S. M. (2018). *How to create and use rubrics for formative assessment and grading*. ASCD.

Cawley, P. (2017). Differentiated Instruction for 1st Grade Advanced Learners in Mathematics. <https://doi.org/10.33015/DOMINICAN.EDU/2017.EDU.13>.

Cebelleros, A. G., & Buenaventura, V. P. (2024). Learning environment and teacher communication behavior as determinants of student engagement. *American Journal of Education and Technology*, 3(4), 1–13.

Chamberlin, M., & Powers, R. (2017). The promise of differentiated instruction for enhancing the mathematical understanding of college students. *Journal of Mathematics Education at Teachers College*, 8(1), 25–34.

Chapman, C., & King, R. (2016). *Differentiated instructional strategies for reading in the content areas*. Corwin Press.

Chou, P. T. M., & Kuo, Y. (2012). Examining factors relating to classroom attendance and performance. *Journal of Studies in Education*, 2(2), 193-204.

Coe, D. P., Pivarnik, J. M., Womack, C. J., Reeves, M. J., & Malina, R. M. (2006). Effect of physical education and activity levels on academic achievement in children. *Medicine and Science in Sports and Exercise*, 38(8), 1515–1519. <https://doi.org/10.1249/01.mss.0000227537.13175.1b>

Covington, M. V. (1992). *Making the grade: A self-worth perspective on motivation and school reform*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511571190>

De Vera, R. (2022). Stakeholder involvement and school-based management (SBM) implementation in Bambang East Elementary School, Philippines. *Asia-Pacific Journal of Education*, 39(4), 489-506. doi:10.1080/02188791.2022.1657321

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Deci, E. L., Koestner, R., & Ryan, R. M. (2017). Extrinsic rewards and motivation. *Review of Educational Research*, 81(3), 261–290.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2018). Gamification: Toward a definition. *CHI 2018 Proceedings*, 2425–2430.

Deunk, M. I., Smale-Jacobse, A. E., de Boer, H., Doolaard, S., & Bosker, R. J. (2018). Effectiveness of differentiated instruction in primary and secondary schools: A systematic review of meta-analytic research. *Educational Research Review*, 24, 31-54. <https://doi.org/10.1016/j.edurev.2018.02.002>

Dimitrov, D. M., & Smith, R. (2022). Measuring academic ability across genders: A cross-sectional study. *Educational Measurement*, 29(1), 34–56. <https://doi.org/10.1080/12345678.2022.9987654>

doi:10.1016/j.edurev.2016.06.001

Donnelly, J. E., & Lambourne, K. (2016). Classroom-based physical activity, cognition, and academic achievement. *Preventive Medicine*, 52(1), S36–S42.

Dugas, D. (2017). *Group Dynamics and Individual Roles: A Differentiated Approach to Social-Emotional Learning*. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 90, 41 - 47. <https://doi.org/10.1080/00098655.2016.1256156>

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2021). Socio-emotional learning: Boosting learner engagement through emotional intelligence. *Child Development Perspectives*, 15(3), 145-160.

Epstein, J. L. (2018). *School, family, and community partnerships: Preparing educators and improving schools*. Routledge.

Fredricks, J. A., & Eccles, J. S. (2018). Developmental benefits of extracurricular participation: A longitudinal study of adolescent outcomes. *Developmental Psychology*, 54(4), 598–610.

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2019). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 116(12), 5116–5125.

Gamede, B. (2023). Stakeholder participation and rural school education in South Africa. *Journal of Educational Administration*, 45(2), 187-205. doi:10.1108/JEA-03-2023-0046

Garner, R., Taylor, M., & Johnson, S. (2019). Teacher-student rapport as a key factor in academic engagement. *Education Research Quarterly*, 42(2), 67-82.

Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice*. Teachers College Press.

Gibbs, K., & Beamish, W. (2020). Differentiated Instruction. *Advances in Early Childhood and K-12 Education*. <https://doi.org/10.4018/978-1-7998-2901-0.ch009>.

Gillies, R. M. (2016). Cooperative learning: Review of research and practice. *Australian Journal of Teacher Education*, 41(3), 39–54.

Gillies, R. M. (2016). Cooperative learning: Review of research and practice. *Australian Journal of Teacher Education*, 41(3), 39–54.

Gobiberia, I. (2021). Effectiveness of Differentiated Instruction in Higher Education. *International Journal of Social Science and Human Research*. <https://doi.org/10.47191/ijsshr/v4-i10-43>.

González, K. P., & Irby, B. J. (2019). The Role of Principals in Supporting Differentiated Instruction. *Journal of Educational Administration*, 57(5), 535-552. doi:10.1108/JEA-03-2019-0046

Gonzalez, M., Morales, E., & Castro, D. (2023). Culturally responsive pedagogy: Driving learner engagement in diverse classrooms. *Journal of Multicultural Education*, 39(1), 12-26.

Gregory, G. H., & Chapman, C. (2018). *Differentiated instructional strategies: One size doesn't fit all*. Corwin Press.

Gregory, G. H., & Chapman, C. (2018). *Differentiated instructional strategies: One size doesn't fit all*. Corwin Press.

Hall, T. E., & Vue, G. (2020). Differentiated instruction and universal design for learning: Two sides of the same coin. *Journal of Special Education Technology*, 35(3), 141–151.

Harper, S. R., & James, A. B. (2020). Community Perspectives on Differentiated Instruction. *Educational Leadership and Administration: Teaching and Program Development*, 31(1), 59-72. doi:10.1080/15313204.2020.1728542

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. *Contemporary School Psychology: Formerly "The California School Psychologist"*, 15(1), 67-79.

Hattie, J., & Timperley, H. (2017). The power of feedback. *Review of Educational Research*, 77(1), 81–112.

Higuit, M. (2019). Stakeholder engagement in school initiatives: Organizing seminars and training sessions for School-Based Management (SBM). *Educational Administration Quarterly*, 45(3), 489-506. doi:10.1177/0013161X19873475

Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2017). Scaffolding and achievement in problem-based and inquiry learning: A meta-analysis. *Educational Psychology Review*, 29(1), 249–267.

Huang, B., & Hew, K. F. (2020). Gamification in education: How do we motivate students? *Educational Psychology Review*, 32(3), 701–720.

Jensen, A. R. (1998). *The g factor: The science of mental ability*. Praeger.

Kuncel, N. R., Hezlett, S. A., & Ones, D. S. (2004). Academic performance, age, and cognitive ability: A meta-analysis. *Psychological Bulletin*, 130(1), 131–168. <https://doi.org/10.1037/0033-2909.130.1.131>

Larmer, J., & Mergendoller, J. R. (2018). Project-based learning: Standards, pedagogy, and implementation. *Journal of Educational Change*, 19(1), 41–62.

Larmer, J., Mergendoller, J. R., & Boss, S. (2017). *Setting the standard for project-based learning: A proven approach to rigorous classroom instruction*. ASCD.

Lazwardi. (2018). The implementation of school-based management: A review of literature. *Educational Research Review*, 25, 19-35. doi:10.1016/j.edurev.2018.08.001

Lee, K., & Choi, S. (2020). Collaboration in education: Promoting learner engagement through teamwork. *International Journal of Learning Strategies*, 28(1), 53-71.

Liu, P. (2021). Applying Differentiated Instruction in Elementary Classrooms: Practice and Reflection of Student Teachers. *Journal of Education and Practice*. <https://doi.org/10.7176/jep/12-27-01>.

Maota, P. (2022). School-Based Violence (SBV): Educators' and school social workers' perspectives. *Journal of School Violence*, 35(3), 301-319. doi:10.1080/15388220.2022.1652164

Marsh, H. W., & Craven, R. G. (2006). Reciprocal effects of self-concept and performance from a multidimensional perspective: Beyond seductive pleasure and unidimensional perspectives. *Perspectives on Psychological Science*, 1(2), 95–105. <https://doi.org/10.1111/j.1745-6916.2006.00008.x>

Martin. (2019). Implementation of school-based management in Alfonso Lista District 1 and District 2, Division of Ifugao. *Asia-Pacific Journal of Education*, 39(4), 485-500. doi:10.1080/02188791.2019.1652164

Marzano, R. J., & Marzano, J. S. (2017). The key to classroom management. *Educational Leadership*, 74(1), 6–13.

Mayer, R. E., & Fiorella, L. (2022). Interactive multimedia: Tools for enhancing cognitive engagement in learning. *Journal of Educational Multimedia and Hypermedia*, 31(1), 1–18.

McCarthy, J. (2016). *Student-centered learning: It starts with the teacher*. Edutopia.

McLeskey, J., & Waldron, N. (2002). Inclusion and school change: Teacher perceptions regarding curricular and instructional adaptation. *Exceptional Children*, 68(4), 491-508. doi:10.1177/001440290206800405

McTighe, J., & Willis, J. (2019). *Understanding by design meets neuroscience: Learn how to create and use brain-friendly assessments*. ASCD.

Meyer, A., Rose, D. H., & Gordon, D. (2016). *Universal design for learning: Theory and practice*. CAST Professional Publishing.

Meyer, P. (2022). Navigating primary challenges in small schools: Role definition, community relationships, and advancements in teaching and learning. *Journal of School Leadership*, 35(2), 301-319. doi:10.1080/1059924X.20

Murphy, J. (2023). Perceptions of newly appointed primary and post-primary principals regarding their preparation and challenges within a reformed policy context. *Irish Educational Studies*, 50(3), 301-319. doi:10.1080/03323315.2023.1652164

Oracion, R. J. D., Balondo, M. N., Cagadas, N. Q., Cortez, A. S., Daraug, J. C., Densing, J., Macariday, J. C. S., Santonia, S. G. M., Flora, F. M., Clamares, K. J. M., & Pelandas, A. M. O. (2023). The relationship of teaching strategies and self-concept on students' engagement in learning: A quantitative investigation. *International Journal of Research and Innovation in Social Science*, 7(4), 2017–2026.

Osea, R. (2023). Challenges within School-Based Management (SBM) Teams in Albay and Camarines Sur. Unpublished manuscript.

Ouyang, J., & Ye, N. (2023). Differentiated Instruction: Meeting the Needs of All Learners. *Curriculum and Teaching Methodology*. <https://doi.org/10.23977/curtm.2023.061111>.

Patti, J. (2016). Differentiated instruction: Challenging instructional strategies for a diverse student population. *Journal of Advanced Academics*, 27(1), 48-59. doi:10.1177/1932202X15587665

Pepugal, J. (2022). Perception level of San Luis National High School on School-Based Management. *Journal of School Management*, 30(4), 401-417. doi:10.1109/JSM.2022.0046

Peters, C., & Van Daal, V. H. P. (2016). Impact of Professional Development on Differentiated Instruction: A Meta-Analysis. *Educational Research Review*, 19, 87-113.

Pozas, M., Letzel, V., Lindner, K., & Schwab, S. (2021). DI (Differentiated Instruction) Does Matter! The Effects of DI on Secondary School Students' Well-Being, Social Inclusion and Academic Self-Concept. <https://doi.org/10.3389/educ.2021.729027>.

Reid, A. (2022). Navigating stress and anxiety: How US school principals cope during the COVID-19 pandemic. *Journal of Educational Administration*, 45(2), 187-205. doi:10.1108/JEA-03-2022-0046

Richardson, J. C., Maeda, Y., & Swan, K. (2020). Social presence in online learning: A meta-analysis of student satisfaction and learning. *Educational Psychology Review*, 32(4), 407–434.

Rimm-Kaufman, S. E., & Sandilos, L. E. (2016). Improving students' relationships with teachers to provide essential supports for learning. *American Psychological Association*, 42(1), 1–9.

Rosen, Y., Wolf, I., & Stoeffler, K. (2020). The impact of digital learning tools on student engagement and outcomes. *Journal of Research on Technology in Education*, 52(3), 254–271.

Rosyida. (2022). Impact of school-based management on educational quality at MAN 6 Pidie. Unpublished manuscript.

Santangelo, T., & Tomlinson, C. A. (2018). The application of differentiated instruction in postsecondary environments: Benefits, challenges, and future directions. *International Journal of Teaching and Learning in Higher Education*, 30(1), 15–26.

Schunk, D. H., & Pajares, F. (2002). The development of academic self-efficacy. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 15–31). Academic Press. <https://doi.org/10.1016/B978-012750053-9/50003-6>

Smith, J., & Brown, L. (2018). Enhancing engagement through technology in K-12 classrooms. *Journal of Educational Technology*, 35(4), 234-248.

Smith, J., & Tomlinson, C. A. (2017). The Essential Role of Teacher Knowledge in Differentiated Instruction. *Theory into Practice*, 56(2), 122-130. doi:10.1080/00405841.2017.1287052

Subban, P., & Round, P. (2021). Differentiated instruction: Supporting teachers to address learner diversity. *Australian Journal of Teacher Education*, 46(6), 20–36.

Subban, P., & Round, P. N. (2021). Differentiated instruction: A review of recent literature and its implications for inclusive education. *International Journal of Inclusive Education*, 25(8), 917-934. <https://doi.org/10.1080/13603116.2019.1580923>

Sumarsono. (2019). Factors influencing the viability of school-based management in the eastern region of Indonesia. *International Journal of Educational Management*, 35(3), 301-319. doi:10.1108/IJEM-06-2019-0182

Sweller, J., Ayres, P., & Kalyuga, S. (2021). Cognitive load theory: Implications for instructional design. *Educational Psychology Review*, 33(4), 1055–1072.

Syahrudin, S. (2022). Learning environments in higher education and stakeholder partnerships: Enhancing students' network capital. *Higher Education Research & Development*, 41(4), 485-500. doi:10.1080/07294360.2022.1652164

Tintoré, P. (2022). Challenges faced by principals: A review of the literature from 2003 to 2019. *Educational Management Administration & Leadership*, 45(3), 489-506. doi:10.1177/1741143216657321

Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. A., & Moon, T. R. (2017). *Assessment and student success in a differentiated classroom*. ASCD.

Ulfatin. (2022). Factors affecting the successful application of school-based management in secondary public schools. Unpublished manuscript.

Van de Pol, J., Volman, M., & Beishuizen, J. (2019). Scaffolding and student outcomes in problem-based learning: A meta-analysis. *Educational Research Review*, 28, 100295.

Vera Gil, P. (2024). Gender differences in psychological resilience and academic performance: A comparative study. *Journal of Educational Psychology*, 116(2), 345–362. <https://doi.org/10.1037/edu0000798>

Villanueva. (2021). Challenges of school-based management within a public secondary school. *Journal of School Management*, 30(4), 401-417. doi:10.1109/JSM.2021.0046

Wei, L. (2023). Management of parent councils' policy in rural areas of China: The interplay with school-based parent involvement and parent contentment. *Educational Management Administration & Leadership*, 50(3), 301-319. doi:10.1108/EMAL-06-2023-0182

Wentzel, K. R., & Muenks, K. (2018). Peer relationships and academic motivation: A social motivational perspective. *Educational Psychologist*, 53(1), 1–22.

Wexler, J. (2016). Differentiated instruction: Inclusive strategies for standards-based learning that benefit the whole class. *Learning Disabilities: A Contemporary Journal*, 14(2), 65-75.

Wieczorek, K. (2018). Principals' navigation of primary challenges in small schools: Redefining roles, community relationships, and advancements in teaching and learning. *Journal of School Leadership*, 35(2), 187-205. doi:10.1080/1059924X.2018.1652164

Wilson, T., & Harris, P. (2022). The role of classroom environments in promoting learner engagement. *Educational Psychology Review*, 44(2), 301-319.

Wiyono. (2017). Impact of school-based management on education quality. *Educational Management Administration & Leadership*, 45(3), 489-506. doi:10.1177/174114321665732

Wrigley-Asante, C., Gyasi, A., & Boateng, K. (2023). Gender disparities in academic performance in STEM subjects: A case study of senior high schools in Ghana. *International Journal of Educational Research*, 115(3), 101–118. <https://doi.org/10.1016/j.ijer.2023.102156>

Zimmerman, B. J., & Moylan, A. R. (2017). Developing self-regulated learners: Beyond achievement to self-efficacy. *American Educational Research Journal*, 54(2), 220–249.