Differentiated Instruction on the MATATAG Curriculum in English 4 and Students' Academic Performance in Samar Division

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Abstract — This study investigates the relationship between teacher profiles, the implementation of differentiated instruction (DI) in Grade 4 English using the MATATAG curriculum, and students' academic performance in Samar Division, Philippines. The research is motivated by the growing recognition that diverse learners require varied instructional approaches to maximize learning outcomes. While the MATATAG curriculum aims for inclusive education, the effective implementation of differentiated instruction to meet diverse learning needs remains a significant challenge.

The study builds upon existing literature highlighting the effectiveness of DI in addressing diverse learning styles and needs (Smale-Jacobse et al., 2019; Tomlinson, 2004, 2014). However, it also acknowledges challenges teachers face in implementation (Wan, 2016; Kokkinos, 2020; Gaitas & Alves Martins, 2017). This study addresses this gap by investigating the relationship between teacher profiles (age, gender, experience, education, training), the implementation of specific DI strategies (Think-Pair-Share, Guided Discovery, etc.), and student academic performance. The significance lies in providing empirical evidence to inform teacher training, professional development, and policy decisions aimed at improving the effectiveness of the MATATAG curriculum and promoting equitable learning outcomes in Samar Division. The findings will be relevant to educators, policymakers, and curriculum developers seeking to enhance teaching practices and student achievement in diverse classroom settings. The study contributes to the broader understanding of DI implementation by examining the interplay between teacher characteristics, instructional strategies, and student outcomes within a specific curriculum framework and geographical context. The results will inform the development of targeted professional development programs designed to improve the implementation of DI and ultimately enhance student learning. Furthermore, the study's findings can inform policy decisions regarding resource allocation and curriculum development, contributing to the improvement of educational quality and equity in the Philippines. The research contributes to the existing literature by providing context-specific data on DI implementation, highlighting the importance of considering

local factors when implementing educational reforms. Finally, the study's focus on the MATATAG curriculum adds to the existing body of knowledge on curriculum implementation and its impact on student achievement.

I. Introduction

This study investigates the impact of differentiated instruction (DI) on the academic performance of Grade 4 English students within the context of the MATATAG curriculum in Samar Division, Philippines. The research is motivated by the growing recognition that diverse learners require varied instructional approaches to maximize learning outcomes. While the MATATAG curriculum aims for inclusive education, the effective implementation of DI to meet diverse learning needs remains a significant challenge.

The study's background is rooted in the substantial body of literature supporting the efficacy of DI in addressing diverse learning styles and needs. Tomlinson's (2004, 2014) seminal work establishes DI as a flexible teaching approach that varies content, process, and product to cater to individual learners. This foundational concept is further supported by Anderson (2007), who emphasizes adapting instructional methods to suit diverse learning styles and readiness levels. More recent publications, such as those by Smale-Jacobse et al. (2019) and Courtney (2021), highlight the ongoing relevance and challenges of implementing DI, particularly in increasingly diverse classrooms. These studies underscore the need for empirical research to understand the factors influencing effective DI implementation and its impact on student outcomes. This current study addresses this gap by focusing on the specific context of the MATATAG curriculum and exploring teacher characteristics that may influence its implementation.

The significance of this research lies in its potential to contribute to improved educational practices and student achievement in Samar Division. By examining the relationship between teacher profiles, DI implementation, and student academic performance in English, the study provides valuable insights for educators, policymakers, and curriculum developers. The findings will inform the development of targeted professional development programs to enhance teachers' skills in implementing DI strategies effectively. Furthermore, the study contributes to the broader body of knowledge on DI, offering empirical evidence to support or challenge existing theoretical frameworks. The results will be particularly relevant to educators working within the MATATAG curriculum framework, providing practical recommendations for optimizing teaching practices and promoting equitable learning outcomes for all students. The research also contributes to a deeper understanding of how teacher characteristics interact with curriculum implementation to influence student success, potentially informing future research on similar interventions in other educational contexts. The study's focus on the specific challenges and opportunities within the

Samar Division context adds to the existing literature by offering a localized perspective on the implementation of DI, highlighting the importance of context-specific considerations in educational reform. Finally, the study's findings can inform policy decisions related to teacher training, resource allocation, and curriculum development, ultimately contributing to the improvement of educational quality and equity in the Philippines.

Literature Review

The literature review section of the thesis on differentiated instruction (DI) in Grade 4 English under the MATATAG curriculum draws upon several key works to establish its theoretical foundation. The review begins by defining DI, referencing Tomlinson (2004) who describes it as a teaching approach that provides students with multiple options for learning and demonstrating their understanding. This definition is further elaborated by Anderson (2007), Tomlinson (2014), and others, who highlight the importance of adapting content, process, and product to meet diverse learner needs. The authors correctly identify key aspects of DI, such as flexible grouping (Steenbergen-Hu et al., 2016), tiered assignments, and adapting the learning environment (Boelens et al., 2018). They also acknowledge the use of multiple pedagogical approaches (Syofyan & Siwi, 2018) to cater to various learning styles.

However, the review's strength lies in its acknowledgment of the challenges associated with DI implementation. The authors cite several studies that highlight the difficulties teachers face, including classroom management (Wan, 2016; Kokkinos, 2020), assessment fairness (Wan, 2016), and the selection of appropriate activities and materials (Gaitas & Alves Martins, 2017; Courtney, 2021). This balanced perspective is crucial, as it acknowledges that DI is not a simple solution but requires careful planning and execution. The inclusion of research on self-directed learning (SDL) by Knowles (1975) and Yang (2016) provides a theoretical link between DI and student autonomy, suggesting that DI can empower students to take ownership of their learning. Pham (2012) is also referenced, offering practical suggestions for implementing DI, such as appropriately challenging activities, flexible grouping, and ongoing assessment.

The review's integration of research on the effectiveness of DI, citing Tomlinson & Allan (2000) and Tomlinson & McTighe (2006), is a positive aspect. These studies demonstrate the positive impact of DI on student engagement, motivation, and academic performance. However, the review lacks a critical evaluation of the methodological limitations of the cited studies. For example, it would strengthen the review to discuss the limitations of the research designs, sample sizes, and generalizability of findings. A more in-depth analysis of the strengths and weaknesses of each study would provide a more nuanced picture of the existing research. Furthermore, the connection between the reviewed literature and the specific research questions of the current study could be made more explicit. The review could benefit from a more structured approach, perhaps grouping studies based on themes or research questions, rather than presenting them as a somewhat disjointed list. While the review covers a range of relevant topics, a more focused and critical analysis would significantly enhance its contribution to the overall thesis. Finally, the inconsistent

citation format throughout the review needs correction to align with APA 7th edition guidelines for consistency and clarity.

II. Methodology

The methodology section details a descriptive correlational research design to investigate the relationship between differentiated instruction (DI) in Grade 4 English using the MATATAG curriculum and student academic performance in Samar Division. The study involved 130 teachers and 150 students selected using simple random sampling.

Research Design: This study employed a descriptive correlational research design to investigate the relationship between teacher profiles, the implementation of differentiated instruction (DI) in Grade 4 English using the MATATAG curriculum, and students' academic performance in Samar Division. This design was chosen because it allows for the description of teacher characteristics and student performance, while also examining the correlations between these variables and the extent of DI implementation. The descriptive aspect allows for a detailed portrayal of the teacher profiles and the extent of DI utilization, providing a rich contextual understanding. The correlational aspect enables the researchers to explore the relationships between teacher characteristics, DI implementation, and student outcomes without establishing direct cause-and-effect relationships. This approach is appropriate for exploring the complex interplay of factors influencing student achievement in a real-world educational setting. The descriptive correlational design provides a robust framework for understanding the multifaceted relationships among the variables under investigation.

Sample of the Study: A simple random sampling technique was used to select 130 teachers and 150 students from elementary schools in Samar Division. Simple random sampling ensures each member of the population has an equal chance of selection, minimizing bias and increasing the generalizability of findings to the broader population of teachers and students in the division. The sample size was determined based on power analysis to ensure sufficient statistical power to detect meaningful relationships between the variables. The use of a random number generator further enhanced the objectivity and rigor of the sampling process, reducing the potential for researcher bias. This ensures a representative sample, allowing for more reliable generalizations about the relationship between teacher profiles, DI implementation, and student academic performance in Samar Division.

Procedures: The data collection process began with obtaining necessary ethical approvals from Northwest Samar State University (NWSSU), the Samar Division Superintendent, District Supervisors, and school heads. Informed consent was obtained from teachers and parents/guardians of students, ensuring voluntary participation and protecting participant rights. Data were collected through a two-part questionnaire administered to teachers, assessing their profiles and the extent of their use of seven DI strategies. Student performance data (grades and

MPS) were obtained from school records. The questionnaires were administered at a time convenient to the teachers, minimizing disruption to their teaching schedules. Data collection involved careful coordination with school administrators to ensure smooth implementation and minimize any inconvenience to the participants. The use of a validated questionnaire with established reliability enhanced the quality and trustworthiness of the data collected.

Measures: Teacher profiles were assessed using demographic questions (age, gender, marital status, educational attainment, years of experience, training attended, and IPCRF rating). A validated questionnaire ($\alpha = 0.83$) with a five-point Likert scale measured the extent of DI strategy usage for seven strategies (Think-Pair-Share, Guided Discovery, Flexible Grouping, Inquiry-Based Learning, Reflective Learning, Experiential Learning, and CRA). Student performance was measured using grades and MPS from school records. The use of a validated questionnaire with a high Cronbach's alpha coefficient ensured the reliability and internal consistency of the instrument. The inclusion of both teacher-reported data and student performance data from school records provided a more comprehensive and robust dataset for analysis. The selection of measures was guided by existing literature on differentiated instruction and its impact on student outcomes.

Data Processing: Data were analyzed using a variety of statistical techniques. Descriptive statistics (frequency, percentage, mean, standard deviation) were used to describe teacher and student profiles and the extent of DI strategy usage. Multiple regression analysis examined the relationship between teacher profiles and DI usage. Pearson correlation assessed the relationship between DI usage and student performance. ANOVA tested for significant differences in DI implementation based on teacher profiles. The use of multiple statistical techniques allowed for a thorough analysis of the data, providing a comprehensive understanding of the relationships between the variables under investigation. The choice of statistical methods was appropriate for the type of data collected and the research questions being addressed.

Ethical Considerations: The study prioritized ethical considerations throughout the research process. Informed consent was obtained from all participants (teachers and parents/guardians of students). Data were anonymized to ensure confidentiality and protect participant privacy. The study ensured that no student group was disadvantaged by the research procedures. The researchers adhered to ethical guidelines established by Northwest Samar State University and relevant research ethics boards. The ethical considerations implemented ensured the protection of participant rights and the integrity of the research process. The voluntary nature of participation was emphasized, and participants were informed of their right to withdraw at any time without penalty.

III. Results and Discussion

The results and discussion section analyzes the relationship between teacher profiles, differentiated instruction (DI) implementation in Grade 4 English using the MATATAG

curriculum, and student academic performance in Samar Division. The findings are presented in a logical sequence, prioritizing the most significant results.

Key Finding 1: Significant Positive Correlation Between DI Implementation and Student Performance

The study revealed a significant positive correlation ($r = 0.308$, $p < 0.001$) between the extent of DI implementation and students' academic performance in English. This finding supports the existing literature (Tomlinson & Allan, 2000; Tomlinson & McTighe, 2006) demonstrating the positive impact of DI on student achievement. The moderate strength of the correlation suggests that while DI is effective, other factors likely influence student outcomes. This aligns with previous research highlighting challenges in DI implementation, such as difficulties in selecting appropriate activities and materials (Gaitas & Alves Martins, 2017) and concerns about classroom management and assessment fairness (Wan, 2016). The results underscore the importance of providing teachers with adequate training and resources to overcome these challenges and maximize the effectiveness of DI.

Key Finding 2: Teacher Profiles Do Not Directly Influence DI Implementation

Contrary to expectations, the study found no significant relationship between teacher profiles (age, gender, marital status, educational attainment, years of experience, training, and IPCRF rating) and the extent of DI implementation. This contrasts with some research suggesting that teacher characteristics influence instructional practices (Boelens et al., 2018). However, the findings highlight the potential influence of factors beyond individual teacher characteristics, such as school-level support, resource availability, and institutional culture. Further research is needed to explore these contextual factors that might influence the adoption and effective implementation of DI strategies.

Key Finding 3: Significant Differences in DI Implementation Based on Teacher Characteristics

Despite the lack of a direct correlation, ANOVA revealed significant differences in DI implementation based on teacher age, civil status, educational attainment, years of service, training, and IPCRF rating. Teachers with higher educational attainment, more years of experience, and participation in relevant training demonstrated a greater extent of DI implementation. This suggests that professional development and experience play a crucial role in fostering the effective use of DI strategies. The significant difference based on IPCRF rating further emphasizes the importance of ongoing support and professional growth for teachers.

Key Finding 4: Moderate Utilization of DI Strategies

Across all seven DI strategies examined (Think-Pair-Share, Guided Discovery, Flexible Grouping, Inquiry-Based Learning, Reflective Learning, Experiential Learning, and CRA), the

overall utilization was rated as "moderately utilized." While this indicates some level of implementation, it also suggests a considerable potential for improvement. The variation in the extent of utilization across different strategies highlights the need for targeted professional development focused on specific areas where teachers require additional support.

The study concludes that while the effective implementation of differentiated instruction significantly improves student outcomes in Grade 4 English, teacher characteristics alone do not fully explain the extent of DI usage. The significant positive correlation between DI and student performance underscores the importance of providing teachers with ongoing professional development, adequate resources, and supportive school environments to maximize the benefits of differentiated instruction within the MATATAG curriculum. The proposed enhancement program aims to address these needs and further improve the implementation of DI in Samar Division.

IV. Conclusion

This study explored the multifaceted relationship between teacher profiles, the implementation of differentiated instruction (DI) within the Grade 4 English component of the MATATAG curriculum, and students' academic performance in Samar Division. The findings offer several significant conclusions, highlighting the complexity of effective DI implementation and its impact on student learning outcomes.

1. Moderate Implementation of Differentiated Instruction Strategies: The study revealed that across all seven DI strategies examined (Think-Pair-Share, Guided Discovery Learning, Flexible Grouping, Inquiry-Based Learning, Reflective Learning, Experiential Learning, and Concrete-Representational-Abstract (CRA) Instructional Approach), the overall level of utilization was "moderately utilized." This finding, while not indicating a complete lack of DI implementation, suggests significant room for improvement in the consistent and effective application of these strategies within Samar Division's Grade 4 English classrooms. The moderate utilization underscores the need for targeted professional development initiatives focused on enhancing teachers' skills and confidence in employing diverse DI techniques. A deeper understanding of the specific challenges teachers face in implementing each strategy is crucial for designing effective interventions.

This conclusion highlights the critical need for ongoing support and training for teachers. Simply introducing DI strategies is insufficient; sustained professional development is required to ensure their effective and consistent implementation. The moderate utilization suggests that while teachers may be aware of DI principles, they may lack the necessary skills, resources, or confidence to fully integrate these strategies into their teaching practices. This has implications for teacher training programs and school-level support systems, which must be adapted to provide ongoing mentorship and practical guidance. The finding also emphasizes the importance of

evaluating the effectiveness of professional development programs to ensure they address the specific needs and challenges faced by teachers in implementing DI.

2. Significant Positive Correlation Between DI Implementation and Student Performance: Despite the moderate overall utilization of DI strategies, a significant positive correlation was found between the extent of DI implementation and students' academic performance in English. This indicates that even with a moderate level of implementation, DI positively impacts student learning outcomes. The correlation suggests that even partial integration of DI strategies leads to better student performance, highlighting the potential for substantial gains with more consistent and effective implementation.

This conclusion underscores the potential benefits of DI and provides a strong argument for increased investment in teacher training and support. The positive correlation, despite only moderate implementation, demonstrates the inherent value of DI in catering to diverse learning needs. This finding should serve as a powerful incentive for educational leaders to prioritize DI professional development and resource allocation. The significant positive correlation reinforces the need to address the challenges hindering full implementation, as identified in the moderate utilization finding, to maximize the positive impact on student achievement.

3. Teacher Profiles and DI Implementation: A Complex Relationship: The study found no significant overall relationship between teacher profiles (age, gender, marital status, highest educational attainment, years of service, training attended, and IPCRF rating) and the extent of DI implementation. However, ANOVA revealed significant differences in DI implementation across certain teacher characteristics. Specifically, teachers with higher educational attainment, more years of service, and participation in relevant training demonstrated a greater extent of DI implementation. This nuanced finding suggests that while individual teacher characteristics alone do not fully determine DI usage, factors such as experience, education, and professional development play a crucial role in effective implementation.

This conclusion highlights the importance of targeted professional development programs that address the specific needs of teachers at different stages of their careers and with varying levels of experience. The lack of an overall relationship between teacher profiles and DI implementation suggests that simply relying on demographic factors to predict DI usage is insufficient. Instead, a more nuanced approach is needed, focusing on providing ongoing support and training that addresses the specific challenges and needs of teachers at different career stages. This finding also emphasizes the importance of creating supportive school environments that value and encourage the adoption of innovative teaching practices, such as DI.

4. Need for Context-Specific Professional Development: The study's findings highlight the need for context-specific professional development programs tailored to the specific challenges and needs of teachers in Samar Division. The moderate implementation of DI strategies, combined with the nuanced relationship between teacher profiles and DI usage, suggests that a "one-size-

fits-all" approach to professional development is unlikely to be effective. Instead, programs should be designed to address the specific challenges identified in the study, such as the difficulties in implementing certain DI strategies and the need for ongoing support and mentorship.

This conclusion emphasizes the importance of designing professional development programs that are responsive to the unique context of Samar Division. Generic training programs may not be effective in addressing the specific challenges faced by teachers in this region. Instead, a participatory approach is needed, involving teachers in the design and implementation of professional development programs to ensure they address the most pressing needs and challenges. This requires ongoing collaboration between educational leaders, teacher trainers, and classroom teachers to create effective and sustainable professional development initiatives.

5. Importance of Ongoing Support and Mentorship: The study's findings underscore the critical role of ongoing support and mentorship in fostering the effective implementation of differentiated instruction. The moderate utilization of DI strategies and the significant differences in implementation across certain teacher characteristics highlight the need for sustained support beyond initial training. Mentorship programs, peer coaching, and collaborative planning opportunities can provide teachers with ongoing guidance and support in adapting DI strategies to their specific classroom contexts.

This conclusion emphasizes the importance of creating a supportive and collaborative school culture that values ongoing professional growth and collaboration. Simply providing initial training is insufficient; sustained support and mentorship are essential for ensuring that teachers feel confident and competent in implementing DI strategies effectively. This requires a shift in school culture, valuing collaboration and ongoing professional development as integral components of effective teaching.

The study's findings have significant implications for educational policy and practice in Samar Division and beyond. The moderate implementation of DI strategies, the positive correlation between DI and student performance, and the complex relationship between teacher profiles and DI usage collectively highlight the need for a multi-faceted approach to promoting effective DI implementation. This includes targeted professional development programs tailored to the specific needs of teachers, ongoing support and mentorship, and the creation of a supportive school culture that values innovation and collaboration. The study's findings contribute to the growing body of research on differentiated instruction, providing valuable insights into the factors that influence its effective implementation and its impact on student learning outcomes. The results can inform policy decisions related to teacher training, resource allocation, and curriculum development, ultimately contributing to the improvement of educational quality and equity. The context-specific nature of the study also emphasizes the importance of considering local factors when implementing educational reforms, offering valuable lessons for other regions seeking to improve the effectiveness of their teaching practices.

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