

Enhancing Reading Outcomes through Inclusive Education: Evaluating the Impact of Differentiated Instruction, Universal Design for Learning, and Collaborative Teaching Models

DOI: <https://doi.org/10.5281/zenodo.13364819>

Raquel H. Noguera

Warren County Schools, Warrenton North Carolina, USA
Western Colleges Inc., Naic, Cavite, Philippines

Abstract

This study investigates the effectiveness of inclusive teaching strategies in supporting diverse learners in mainstream classrooms, with a focus on reading instruction. Key strategies examined include differentiated instruction, Universal Design for Learning (UDL), and collaborative teaching models. The study found that differentiated instruction effectively addresses the varied needs of students, including those with learning disabilities, English language learners, and gifted students, leading to significant improvements in reading comprehension and literacy skills. UDL was shown to enhance the inclusivity of reading instruction by providing multiple means of representation, expression, and engagement, benefiting all students, including those with disabilities. Collaborative teaching models, such as co-teaching, improved reading outcomes by leveraging the combined expertise of general and special education teachers, fostering a supportive classroom environment. Despite these positive outcomes, challenges such as inadequate professional development, limited resources, and logistical constraints hinder the effective implementation of these strategies. The study underscores the need for systemic support and resources to address these challenges and enhance the effectiveness of inclusive education practices. Future research should focus on the impact of specific elements of these strategies and the development of targeted professional development programs.

Keywords: Differentiated instruction, Universal Design for Learning, collaborative teaching, inclusive education, reading instruction.

Introduction:

Inclusive education, a vital aspect of contemporary pedagogy, promotes an equitable learning environment where all students, regardless of their diverse backgrounds and abilities, are provided with the necessary support to succeed academically. This approach is particularly significant in the context of reading, a foundational skill that underpins academic achievement across disciplines. In the United States, inclusive education has gained momentum, driven by legal mandates, such as the Individuals with Disabilities Education Act (IDEA), and a growing recognition of the benefits of diverse classrooms for all students.

The American educational landscape is characterized by a diverse student population, encompassing students with disabilities, English language learners, students from various cultural and socioeconomic backgrounds, and those with varying learning styles and needs. In this context, the challenge for educators lies in adopting and implementing teaching strategies that cater to the wide range of learning needs present in mainstream classrooms, particularly in the area of reading. Effective reading instruction in inclusive classrooms necessitates the use of differentiated teaching strategies that are flexible, responsive, and culturally relevant.

This study aims to explore and analyze the teaching strategies employed by educators in the United States to support diverse learners in mainstream classrooms, with a specific focus on reading instruction. The research will investigate the effectiveness of various inclusive teaching strategies, such as differentiated instruction, universal design for learning (UDL), and culturally responsive teaching, in enhancing the reading skills of students with diverse needs. By examining these strategies, the study seeks to contribute to the ongoing discourse on best practices in inclusive education and provide insights that can inform teacher training programs and educational policy.

Literature Review:

Inclusive education has emerged as a significant paradigm shift in educational practices globally, particularly in the United States. The movement toward inclusive education is rooted in the belief that all students, regardless of their abilities or disabilities, should be provided with equitable opportunities to learn alongside their peers in general education settings. This literature review explores the key themes related to inclusive education, particularly focusing on teaching strategies that support diverse learners in mainstream classrooms, with an emphasis on reading instruction.

Theoretical Foundations of Inclusive Education

Inclusive education is underpinned by several key theories, including Vygotsky's Social Constructivism and Bandura's Social Learning Theory, which emphasize the importance of social interaction in learning. Vygotsky's theory posits that students learn best in a social context where they can interact with peers and teachers, which aligns with the principles of inclusive education where diverse learners are integrated into general classrooms (Gindis, 1999). This interaction allows for the development of cognitive skills through scaffolding provided by more knowledgeable others, such as teachers and peers.

Bandura's Social Learning Theory also highlights the importance of modeling, imitation, and observational learning (Bandura, 1977). In an inclusive classroom, these elements are crucial as students with diverse learning needs can observe and learn from their peers. This theory supports the idea that inclusive education not only benefits students with disabilities but also enhances the learning experience for all students by promoting a diverse learning environment.

Legal Framework and Policy in the United States

The legal framework for inclusive education in the United States is primarily guided by the Individuals with Disabilities Education Act (IDEA), which mandates that students with disabilities have the right to a free appropriate public education (FAPE) in the least restrictive environment (LRE) (U.S. Department of Education, 2004). The LRE provision is particularly significant as it promotes the inclusion of students with disabilities in general education classrooms to the maximum extent appropriate. This policy framework has led to the widespread implementation of inclusive practices across the U.S., although the degree of inclusion can vary significantly between districts and schools.

The Every Student Succeeds Act (ESSA) of 2015 also plays a critical role in promoting inclusive education by holding schools accountable for the academic progress of all students, including those with disabilities. ESSA requires schools to provide evidence-based interventions and supports to ensure that all students, including those with reading difficulties, meet academic standards (U.S. Department of Education, 2015). This has led to the adoption of various inclusive teaching strategies aimed at supporting diverse learners, particularly in reading instruction.

Teaching Strategies for Supporting Diverse Learners

Effective teaching strategies in inclusive classrooms are those that are flexible and responsive to the diverse needs of students. Differentiated instruction, Universal Design for Learning (UDL), and Response to Intervention (RTI) are among the most prominent strategies used to support diverse learners in reading.

Differentiated instruction involves tailoring teaching methods and materials to meet the diverse needs of students. This approach is particularly effective in reading instruction, where students may have varying levels of proficiency and learning styles (Tomlinson, 2014). For example, teachers may provide different levels of reading materials, use a variety of instructional strategies, and assess students' understanding in multiple ways to accommodate the diverse learning needs in the classroom. Research has shown that differentiated instruction can lead to significant improvements in reading comprehension and fluency for students with diverse learning needs (Rose, 2000).

UDL is an educational framework that aims to make learning accessible to all students by providing multiple means of representation, expression, and engagement (Meyer, Rose, & Gordon, 2014). In the context of reading instruction, UDL encourages the use of varied instructional materials, such as digital texts, audio books, and visual aids, to support students with different learning preferences. UDL also promotes the use of flexible assessment methods, allowing students to demonstrate their understanding in ways that suit their strengths. Studies have found that UDL can enhance reading outcomes for students with disabilities by providing them with the necessary supports to access the curriculum alongside their peers (Coyne, Pisha, Dalton, Zeph, & Smith, 2012).

RTI is a multi-tiered approach to early identification and support for students with learning and behavior needs (Fuchs & Fuchs, 2006). In reading instruction, RTI involves providing targeted interventions to students who are struggling, with the intensity of interventions increasing based on the student's response. This approach allows for early identification of reading difficulties and provides students with the necessary support before they fall significantly behind their peers. Research has demonstrated that RTI can be effective in improving reading skills among students with learning disabilities, particularly when interventions are implemented early and consistently (Vaughn & Fletcher, 2012).

Challenges in Implementing Inclusive Education

While the benefits of inclusive education are widely recognized, several challenges hinder its effective implementation. One major challenge is the lack of adequate teacher training and professional development in inclusive practices (Florian & Linklater, 2010). Teachers often report feeling unprepared to meet the diverse needs of students in inclusive classrooms, particularly when it comes to differentiating instruction and managing

classroom behavior. This highlights the need for ongoing professional development and support for teachers to effectively implement inclusive practices.

Another significant challenge is the variability in resources and support across schools and districts. Inclusive education requires substantial resources, including specialized instructional materials, assistive technology, and additional support staff (Bouillet, 2013). However, schools in under-resourced areas may struggle to provide these necessary supports, leading to inconsistencies in the implementation of inclusive practices. This disparity in resources can result in unequal educational opportunities for students with disabilities, particularly in reading instruction.

The Role of Technology in Inclusive Education

Technology has the potential to play a transformative role in supporting inclusive education, particularly in the area of reading instruction. Assistive technology, such as text-to-speech software, audiobooks, and reading comprehension apps, can provide students with disabilities the tools they need to access the curriculum and participate fully in classroom activities (Edyburn & Howerly, 2014). Moreover, digital platforms that offer personalized learning experiences can help cater to the diverse needs of students, providing them with the appropriate level of challenge and support.

Research has shown that the integration of technology in reading instruction can lead to improved outcomes for students with disabilities, particularly those with dyslexia and other reading difficulties (Marino, Sameshima, & Beecher, 2009). However, the successful implementation of technology in inclusive classrooms requires careful planning, adequate training for teachers, and ongoing support to ensure that it is used effectively to enhance learning.

Inclusive education is a complex and multifaceted endeavor that requires a commitment to equity and a belief in the potential of all students to succeed. The literature highlights the importance of using evidence-based teaching strategies, such as differentiated instruction, UDL, and RTI, to support diverse learners in mainstream classrooms, particularly in reading instruction. However, challenges such as inadequate teacher training, resource disparities, and the need for effective integration of technology must be addressed to fully realize the goals of inclusive education. As the field continues to evolve, ongoing research and professional development will be essential in ensuring that inclusive education practices are effective and sustainable.

Methodology:

This study utilized a systematic literature review (SLR) as its research methodology, chosen for its rigorous and comprehensive approach. The SLR provided a thorough examination of existing research on inclusive education and teaching strategies for diverse learners in mainstream classrooms, focusing particularly on reading instruction in the United States.

The search strategy for the SLR was meticulously designed to identify studies relevant to the research questions. This process began with defining specific inclusion and exclusion criteria to ensure the selection of high-quality and pertinent sources. The inclusion criteria comprised studies published between 2000 and 2024, including peer-reviewed articles, books, and conference papers. Research needed to be conducted in the United States or have significant relevance to the U.S. educational context, focus on teaching strategies for diverse learners in reading within mainstream classrooms, and be written in English. Conversely, studies that did not focus on inclusive education or teaching strategies for diverse learners, were outside the specified timeframe, or were non-peer-reviewed articles, opinion pieces, or non-scholarly publications were excluded.

The systematic search covered several academic databases such as Google Scholar, ERIC (Education Resources Information Center), JSTOR, and ProQuest. Search terms were selected to capture key concepts of the study, including "inclusive education," "teaching strategies," "diverse learners," "mainstream classrooms," "reading instruction," "United States," "differentiated instruction," "Universal Design for Learning (UDL)," and "Response to Intervention (RTI)." Boolean operators like "AND" and "OR" were employed to refine search results, ensuring the retrieval of the most relevant studies. The search was iterative, with adjustments to search terms made as needed to cover the breadth of the available literature.

Following the initial search, a large volume of studies was screened in two stages. The first stage involved reviewing titles and abstracts to assess relevance, excluding studies that clearly did not meet the inclusion criteria. The second stage involved a full-text review of the remaining studies to confirm their relevance and suitability for inclusion in the SLR.

Data extraction involved systematically collecting key information from the selected studies using a data extraction form. This form captured details such as the authors, year of publication, research objectives and questions, methodology, sample characteristics, key findings related to teaching strategies for diverse learners in reading,

implementation challenges, and recommendations for practice and further research. The extracted data were then analyzed through thematic analysis, which facilitated the identification and interpretation of patterns and themes across the studies, providing a comprehensive understanding of the literature.

Thematic analysis was conducted in several steps: first, researchers familiarized themselves with the data by reading and re-reading the extracted information to identify initial patterns and themes. Next, data were systematically coded by identifying and labeling significant features related to the research questions. Codes were grouped into broader themes, which were reviewed and refined through discussions to ensure accurate representation of the data. Finally, the themes were synthesized to offer a comprehensive view of teaching strategies for diverse learners in reading within inclusive mainstream classrooms.

To ensure the reliability and validity of the findings, each selected study underwent a quality assessment. This evaluation was based on criteria such as the clarity of research questions, appropriateness of methodology, robustness of data analysis, and relevance of findings. Studies meeting the quality criteria were included in the final analysis, while those with significant methodological limitations were either excluded or used with caution in interpreting the findings.

Findings and Discussion:

Effectiveness of Differentiated Instruction in Supporting Diverse Learners

One of the significant findings of this study was the effectiveness of differentiated instruction in supporting diverse learners in mainstream classrooms, particularly in the context of reading. Differentiated instruction (DI) refers to the practice of tailoring teaching methods, materials, and assessments to address the diverse learning needs, preferences, and abilities of students within the same classroom. This approach has been widely recognized and adopted as a critical strategy for fostering inclusive education, especially in classrooms characterized by a broad spectrum of learning abilities and needs.

The review of existing literature underscores that differentiated instruction is not merely a pedagogical trend but a necessity in today's diverse educational landscape. According to Tomlinson (2014), who is often credited with popularizing the concept of DI, this approach is essential for meeting the varying needs of students, including those with learning disabilities, English language learners (ELLs), and gifted students. By adapting instruction to the individual needs of students, DI helps bridge the gap between students of different learning abilities, thus promoting equity in education.

Research has consistently shown that the implementation of differentiated instruction positively impacts students' reading comprehension and overall literacy skills. For instance, Reis, McCoach, Little, Muller, and Kaniskan (2011) found that differentiated reading instruction significantly improved reading fluency and comprehension among students, particularly those who were struggling. Similarly, a study by Richards and Omdal (2007) revealed that DI in reading classes led to substantial gains in reading achievement for students with learning disabilities and ELLs, as it allowed for targeted instruction that addressed specific gaps in students' knowledge and skills.

One of the primary reasons differentiated instruction is so effective is its inherent flexibility. Unlike traditional, one-size-fits-all approaches, DI allows teachers to modify their instructional methods, materials, and assessments to align with the unique learning profiles of their students. This adaptability is crucial in inclusive classrooms, where the range of student abilities and needs can be vast. For example, teachers can use tiered assignments that offer varying levels of difficulty, ensuring that all students are challenged appropriately while still being supported in their learning (Tomlinson, 2001).

Furthermore, the use of flexible grouping in differentiated instruction allows teachers to create small, focused groups based on students' specific needs or abilities, facilitating more personalized and effective instruction. Research by Connor, Morrison, and Petrella (2004) supports the idea that small, ability-based groups can lead to significant improvements in reading outcomes, as students receive more direct, targeted instruction that addresses their particular areas of need. This approach also enables students to learn at their own pace, further contributing to a more inclusive and supportive learning environment.

Another critical aspect of differentiated instruction is the emphasis on ongoing assessment and feedback. In a differentiated classroom, teachers regularly assess students' progress and adjust their instruction accordingly. This continuous feedback loop is essential for ensuring that all students are making progress, particularly those who may struggle with reading. According to Hattie (2009), feedback is one of the most powerful influences on student achievement, and when combined with differentiated instruction, it can significantly enhance students' reading comprehension and literacy skills.

Despite the documented benefits of differentiated instruction, the study also highlights some challenges associated with its implementation. One of the most frequently cited challenges is the need for extensive teacher preparation

and professional development. Teachers must be well-equipped with the knowledge and skills to effectively implement DI strategies, which can be time-consuming and require ongoing support. Santangelo and Tomlinson (2009) emphasize that for DI to be successful, teachers need access to high-quality professional development that provides practical strategies and tools for differentiation.

Another challenge is the additional time and effort required to plan and execute differentiated lessons. Teachers must invest considerable time in understanding their students' individual needs, designing appropriate instructional materials, and assessing student progress. This workload can be daunting, particularly in classrooms with large numbers of students or limited resources. Nevertheless, the benefits of differentiated instruction in promoting inclusive education and improving reading outcomes for diverse learners make it a worthwhile endeavor.

Differentiated instruction has proven to be an effective and essential strategy for supporting diverse learners in mainstream classrooms, particularly in the area of reading. By tailoring instruction to meet the unique needs of each student, DI helps to create an inclusive learning environment where all students have the opportunity to succeed. While the implementation of DI can be challenging, particularly in terms of the additional time and effort required, the positive impact on student achievement and inclusivity makes it an indispensable tool for educators. The findings of this study reinforce the importance of differentiated instruction as a cornerstone of effective inclusive education practices, particularly in the context of reading.

Impact of Universal Design for Learning (UDL) on Inclusive Reading Instruction

The study found that implementing Universal Design for Learning (UDL) principles had a significant impact on promoting inclusivity in reading instruction within mainstream classrooms. UDL, a framework designed to improve and optimize teaching and learning for all people based on scientific insights into how humans learn, emphasizes providing multiple means of representation, expression, and engagement. This study demonstrated that UDL is particularly effective in supporting a diverse range of learners, including those with disabilities, by creating more accessible and engaging reading experiences. The review underscored that UDL-based reading interventions not only improved reading outcomes for students with special educational needs but also enhanced the learning experiences for the entire classroom, reinforcing the importance of UDL in inclusive education.

One of the core principles of UDL is providing multiple means of representation, which involves presenting information in various formats to accommodate different learning styles and needs. The study revealed that when teachers incorporated multiple representations—such as visual aids, audio recordings, and interactive digital content—students with diverse learning needs, including those with visual or auditory impairments, were better able to access and comprehend reading material (Rose et al., 2006). This flexibility in content delivery not only supported students with disabilities but also benefited all learners by catering to a broader range of preferences and strengths. For example, some students may better understand and retain information when it is presented visually rather than textually. By offering multiple ways to access information, UDL allows educators to address individual differences in learning, making reading instruction more inclusive and effective.

Another critical aspect of UDL is providing multiple means of expression, which allows students to demonstrate their understanding in various ways. Traditional assessments often rely heavily on written tests, which can disadvantage students with learning disabilities, language barriers, or other challenges. The study highlighted that when teachers allowed students to express their comprehension through alternative methods—such as oral presentations, visual projects, or digital media—students with diverse needs were able to participate more fully and demonstrate their understanding more effectively (Meyer, Rose, & Gordon, 2014). This approach not only supported students with special educational needs but also encouraged creativity and critical thinking across the classroom. By recognizing that students learn and express themselves differently, UDL fosters an environment where all students can succeed.

Engagement is a key factor in successful learning, and UDL emphasizes the importance of providing multiple means of engagement to keep all students motivated and involved in their learning. The study found that UDL's focus on engagement was particularly effective in inclusive reading instruction, as it allowed teachers to create more dynamic and interactive learning environments. For instance, incorporating elements like choice, relevance, and novelty into reading activities helped capture students' interest and encouraged active participation (Rose, 2000). The review also noted that flexible grouping strategies, where students could work individually, in pairs, or in small groups based on their preferences or needs, further supported engagement by providing opportunities for peer learning and collaboration. By designing learning experiences that are engaging and relevant to all students, UDL helps to create a more inclusive and effective reading environment.

While UDL was initially developed with a focus on students with disabilities, the study found that its principles benefit all learners, making it a valuable approach for mainstream classrooms. The flexibility and inclusivity of UDL ensure that students with various needs, whether related to disability, language proficiency, or different learning styles, can access and succeed in reading instruction. Furthermore, the review indicated that UDL's emphasis on proactive design—anticipating and addressing potential barriers to learning before they arise—helps create a

classroom environment where all students feel supported and included (CAST, 2018). This proactive approach contrasts with more traditional, reactive methods that only address barriers after they have already impacted student learning. By designing instruction that is inherently flexible and inclusive, UDL not only supports diverse learners but also enhances the overall quality of education for all students.

The study highlighted the significant impact of UDL on inclusive reading instruction in mainstream classrooms. By providing multiple means of representation, expression, and engagement, UDL supports a diverse range of learners and promotes a more accessible, engaging, and inclusive learning environment. The findings suggest that UDL's emphasis on flexibility and inclusivity makes it an essential framework for designing reading instruction that meets the needs of all students, particularly those with special educational needs. As the educational landscape continues to evolve, UDL offers a promising approach for ensuring that all students have the opportunity to succeed in reading and other areas of learning.

Challenges in Implementing Inclusive Teaching Strategies

The adoption of inclusive teaching strategies in mainstream classrooms has been widely recognized as a critical approach to meeting the diverse needs of students, particularly in the context of reading instruction. Inclusive education, which seeks to provide equitable learning opportunities for all students, regardless of their abilities or backgrounds, is essential in creating a more just and effective educational system. However, despite its importance, the study identified several significant challenges that educators face when attempting to implement these strategies. The barriers highlighted in this research, such as inadequate professional development, insufficient resources, time constraints, and large class sizes, reveal the complexities of fostering inclusivity in the classroom and underscore the need for systemic change to support teachers in this endeavor.

One of the most pervasive challenges reported by teachers in the study was the lack of adequate professional development and training to effectively implement inclusive teaching strategies, particularly differentiated instruction and Universal Design for Learning (UDL). Differentiated instruction, which involves tailoring teaching methods and materials to meet the diverse needs of students, requires a deep understanding of various pedagogical approaches and the ability to adapt these approaches in real-time. Similarly, UDL, which emphasizes providing multiple means of representation, expression, and engagement, demands a comprehensive understanding of how to design flexible and accessible learning environments. However, many teachers reported feeling ill-prepared to implement these strategies due to insufficient training opportunities (Sokal & Sharma, 2017). In many cases, professional development programs were either too brief or too generic to address the specific needs of inclusive education, leaving teachers without the necessary skills and knowledge to effectively support diverse learners in reading instruction.

Another significant challenge identified in the study was the lack of resources and support available to teachers for implementing inclusive teaching strategies. Effective differentiated instruction and UDL require not only a solid foundation of pedagogical knowledge but also access to appropriate materials, technology, and support systems. For example, teachers need access to a variety of instructional resources, such as differentiated texts, assistive technologies, and flexible assessment tools, to accommodate the diverse needs of their students (Tomlinson, 2014). However, many teachers reported that their schools lacked the necessary resources to support these practices. Additionally, the absence of adequate support from school administrators and specialists, such as special education teachers or instructional coaches, further exacerbated the difficulties in implementing inclusive strategies. This lack of resources and support often left teachers feeling isolated and overwhelmed, making it challenging to effectively meet the needs of all students in their classrooms.

Time constraints were also frequently cited as a significant barrier to the successful implementation of inclusive teaching strategies. Differentiated instruction and UDL require careful planning, ongoing assessment, and regular adjustment of teaching methods to address the diverse needs of students. However, teachers often reported that the demands of their daily schedules left them with little time to plan and implement these strategies effectively (Schleicher, 2018). The pressures of covering extensive curricula, grading, and managing classroom behavior, combined with the additional time required to differentiate instruction or design UDL-based lessons, created a significant strain on teachers' time and energy.

Moreover, the challenge of time constraints was further compounded by large class sizes, which made it even more difficult for teachers to provide individualized attention and support to students. Large class sizes increase the complexity of classroom management and reduce the time teachers can spend with each student, making it harder to implement personalized learning strategies effectively (Blatchford, Bassett, & Brown, 2011). Teachers in the study reported that managing the diverse needs of students in large classes was particularly challenging in the context of reading instruction, where individualized support is often crucial for student success. As a result, many teachers found it difficult to consistently apply inclusive teaching strategies, leading to a gap between the ideals of inclusive education and the realities of classroom practice.

The challenges identified in this study point to broader systemic barriers that hinder the effective implementation of inclusive teaching strategies in mainstream classrooms. The lack of adequate professional development, insufficient resources, time constraints, and large class sizes are not isolated issues but rather symptoms of a larger problem within the education system. These barriers suggest that, while there is a growing recognition of the importance of inclusive education, the necessary infrastructure and support systems are not yet in place to fully realize this goal.

Addressing these systemic barriers requires a concerted effort at multiple levels of the education system. School administrators, policymakers, and educational leaders must work together to provide teachers with the training, resources, and support they need to implement inclusive teaching strategies effectively. This could include investing in comprehensive professional development programs that equip teachers with the skills and knowledge to differentiate instruction and design UDL-based lessons, as well as ensuring that schools have access to the necessary materials and technologies to support diverse learners.

Additionally, reducing class sizes and providing teachers with more time for planning and collaboration could help alleviate some of the pressures that currently hinder the implementation of inclusive practices. Schools might also consider adopting a more collaborative approach to teaching, where general education teachers work closely with special education teachers, instructional coaches, and other specialists to develop and implement inclusive strategies. This collaborative approach could help distribute the workload more evenly and ensure that all students receive the support they need to succeed.

While the benefits of inclusive teaching strategies are well-documented, this study highlights the significant challenges that teachers face in implementing these strategies in mainstream classrooms. The lack of adequate professional development, insufficient resources, time constraints, and large class sizes present substantial barriers to the effective adoption of differentiated instruction and UDL. These challenges underscore the need for systemic support and resources to ensure that teachers are equipped to meet the diverse needs of their students and create truly inclusive learning environments. Moving forward, it is essential for educational leaders and policymakers to address these systemic barriers and provide the necessary support to help teachers successfully implement inclusive education strategies.

The Role of Collaborative Teaching Models in Enhancing Inclusivity

The study underscored the significant impact of collaborative teaching models—particularly co-teaching and team teaching—on enhancing the inclusivity of reading instruction in mainstream classrooms. Collaborative teaching models, which involve the joint efforts of general education and special education teachers to plan, deliver, and assess instruction, have emerged as effective strategies for addressing the diverse needs of students. This review reveals that such models not only improve reading outcomes for diverse learners but also foster a more inclusive classroom culture where all students feel valued and supported.

Collaborative teaching models, including co-teaching and team teaching, are designed to integrate the expertise of multiple educators to enhance instructional quality and support diverse learners (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). Co-teaching typically involves a general education teacher and a special education teacher working together in the same classroom. They share responsibility for planning, instruction, and assessment, often implementing a range of strategies to meet the varied needs of students (Cook & Friend, 2010). Team teaching, while similar, often involves a broader range of specialists working together to provide a more comprehensive educational experience (Montgomery, 2017).

The study highlighted several ways in which collaborative teaching models contribute to improved reading outcomes for diverse learners. One of the primary benefits is the ability to provide more targeted and individualized support. Research indicates that co-teaching allows for more differentiated instruction, as the presence of multiple educators enables more frequent and personalized feedback for students (Scruggs, Mastropieri, & McDuffie, 2007). For example, while one teacher might lead a large group lesson, the other can work with small groups or individual students, addressing specific learning needs and providing additional support where necessary.

Moreover, collaborative teaching models enhance the capacity for formative assessment and responsive instruction. Teachers working together can more effectively monitor student progress and adjust their teaching strategies accordingly. This adaptability is particularly beneficial in reading instruction, where students may require different types of interventions and supports based on their individual reading levels and learning styles (Hughes, 2016). By leveraging the diverse expertise of both general and special education teachers, collaborative teaching can facilitate more effective and timely interventions, leading to improved reading outcomes.

In addition to enhancing academic outcomes, collaborative teaching models play a crucial role in fostering an inclusive classroom culture. The joint efforts of general and special education teachers contribute to a classroom environment where diversity is valued and all students receive the support they need. Research has shown that

when educators collaborate effectively, it not only benefits students with special needs but also promotes a positive and supportive learning environment for all students (Uy, et al., 2024).

For example, co-teaching arrangements often lead to more equitable classroom practices, as both educators bring their unique perspectives and expertise to the teaching process. This collaborative approach helps to ensure that teaching strategies are inclusive and accessible, reducing the likelihood of students feeling marginalized or unsupported (Murawski & Swanson, 2001). Additionally, the presence of multiple teachers in the classroom can serve as a model of teamwork and cooperation for students, further reinforcing the values of inclusivity and mutual respect.

Despite the benefits, implementing collaborative teaching models can present several challenges. One of the primary issues is ensuring that both general and special education teachers have the necessary training and support to work effectively together. Effective collaboration requires a shared understanding of instructional goals, clear communication, and a commitment to joint problem-solving (Kilag, et al., 2023). Without adequate professional development and support, teachers may struggle to coordinate their efforts and may not fully realize the potential benefits of collaborative teaching.

Additionally, logistical challenges such as scheduling and classroom management can impact the effectiveness of collaborative teaching models. Coordinating schedules to allow for joint planning and instruction can be difficult, particularly in schools with limited resources or large numbers of students. Furthermore, managing a classroom with two teachers requires careful planning and coordination to ensure that both educators are effectively engaged in the instructional process (Groenewald, et al., 2024).

To maximize the benefits of collaborative teaching models, several implications for practice and policy emerge from the study. First, it is essential to provide ongoing professional development for both general and special education teachers to build their collaborative skills and enhance their ability to work together effectively (Booth & Ainscow, 2011). Training programs should focus on strategies for co-planning, co-teaching, and assessing student progress, as well as addressing any potential challenges that may arise.

Second, schools and policymakers should consider providing additional resources and support to facilitate successful collaborative teaching. This may include allocating time for joint planning, offering administrative support, and ensuring that teachers have access to the necessary materials and technologies (Murawski & Dieker, 2008). By addressing these logistical and resource-related issues, schools can create an environment where collaborative teaching models can thrive and benefit all students.

Finally, fostering a school culture that values collaboration and inclusivity is crucial for the success of these models. Schools should promote a shared vision of inclusive education and encourage open communication and teamwork among educators (Uy, et al., 2023). By creating a supportive and collaborative school environment, educators are more likely to engage in effective co-teaching practices that enhance student learning and promote a positive classroom culture.

Collaborative teaching models, such as co-teaching and team teaching, play a crucial role in enhancing the inclusivity of reading instruction in mainstream classrooms. These models provide targeted and individualized support for diverse learners, leading to improved reading outcomes and a more inclusive classroom culture. However, challenges such as inadequate training, logistical issues, and resource constraints can impact the effectiveness of collaborative teaching. Addressing these challenges through targeted professional development, resource allocation, and supportive school culture is essential for realizing the full potential of collaborative teaching models and ensuring that all students receive the support they need to succeed.

Conclusion:

This study provides valuable insights into the effectiveness of various teaching strategies aimed at supporting diverse learners in mainstream classrooms, particularly in the context of reading instruction. By examining differentiated instruction, Universal Design for Learning (UDL), collaborative teaching models, and the challenges associated with implementing inclusive education practices, the study highlights several key findings and implications for educators and policymakers.

The findings of this study underscore the importance of providing ongoing professional development for educators to enhance their skills in implementing differentiated instruction and collaborative teaching models. Training programs should focus on equipping teachers with the tools and strategies needed to effectively address diverse learning needs and collaborate with colleagues. Additionally, schools and policymakers must allocate resources and support to overcome logistical barriers, such as scheduling conflicts and large class sizes, which can impede the successful implementation of inclusive education strategies.

Creating a supportive school culture that values inclusivity and collaboration is also crucial. Schools should promote a shared vision of inclusive education and encourage open communication and teamwork among educators. By fostering an environment that supports collaborative teaching and provides the necessary resources, schools can enhance the effectiveness of inclusive teaching strategies and ensure that all students have the opportunity to succeed.

Future research should explore further how specific elements of differentiated instruction and UDL contribute to improved reading outcomes for diverse learners. Additionally, studies could investigate the long-term effects of collaborative teaching models on student achievement and classroom dynamics. Research focusing on the development and evaluation of targeted professional development programs for educators could also provide valuable insights into how to better support teachers in implementing inclusive teaching strategies.

The study highlights the effectiveness of differentiated instruction, UDL, and collaborative teaching models in supporting diverse learners in mainstream classrooms. While these strategies offer significant benefits, addressing the challenges associated with their implementation is essential for maximizing their impact. By investing in professional development, providing adequate resources, and fostering a collaborative school culture, educators and policymakers can enhance the inclusivity of reading instruction and ensure that all students receive the support they need to thrive.

References:

- Bandura, A. (1977). (1977b). Social learning theory. Englewood Cliffs, NJ: Prentice Hall.
- Banks, J. A., & Banks, C. A. M. (Eds.). (2019). *Multicultural education: Issues and perspectives*. John Wiley & Sons.
- Blatchford, P., Bassett, P., & Brown, P. (2011). Examining the effect of class size on classroom engagement and teacher-pupil interaction: Differences in relation to pupil prior attainment and primary vs. secondary schools. *Learning and instruction*, 21(6), 715-730.
- Booth, T., & Ainscow, M. (2016). The index for inclusion: A guide to school development led by inclusive values. (No Title).
- CAST. (2018). Universal Design for Learning Guidelines version 2.2. <http://udlguidelines.cast.org>
- Connor, C. M., Morrison, F. J., & Petrella, J. N. (2004). Effective Reading Comprehension Instruction: Examining Child x Instruction Interactions. *Journal of educational psychology*, 96(4), 682.
- Coyne, P., Pisha, B., Dalton, B., Zeph, L. A., & Smith, N. C. (2012). Literacy by design: A universal design for learning approach for students with significant intellectual disabilities. *Remedial and Special Education*, 33(3), 162-172.
- Edyburn, D. L., & Hower, K. (2014). How Is Technology Used to Support Instruction in Inclusive Schools?. In *Handbook of Effective Inclusive Schools* (pp. 167-180). Routledge.
- Florian, L., & Linklater, H. (2010). Preparing teachers for inclusive education: using inclusive pedagogy to enhance teaching and learning for all. *Cambridge journal of education*, 40(4), 369-386.
- Friend, M., Cook, L., Hurley-Chamberlain, D., & Shamberger, C. (2010). Co-teaching: An illustration of the complexity of collaboration in special education. *Journal of educational and psychological consultation*, 20(1), 9-27.
- Fuchs, D., & Fuchs, L. S. (2006). Introduction to response to intervention: What, why, and how valid is it?. *Reading research quarterly*, 41(1), 93-99.
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice*. teachers college press.
- Gindis, B. (1999). Vygotsky's vision: Reshaping the practice of special education for the 21st century. *Remedial and special education*, 20(6), 333-340.
- Groenewald, C. A., Groenewald, E., Uy, F., Kilag, O. K., Echavez, R., & Bangoy, R. (2024). The Digital Tapestry: A Systematic Review of Insights, Challenges, and Strategic Implications for Organizations. *International Multidisciplinary Journal of Research for Innovation, Sustainability, and Excellence (IMJRISE)*, 1(3), 18-24.
- Hall, T., Strangman, N., & Meyer, A. (2003). Differentiated instruction and implications for UDL implementation. Wakefield, MA: National Center on Accessing the General Curriculum. Retrieved July, 29, 2010.



- Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. routledge.
- Hughes, C. E. (2019). UDL for advancement. *What really works in universal design for learning*, 189-201.
- Kilag, O. K. T., Uy, F. T., Abendan, C. F. K., & Malbas, M. H. (2023). Teaching leadership: an examination of best practices for leadership educators. *Science and Education*, 4(7), 430-445.
- Marino, M. T., Sameshima, P., & Beecher, C. C. (2009). Enhancing TPACK with assistive technology. Retrieved May 13, 2010.
- Meyer, A., Rose, D. H., & Gordon, D. (2014). Universal design for learning: Theory and practice. (*No Title*).
- Murawski, W. W., & Dieker, L. (2008). 50 ways to keep your co-teacher: strategies for before, during, and after co-teaching. *Teaching Exceptional Children*, 40(4), 40-48.
- Murawski, W. W., & Lee Swanson, H. (2001). A meta-analysis of co-teaching research: Where are the data?. *Remedial and special education*, 22(5), 258-267.
- National Center on Universal Design for Learning. (2010). What is UDL? Retrieved from <https://www.cast.org/impact/universal-design-for-learning-udl>
- Ormrod, J. E., Anderman, E. M., & Anderman, L. H. (2023). *Educational psychology: Developing learners*. Pearson. One Lake Street, Upper Saddle River, New Jersey 07458.
- Reis, S. M., McCoach, D. B., Little, C. A., Muller, L. M., & Kaniskan, R. B. (2011). The effects of differentiated instruction and enrichment pedagogy on reading achievement in five elementary schools. *American Educational Research Journal*, 48(2), 462-501.
- Rose, D. (2000). Universal design for learning. *Journal of Special Education Technology*, 15(4), 47-51.
- Santangelo, T., & Tomlinson, C. A. (2009). The application of differentiated instruction in postsecondary environments: Benefits, challenges, and future directions. *International Journal of Teaching and Learning in Higher Education*, 20(3), 307-323.
- Schleicher, A. (2018). Educating learners for their future, not our past. *ECNU Review of Education*, 1(1), 58-75.
- Scruggs, T. E., Mastropieri, M. A., & McDuffie, K. A. (2007). Co-teaching in inclusive classrooms: A metasynthesis of qualitative research. *Exceptional children*, 73(4), 392-416.
- Sokal, L., & Sharma, U. (2017). Do I really need a course to learn to teach students with disabilities? I've been doing it for years. *Canadian Journal of Education/Revue canadienne de l'éducation*, 40(4), 739-760.
- Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners*. Ascd.
- U.S. Department of Education. (2004). Individuals with Disabilities Education Act (IDEA). Retrieved from <https://sites.ed.gov/idea/>
- Uy, F. T., Sasan, J. M., & Kilag, O. K. (2023). School Principal Administrative-Supervisory Leadership During the Pandemic: A Phenomenological Qualitative Study. *International Journal of Theory and Application in Elementary and Secondary School Education*, 5(1), 44-62.
- Uy, F., Vestal, P., Villaver Jr, M., Andrin, G., Alipin, F. F. P., & Kilag, O. K. (2024). Navigating Diversity: Culturally Responsive Leadership in Diverse Educational Settings. *International Multidisciplinary Journal of Research for Innovation, Sustainability, and Excellence (IMJRISE)*, 1(3), 164-170.
- Vaughn, S., & Bos, C. S. (2012). *Strategies for teaching students with learning and behavior problems*. Upper Saddle River, NJ: Pearson.