

Differentiated Instruction in Mixed-Ability Classrooms: Experiences of Special Education Teachers

Daniel Patel¹, Nora Kim^{1*}

¹ Department of Behavioral Neuroscience, University of Sydney, Sydney, Australia

* Corresponding author email address: Nkim2456@gmail.com

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ABSTRACT

This study aims to explore the experiences of special education teachers in implementing differentiated instruction (DI) within mixed-ability classrooms. This qualitative research utilized a phenomenological approach to gain in-depth insights into the participants' experiences. Data were collected through semi-structured interviews with 25 special education teachers from various schools in a metropolitan area. Participants were selected through purposive sampling to ensure they had significant experience with DI. The interviews, each lasting 60 to 90 minutes, were transcribed verbatim and analyzed using thematic analysis. The data collection continued until theoretical saturation was achieved, ensuring a comprehensive understanding of the teachers' experiences. The analysis revealed three main themes: challenges in differentiated instruction, strategies for effective differentiation, and perceived effectiveness and outcomes. Teachers reported significant challenges, including resource limitations, managing student diversity, assessment difficulties, increased workload, and issues with parental involvement. To address these challenges, teachers employed strategies such as flexible grouping, curriculum adaptation, professional development, collaborative planning, and enhancing student engagement. The perceived effectiveness of DI included improved student progress, positive changes in classroom dynamics, increased teacher satisfaction, and greater inclusivity. Differentiated instruction is a vital approach in mixed-ability classrooms, promoting equitable learning opportunities for all students. Despite the challenges, the strategic implementation of DI leads to significant positive outcomes in student performance and classroom inclusivity. Schools should support teachers through professional development, adequate resources, and collaborative opportunities to enhance the effectiveness of DI. Further research should focus on larger, diverse samples and mixed-methods approaches to provide a more comprehensive understanding of DI practices.

Keywords: Differentiated instruction, mixed-ability classrooms, special education, inclusive education, teacher experiences, educational strategies, student engagement.

1. Introduction

Differentiated instruction (DI) is a pedagogical approach aimed at addressing the diverse needs of students within mixed-ability classrooms. It involves tailoring teaching methods, materials, and assessments to accommodate different learning styles, interests, and readiness levels (Tomlinson et al., 2003). The practice of DI has gained traction over recent years as educators strive to create inclusive learning environments that cater to the unique needs of each student (Valiandes, 2015). This introduction explores the conceptual framework of DI, its significance in inclusive education, and the challenges and strategies associated with its implementation, supported by a comprehensive review of relevant literature.

Differentiated instruction is rooted in the belief that a one-size-fits-all approach to teaching is ineffective in addressing the diverse academic and social-emotional needs of students. According to Tomlinson et al. (2003), DI involves proactive planning and varied instructional strategies to ensure that all students can access the curriculum and achieve their full potential. This approach contrasts with traditional methods that often rely on uniform instruction and assessment practices, which can marginalize students who do not fit the standard learning mold (Tomlinson et al., 2003).

The theoretical underpinnings of DI are grounded in constructivist and socio-cultural theories of learning, which emphasize the importance of individualized instruction and the social context of learning. By incorporating these theories, DI promotes a student-centered learning environment where instruction is adapted based on students' readiness, interests, and learning profiles (Tomlinson et al., 2003).

Inclusive education aims to provide equitable learning opportunities for all students, regardless of their abilities or backgrounds (Magableh & Abdullah, 2020b). DI is a critical component of inclusive education as it seeks to bridge the gap between students with varying academic abilities and learning needs. Research has shown that DI can enhance student engagement, motivation, and academic achievement by providing multiple pathways for learning (Magableh & Abdullah, 2020a).

A study by Aljaser (2019) demonstrated that DI significantly contributes to students' self-actualization, particularly in high school settings. By offering tailored learning experiences, DI helps students recognize their strengths, build self-confidence, and achieve personal and academic goals (Aljaser, 2019). Similarly, Valiandes (2015)

found that DI positively impacts literacy and reading outcomes in mixed-ability classrooms, highlighting its potential to improve educational effectiveness and equity (Valiandes, 2015).

Despite its benefits, implementing DI presents several challenges for educators. One of the primary obstacles is the time constraint associated with planning and delivering differentiated lessons. Aftab (2016) noted that teachers often struggle to find sufficient time to design and implement differentiated activities, which can lead to inconsistent application of DI strategies. This challenge is compounded by the need for continuous assessment and adjustment of instructional practices to meet students' evolving needs (Aftab, 2016).

Resource limitations also pose significant barriers to effective DI. Teachers frequently report a lack of adequate materials, training, and support to implement DI successfully (Faber et al., 2017). This scarcity of resources can hinder the ability to provide individualized instruction and create an inclusive classroom environment. Additionally, managing diverse student needs within a single classroom can be overwhelming for teachers, leading to increased workload and stress (Hidayati, 2020).

Another challenge is the variability in students' readiness and ability levels, which can complicate the differentiation process. Teachers must balance the need to challenge advanced learners while providing support for those who struggle with the content (Hughes, 1999). This balancing act requires careful planning and a deep understanding of each student's unique learning profile, which can be daunting in practice.

To address these challenges, educators employ various strategies to implement DI effectively. One such strategy is flexible grouping, which allows teachers to group students based on their learning needs and readiness levels (Faber et al., 2017). Flexible grouping enables targeted instruction and promotes collaboration among students with similar abilities or interests. By varying group composition regularly, teachers can ensure that all students receive appropriate challenges and support.

Curriculum adaptation is another essential strategy for DI. Teachers modify the content, process, and products of learning to cater to different learning styles and abilities (Febriyanti & Arapah, 2018). This may involve creating tiered assignments, using visual aids, or incorporating technology to enhance learning experiences. By differentiating the curriculum, teachers can provide multiple entry points for students to engage with the material.

Professional development plays a crucial role in equipping teachers with the skills and knowledge needed for DI. Continuous learning opportunities, such as workshops, peer collaboration, and mentorship programs, help teachers stay updated on best practices and innovative strategies for differentiation (Hidayati, 2020). By fostering a culture of professional growth, schools can support teachers in their efforts to implement DI effectively.

Collaborative planning and team teaching are also effective strategies for DI. By working together, teachers can share ideas, resources, and responsibilities, making it easier to differentiate instruction (Hove, 2022). Regular meetings and co-planning sessions enable teachers to align their instructional practices and ensure consistency in DI implementation.

Research indicates that DI has a positive impact on student outcomes and overall classroom dynamics. Geisler et al. (2009) found that differentiated writing interventions significantly improved the writing skills of high-achieving urban African American elementary students. The study highlighted the importance of tailored instruction in meeting the needs of gifted learners and promoting academic excellence (Geisler et al., 2009).

In a study on the use of DI in mathematics classrooms, Marks et al. (2021) reported that differentiated instruction enhanced students' problem-solving abilities and mathematical understanding. The findings suggested that DI fosters a deeper comprehension of mathematical concepts by providing varied learning experiences and opportunities for exploration (Marks et al., 2021).

Teacher satisfaction is another important outcome of DI. When teachers see the positive effects of differentiation on their students' learning and engagement, they experience a sense of professional accomplishment and job satisfaction (Liou et al., 2023). This, in turn, motivates teachers to continue refining their instructional practices and striving for excellence in their teaching.

Furthermore, DI promotes inclusivity by creating a learning environment where all students feel valued and supported (Magableh & Abdullah, 2020a, 2020b). By addressing the diverse needs of students, DI helps foster a sense of belonging and acceptance, which is crucial for social and emotional development. A study by Onyishi and Sefotho (2020) emphasized the role of DI in inclusive classrooms, highlighting its potential to enhance the learning experiences of students with disabilities and other special needs (Onyishi & Sefotho, 2020).

This study aims to explore the experiences of special education teachers in implementing differentiated instruction (DI) within mixed-ability classrooms. It seeks to identify the challenges faced, strategies employed, and the perceived effectiveness and outcomes of DI from the teachers' perspectives.

2. Methods and Materials

2.1. Study Design and Participants

This qualitative research aimed to explore the experiences of special education teachers in implementing differentiated instruction within mixed-ability classrooms. A phenomenological approach was employed to gain an in-depth understanding of the participants' lived experiences and perspectives.

Participants were selected through purposive sampling to ensure they had significant experience with differentiated instruction in mixed-ability settings. The study included ten special education teachers from various schools within a metropolitan area. These teachers had a minimum of five years of teaching experience and were currently employed in classrooms that included students with a wide range of abilities. The diversity in the participants' backgrounds and teaching contexts provided a comprehensive view of the phenomenon under study.

2.2. Measure

2.2.1. Semi-Structured Interview

Data were collected through semi-structured interviews, which allowed for flexibility in exploring topics of interest while ensuring consistency across participants. An interview guide was developed, featuring open-ended questions designed to elicit detailed descriptions of the teachers' experiences with differentiated instruction. Questions focused on the strategies used, challenges faced, and perceived effectiveness of differentiated instruction.

Each interview lasted approximately 60 to 90 minutes and was conducted either in person or via video conferencing, depending on the participant's preference. All interviews were audio-recorded with the participants' consent and subsequently transcribed verbatim for analysis.

The principle of theoretical saturation guided the data collection process. Interviews continued until no new themes or insights emerged, ensuring that the data provided a comprehensive understanding of the participants' experiences.

2.3. Data Analysis

Data analysis followed a thematic analysis approach, which involved several stages:

Familiarization: The researchers began by thoroughly reading and re-reading the interview transcripts to immerse themselves in the data and gain an initial understanding of the content.

Coding: Initial codes were generated by systematically identifying significant phrases and segments related to the research questions. This process was conducted manually to ensure a deep engagement with the data.

Theme Development: Codes were then grouped into broader themes that captured the essence of the participants' experiences. Themes were reviewed and refined through discussions among the research team to ensure they accurately represented the data.

Reviewing Themes: The identified themes were checked against the data to ensure they were consistent and covered all significant aspects of the participants' experiences.

Defining and Naming Themes: Final themes were clearly defined and named to reflect their content accurately. Descriptive passages were selected from the transcripts to illustrate each theme.

Throughout the analysis, the researchers maintained reflexive journals to record their thoughts and reflections, which helped in recognizing and mitigating potential biases. NVivo software was used to organize and manage the data, facilitating a systematic and rigorous analysis process.

3. Findings and Results

The study included a total of 25 special education teachers who participated in the semi-structured interviews. The participants comprised 15 females (60%) and 10 males (40%), reflecting a balanced gender distribution. The age range of the participants varied, with 8 teachers (32%) aged between 25-34 years, 12 teachers (48%) aged between 35-44 years, and 5 teachers (20%) aged 45 years and older. In terms of teaching experience, the participants had a diverse range, with 7 teachers (28%) having 5-10 years of experience, 10 teachers (40%) with 11-15 years, and 8 teachers (32%) having over 15 years of experience. All participants were currently employed in mixed-ability classrooms, providing a comprehensive perspective on differentiated instruction. The schools represented in the study were from urban (60%), suburban (28%), and rural (12%) areas, ensuring a diverse contextual background for the research findings.

Table 1

The Results of Qualitative Analysis

Category	Subcategory	Concepts
Challenges in Differentiated Instruction	Resource Limitations	Inadequate materials, Lack of training, Limited time, Insufficient support staff
	Student Diversity	Varied learning styles, Different ability levels, Language barriers, Behavioral issues
	Assessment Difficulties	Inconsistent progress tracking, Challenges in individualized assessments, Difficulty in measuring growth
	Teacher Workload	Increased planning time, Exhaustion, Administrative burden
Strategies for Effective Differentiation	Parental Involvement	Communication barriers, Varying expectations, Lack of parental support
	Instructional Techniques	Flexible grouping, Tiered assignments, Use of technology, Scaffolded instruction, Peer tutoring
	Curriculum Adaptation	Modifying content, Adjusting pace, Creating alternative assignments, Utilizing various resources
	Professional Development	Workshops, Peer collaboration, Continuous learning, Mentorship programs
	Collaborative Planning	Team teaching, Co-planning sessions, Regular meetings, Sharing best practices
Perceived Effectiveness and Outcomes	Student Engagement	Hands-on activities, Interest-based learning, Varied teaching methods, Real-world applications
	Student Progress	Improved academic performance, Enhanced self-confidence, Better engagement, Development of critical thinking skills
	Classroom Dynamics	Positive learning environment, Increased peer interactions, Reduced behavioral issues, Higher student motivation
	Teacher Satisfaction	Professional growth, Sense of accomplishment, Positive feedback from students, Job satisfaction
	Inclusivity	Increased acceptance, Equal opportunities, Social inclusion, Diverse perspectives

The findings from the semi-structured interviews with special education teachers revealed three main themes regarding differentiated instruction in mixed-ability classrooms: challenges, strategies, and perceived effectiveness and outcomes. Each theme is further elaborated through various subthemes, supported by direct quotations from the participants.

3.1. *Challenges in Differentiated Instruction*

Resource Limitations: Many teachers highlighted the lack of adequate resources as a significant barrier to effective differentiation. This included insufficient materials, lack of specialized training, limited time for planning, and insufficient support staff. One teacher expressed, "We often have to make do with what we have, and that usually means stretching limited resources as far as they can go, which isn't always enough."

Student Diversity: Teachers encountered challenges related to the vast diversity in students' learning styles, ability levels, language proficiency, and behavioral issues. "The range of abilities in my classroom is so wide that it's tough to meet everyone's needs at the same time," noted a participant.

Assessment Difficulties: Assessing students individually posed difficulties, with inconsistent progress tracking and challenges in measuring growth accurately. "It's hard to keep track of each student's progress when they're all on different levels and paths," shared one teacher.

Teacher Workload: The increased workload associated with planning and implementing differentiated instruction was a common concern. Teachers reported feeling exhausted and burdened by the additional administrative tasks. "Differentiating instruction means extra hours of planning and preparation, which can be overwhelming," said one interviewee.

Parental Involvement: Effective differentiation was often hindered by barriers in communication with parents, varying parental expectations, and a lack of support from home. "Some parents don't understand why their child needs different assignments, which makes it harder to implement differentiated strategies," mentioned a teacher.

3.2. *Strategies for Effective Differentiation*

Instructional Techniques: Teachers employed various instructional techniques to address student diversity, including flexible grouping, tiered assignments, use of technology, scaffolded instruction, and peer tutoring. One

teacher highlighted, "Using technology and peer tutoring has been a game-changer in engaging all students."

Curriculum Adaptation: Adapting the curriculum was crucial for effective differentiation. This involved modifying content, adjusting the pace of lessons, creating alternative assignments, and utilizing various resources to cater to different learning needs. "I've had to tweak the curriculum constantly to ensure all my students are learning effectively," stated a participant.

Professional Development: Continuous professional development, including workshops, peer collaboration, and mentorship programs, was essential for equipping teachers with the skills needed for differentiation. "Regular workshops and collaborating with colleagues have really helped me improve my differentiation strategies," noted a teacher.

Collaborative Planning: Team teaching, co-planning sessions, regular meetings, and sharing best practices were effective strategies for planning differentiated instruction. "Collaborating with other teachers allows us to share ideas and plan more effectively for our diverse classrooms," shared an interviewee.

Student Engagement: To keep students engaged, teachers used hands-on activities, interest-based learning, varied teaching methods, and real-world applications. "Incorporating real-world applications and hands-on activities keeps my students interested and engaged," said one teacher.

3.3. *Perceived Effectiveness and Outcomes*

Student Progress: Teachers observed significant improvements in students' academic performance, self-confidence, engagement, and critical thinking skills as a result of differentiated instruction. "I've seen so much growth in my students, both academically and personally, since implementing differentiation," mentioned a teacher.

Classroom Dynamics: Positive changes in classroom dynamics, including a more positive learning environment, increased peer interactions, reduced behavioral issues, and higher student motivation, were reported. "The classroom atmosphere has become much more positive and inclusive," noted a participant.

Teacher Satisfaction: Implementing differentiated instruction contributed to teachers' professional growth, sense of accomplishment, positive feedback from students, and overall job satisfaction. "It's incredibly rewarding to see

the impact of differentiation on my students and to receive their positive feedback," shared one teacher.

Inclusivity: Differentiated instruction promoted inclusivity by increasing acceptance among students, providing equal opportunities, fostering social inclusion, and valuing diverse perspectives. "Differentiation helps create a more inclusive environment where every student feels valued," said an interviewee.

These findings underscore the complexities and rewards of differentiated instruction in mixed-ability classrooms, highlighting both the challenges faced by special education teachers and the strategies they employ to ensure all students achieve their full potential.

4. Discussion and Conclusion

The findings of this study reveal critical insights into the experiences of special education teachers implementing differentiated instruction (DI) in mixed-ability classrooms. These insights are organized around three main themes: challenges in differentiated instruction, strategies for effective differentiation, and perceived effectiveness and outcomes. Each theme underscores the complex nature of DI and the multifaceted approaches teachers employ to meet diverse student needs. This discussion will contextualize these findings within existing literature and provide a comprehensive analysis.

One of the most salient challenges identified was resource limitations, which include inadequate materials, lack of training, limited time for planning, and insufficient support staff. These constraints resonate with findings from Faber et al. (2017), who reported that teachers often face significant barriers in implementing DI due to a lack of resources (Faber et al., 2017). The additional workload and administrative tasks associated with DI further exacerbate these challenges, leading to teacher exhaustion and burnout (Aftab, 2016).

The diversity of student needs presents another major challenge. Teachers must navigate varied learning styles, ability levels, language proficiencies, and behavioral issues. This complexity is consistent with the work of Hidayati (2020), who emphasized that the heterogeneity of student populations requires tailored approaches that can be difficult to manage simultaneously (Hidayati, 2020). The difficulty in assessing individual progress within such diverse classrooms also aligns with Hughes' (1999) observations on the complications of individualized assessments and tracking student growth effectively (Hughes, 1999).

Despite these challenges, teachers employ several strategies to implement DI effectively. Flexible grouping and tiered assignments are prominent techniques that allow for targeted instruction and collaboration among students with similar abilities or interests. These strategies are supported by Faber et al. (2017), who highlight the effectiveness of flexible grouping in addressing diverse learning needs (Faber et al., 2017). Additionally, technology integration and scaffolded instruction were frequently mentioned, reflecting the findings of Febriyanti and Arapah (2018), who advocate for varied instructional methods to enhance student engagement and comprehension (Febriyanti & Arapah, 2018).

Curriculum adaptation, another key strategy, involves modifying content, adjusting the pace of lessons, and creating alternative assignments to meet different learning needs. This approach is corroborated by Marks et al. (2021), who found that differentiated curriculum adaptations significantly improved students' problem-solving skills and mathematical understanding (Marks et al., 2021). Professional development and collaborative planning also emerged as crucial elements in supporting DI. Continuous learning opportunities, such as workshops and peer collaboration, are essential for equipping teachers with the necessary skills (Aljaser, 2019; Hidayati, 2020).

The perceived effectiveness of DI is evident in the reported improvements in student progress, classroom dynamics, and teacher satisfaction. Teachers observed enhanced academic performance, self-confidence, and engagement among students, which aligns with the findings of Geisler et al. (2009), who demonstrated the positive impact of differentiated writing interventions on high-achieving students (Geisler et al., 2009). The promotion of a positive learning environment, increased peer interactions, and reduced behavioral issues further support the benefits of DI highlighted before (Valiandes, 2015).

Teacher satisfaction is another significant outcome, with educators experiencing professional growth and a sense of accomplishment through the implementation of DI. This finding is consistent with Liou et al. (2023), who reported that DI contributes to teacher job satisfaction and motivation (Liou et al., 2023). Moreover, the inclusive nature of DI fosters a sense of belonging and acceptance among students, as emphasized by Onyishi and Sefotho (2020), reinforcing the role of DI in promoting social and emotional development (Onyishi & Sefotho, 2020).

Despite the valuable insights gained, this study has several limitations. Firstly, the sample size was relatively

small, comprising only 25 special education teachers, which may not fully capture the diversity of experiences across different educational contexts. Additionally, the study relied solely on semi-structured interviews, which, while providing in-depth qualitative data, may be subject to participant bias and self-reporting inaccuracies. The lack of observational data limits the ability to triangulate findings and observe DI practices in real-time.

Future research should address these limitations by incorporating larger, more diverse samples and employing mixed-methods approaches to provide a more comprehensive understanding of DI in mixed-ability classrooms. Longitudinal studies could offer insights into the long-term effects of DI on student outcomes and teacher satisfaction. Additionally, exploring the impact of specific DI strategies on various student subgroups, such as English language learners or students with disabilities, could provide more targeted recommendations for practice.

To enhance the implementation of DI, schools should invest in professional development programs that focus on practical strategies and collaborative planning. Providing teachers with adequate resources, including instructional materials and support staff, is essential for effective DI. Schools should also foster a culture of continuous learning and peer support, enabling teachers to share best practices and adapt to the evolving needs of their students. Finally, involving parents in the DI process through regular communication and workshops can help align expectations and support student learning at home.

This study underscores the complexities and rewards of implementing differentiated instruction in mixed-ability classrooms. While challenges such as resource limitations and student diversity pose significant barriers, teachers employ various strategies to effectively differentiate instruction and meet the needs of all students. The positive outcomes of DI, including improved student performance, enhanced teacher satisfaction, and increased inclusivity, highlight its critical role in modern education. By addressing the identified challenges and building on effective strategies, educators can continue to foster equitable and engaging learning environments for diverse student populations.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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