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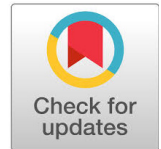
Exploring The Use of Differentiated Instruction in Elementary Grades: Issues and Challenges

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Abstract

The research focuses on teachers' perspectives on the use of Differentiated Instruction (DI) in Elementary grades, highlighting their awareness about the phenomenon, teaching strategies, issues and challenges they face during implementation. This study includes the perspectives of 8 elementary teachers of Private Schools of Karachi, Pakistan, employing semi-structured interviews and class observations. The findings of the study revealed that although most of the teachers had a general insight into Differentiated Instruction involving grouping according to readiness level, flexible and adjustable approaches, implementation was constrained. Many challenges were discovered, including limited access to resources, large class sizes, inadequate training and time and a lack of parental awareness and leadership support. A gap between theory and teaching practice was indicated, highlighting the importance of professional development, administrative support and collaborative planning meetings opportunities. The results indicated the influence of situational factors on the implementation of Differentiated Instruction in elementary grades. While exploring the situational factors affecting Differentiated Instruction, the study contributes significant insights into how teachers can meet the diverse needs of the learners by tailoring and customising their instructional practices, given limited resources in classrooms. An in-depth analysis of the challenges is obtained from the findings and recommendations that are essential for practical DI implementation.

Keywords

Differentiated instruction
Diverse learning needs
Elementary classrooms
Equitable opportunities
Instructional practices
Teacher challenges
Teachers' perspectives

INTRODUCTION

As classrooms have transformed into socially, academically and linguistically diverse settings, Differentiated Instructions (DI) have attained enhanced attention in recent times. Teachers are expected to meet the diverse needs of the learners who vary in readiness levels, cultural differences, learning styles and interests (Ituma, 2025). Differentiated instruction is a reflective and responsive pedagogy that refines content, product, process and learning environment to validate all students have equitable route to effective learning experiences (Mogale, 2025). As DI is rooted in Constructivism and complimented by modern learning theories, it ensures flexibility, active learner centred planning, and ongoing assessments to inform pedagogical decisions (Al Abri et al., 2024). Regardless of its validated significance, educators find its implementation challenging. Large class sizes, limited time, restricted resources and insubstantial professional development are the obstacles noted by the teachers. Moreover, the misconception associated with DI that it requires separate lesson plans for each learner can discourage efficient implementation. Practice of DI in classrooms can be further exacerbated by curriculum mapping, institutional policies, and performance stress (Fitriyah, 2025).

Subsequently as its significance is widely recognized, its implementation is in the doldrums. It is necessary to gauge the issues and challenges that shape the decision making involved in DI implementation along with the exploration of the employment of DI in classrooms (Goyibova et al., 2025). Teachers can have a more inclusive and diverse learning environment in the classrooms by closely observing and analysing the issues and challenges encountered by them and by acknowledging the support they need in terms of professional development, policy framework and optimized resource allocation. This study pinpoints teachers' experiences with Differentiated Instructions, their perspectives, factors that are responsible for ineffective DI implementation and the need for improving instructional practices in elementary teaching.

Research Objectives

- To examine teachers' knowledge of differentiated instructions in elementary grades
- To explore teachers' instructional practices in differentiated instructions in elementary grades
- To identify the major challenges teachers, encounter while implementing differentiated instruction

Research Questions

- How do elementary teachers comprehend differentiated instructions in educational setting?
- How do teachers practice differentiated instructions in classrooms?
- What are the main challenges encountered by teachers in implementing differentiated instructions?

LITERATURE REVIEW

Differentiated Instruction

Differentiated instruction is an approach to teaching which entails meeting the diverse needs of learners (Qorib, 2024). It has become a prominent pedagogical approach in today's classrooms (Lindner, et al., 2021). Tomlinson defines differentiated instruction as a proactive approach to teaching that modifies content, product, process, and learning environment based on students' readiness, interests and learning profiles (Ab Hajis & Othman, 2024). Emphasis is given on ongoing assessments, flexible grouping, and value for individual differences which are key elements of effective differentiation (Susanti, 2024). Furthermore, ongoing assessments refer to a continuous process of gathering evidence of learners' learning through formative assessments, questioning, observations, and rapid understanding evaluations (Carney, et al., 2022). It allows teachers to regularly monitor students' progress and tailor their teaching strategies accordingly.

Additionally, flexible grouping is an instructional strategy where students are grouped according to their interests, readiness and profiles (Gheysens, et al., 2022). These can vary overtime based on the learning goal verifying that all learners get equitable opportunities of participation, support and motivation (Colón, et al., 2022). There's a need for more empirical research exploring the long-term effects of differentiated instructions including students' perspectives. More research is required in investigating how DI can be maintained through professional learning communities and school level support mechanisms (Morrow, 2025). The main objective of differentiated instruction is to make use of each child's ability to learn. In addition, differentiation can be applied in distinct ways, if teachers are determined to employ the philosophy in their classroom settings, they will be able to address the needs of diverse learners (Adare et al., 2023).

Moreover, differentiation is not just an instructional practice, but it's a unique process of thinking about teaching and learning (Ferrer & Naanep, 2025). Additionally, differentiated instruction views the learning experience as social and collaborative. It's the teacher's discretion and the learner simultaneously (Suryati et al., 2024). Fundamentally, differentiated instruction aims to optimize the development of all students by adapting to their current state.

Instructional Beliefs that inform Differentiated Instruction

Differentiation is a proactive approach to learner's needs. These needs include cognitive and emotional support along with the need for acceptance, respect, safety and importance. Need for affirmation and contribution are equally important. Once these basic needs are met, learners become more focused towards power, purpose and challenge (Tomlinson & Imbeau, 2023). Following are the guiding principles of differentiated instruction:

- Learners are encouraged by providing them with work that focuses on the essential knowledge, undemanding, and skills targeted for the lesson.
- Learners are cognitively challenged while providing suitable support so that they feel accomplished.
- Class time includes opportunities for flexible grouping, while group work and individual work.
- Ongoing Assessments are carried out to inform the learners so that they remain responsive to changes in development.
- Curriculum is coherent. Teachers are responsive to distinct needs of the learners.

Classroom Management for Differentiated Instruction

Classroom management is one of the essential elements of differentiated instruction. Teachers need to have a strong command over routines and procedures for learners to engage in different tasks and activities or even involving learning contracts (Letzel et al., 2025). A culture of mutual respect is imperative in differentiated instruction. Cooperative learning should be made part of the learning process (Gaitas et al., 2024). This allows learners to know how fruitfully groups function and can lead to social interactions.

Challenges in Implementation of Differentiated Instruction

Efficient instructional practices are crucial for differentiated instruction. Teachers realize that one size fits all strategy is not going to work with varied learning needs, therefore it's a challenge to understand how to cater to the distinct learning needs (Maia & Freire, 2025). These challenges constrain teachers from implementing DI in their classrooms.

Class Size

The significance of differentiated instruction depends in the grouping of students according to their cognitive ability and needs. According to Pollé et al. (2025) a class of more than 20 students would necessitate four or more groups, which is difficult for a sole teacher to manage effectively.

Professional Personnel

A single teacher cannot cater in a differentiated manner, specifically a larger class size. A teacher will be needing a classroom assistant as designing activities and planning lessons will be challenging for a lone teacher to personalize instruction and give one on one attention to struggling groups of learners (Karademir et al., 2024). Moreover, most of the schools cannot afford two or more professional personnel in a classroom at one time (Mpuangnan, 2024).

Resources

Differentiated instruction calls for a variety of teaching resources to address the differing learning styles. For instance, technology, audio visual aids, manipulatives are essential for the learners who learn in multiple different ways (Chisunum & Nwadiokwu, 2024). Whatever method the teacher employs, a good number of quality resources are required.

Administrative Support

Differentiated instruction is quality education but can be chaotic and difficult at times. Traditional administrators or principals who prefer children on their desks, working quietly may not understand children transiting from one activity to the other, interacting or getting up often (Zhang et al., 2025).

Parental Support

Without parental support differentiated instruction cannot take place. Teachers need to communicate to the parents about the learning style and when and how the child learns best (Wentzel, 2002). If parents cannot comprehend a particular method, they may be unable to help and this may hinder progress.

Teachers' Attitudes

Teacher is the main resource and plays a vital role in a child's learning. Many teachers think that they are unprepared to deal with mixed ability students in the classrooms. There's pressure of assessment, difficulty in covering the syllabus and meet the needs of all students. Teachers are required to be professionally trained to understand the implications of having special education learners in their classrooms (Melesse, 2015). Learners who have Individualised Education Plans (IEPs) are entitled to particular modifications and accommodations (Wong & Rashid, 2022). Teachers must have the right attitude that every learner is important. Learners must develop trust that a teacher is always there for him. A teacher's negative attitude tremendously impacts the behaviour, learning, and the overall success of inclusivity (Kazmi et

al., 2023). To assure that every student feels important, the teacher must value each child despite of their learning style and ability. The teacher needs to work with each child’s level, giving an appropriate level of work, not too easy or not too hard (Gheysens et al., 2022).

Theoretical Framework

Constructivist Theory	<ul style="list-style-type: none"> • Active Learning • Prior Knowledge • Learner Centered
Vygotsky’s Sociocultural Theory	<ul style="list-style-type: none"> • Zone of Proximal Development • Scaffolding
Differentiated Instruction	<ul style="list-style-type: none"> • Differentiation by Content • Differentiation by Process • Differentiation by Product • Learning Environment
Flexible Grouping Tiered Activities Scaffolding and Collaboration	

Fig. 1. Differentiated Instruction

Karimi and Nazari (2021) state DI that is best grounded in Constructivist Learning Theory, particularly Vygotsky’s Social Constructivism and the Zone of Proximal Development (ZPD). This theory supports the idea that learning occurs most effectively when instruction is adapted to students’ individual levels of readiness and learning needs. In line with this, Tomlinson and Jarvis (2023) explain differentiated instruction seeks to modify content, process, product, and learning environment to ensure all learners can access and engage with the curriculum at an appropriate level of challenge.

Learner Centred

DI emphasizes that learners actively build knowledge based on prior understanding, promoted by constructivism (Al Abri et al., 2024).

Readiness Based Teaching

The essence of DI is what Vygotsky’s ZPD highlights the importance of teaching within each student’s readiness level (Shafiei Rezvani Nejad, 2024).

Scaffolding

Teachers provide varying levels of support, gradually releasing responsibility - a direct link to differentiation (Lindner et al., 2021).

Cooperative Learning

Constructivism and DI both support the value of peer collaboration, social learning and debate (Saleem et al., 2021).

Flexible Teaching Strategies

Constructivism believes in customized adaptable instruction for learners including, assessments, materials and adjustable tasks in connection with DI norms (Schwartz, 2025).

METHODOLOGY

To explore elementary teachers’ perspectives with Differentiated Instruction, the research adopted qualitative phenomenological research design. Practical application of Differentiated Instruction

in Elementary grades was the phenomenon under research. An in-depth exploration of teachers' experiences, decision-making related to instructional practices and situational challenges associated with Differentiated Instruction is carried out by phenomenological design. By taking teachers' perspectives into account, this study included rich, valuable learnings into how differentiated instruction is recognized and implemented in natural classroom settings.

Participants were selected using a purposive sampling strategy who have information and direct involvement with Differentiated Instruction. Insights were taken by 8 elementary private school teachers of Karachi, Pakistan according to their ability and relevance to share information into differentiated instructional practices. Respondents were currently teaching at Elementary grade levels (1-8) and had a minimum of two years of teaching experience. They were willing to share their perspectives. Participants who had less than two years of teaching experience and those who were at administrative positions or non-teaching staff were not included.

Data Collection Tool

In depth interviews, having semi-structured questions, were conducted to explore teachers' understanding, perspectives, instructional practices and challenges with differentiated instruction. Furthermore, classroom observations were conducted to obtain insights into teachers' experiences and situational factors influencing differentiation. The data derived from interviews were analysed through a process of coding and categorizing the responses. A table was employed to organize the interview questions, responses, coding and emerging themes. Through this procedure four key themes became evident. To ensure truthfulness, rigor, reliability and validity expert opinions were taken into consideration amid coding and theme generation. This allowed the veracity of interpretations complimenting the credibility of the results, thus providing a holistic view on the findings.

Ethical Considerations

All teachers were taken into confidence, well informed about the objectives of the study. Their responses were kept anonymous, voluntary participation and willingness and confidentiality was respected. Informed consent was taken safeguarding teachers' rights, confidentiality and privacy in advance of data collection. To maintain ethical integrity, and validity of the study expert opinions were also pursued.

RESULTS AND FINDINGS

This section incorporates the interpretation of data collection through interview protocol conducted with 8 elementary school teachers who have two or more years of teaching experience of two private schools in Karachi. The selection of teachers was based on diverse backgrounds. The teachers who were accustomed with the research's main objective and had an insight into Differentiated Instruction were chosen. The main purpose of data analysis is to recognize patterns, themes, and key insights in connection with our research questions and objectives. Coding and systematic categories to recognized emerging themes a qualitative method was employed. To compliment the research questions the aim of the analysis is to give rich understanding of experiences and perceptions about differentiation in classrooms.

Thematic Analysis

Thematic analysis was utilized to analyse this qualitative data. Teachers' perspectives on differentiated instruction were reflected through reviewing transcripts, coding the data to recognize recurring themes and patterns, and organizing codes into broader themes. This study appears to be contributing a substantial insight of teachers' experiences and perspectives on differentiated instruction in Karachi, using qualitative approach to probe the subtleties of their experiences. The main purpose of the research is to furnish valuable insights to the educational domain by incorporating a comprehensive approach to data collection.

- Differentiated Instruction

- Inclusive and assistive learning approaches
- Leveraging Technology for Customized Learning Pathways
- Challenges in Differentiated Instruction

All the themes are analysed below with participants' quotes.

Theme 1: Differentiated Instruction

Teacher 1 explained,

Differentiated Instruction is catering to different learning needs, tailoring instruction according to different learning styles.

Another teacher responded,

We need to give multiple avenues to learners as one size fits all approach is outdated.

These quotes highlight that differentiated instruction is about catering to the needs of the learners according to their learning styles, readiness level, capability, and interest levels. One size fits all approach is traditional and doesn't work for diverse learners. We need to give options that promote engagement, leads to inclusivity, and provide equitable opportunities for learners. It's a continuous process.

Theme 2: Inclusive and assistive learning approaches

Teacher 4 exclaimed,

To challenge and support children, I group the students according to their strengths and weaknesses, and use different instructional strategies, formative assessments for challenging and including all students.

Teacher 5 narrated,

We had a child who was visually impaired, we used to zoom in everything for him and used audio books, printed content on A3 sheets and scaffold tasks.

The essence of inclusivity is stressed through learning support interventions which are fundamental for differentiation. Students are grouped according to their readiness, interest level and ability allowing flexible grouping leading to peer collaboration. This reflects the theme of continuous on-going assessments which includes observations, quizzes, and regular follow-ups to regulate performance and tailor instructional practices. For ensuring all the learners remain challenged tiered activities are conducted that enable students to pursue a common learning goal through differentiated tasks. Teachers employ scaffolding; transforming tasks into simpler steps (going from concrete to abstract) facilitating with guided questions, sentence starters, gradually moving to independent learning as students strengthen their confidence. It reinforces the importance of adaptive learning materials that allow equitable learning opportunities and access to the curriculum, also emphasising teachers' participatory attitude. Despite of learning and physical challenges these strategies emphasize the practical application of differentiated instruction allowing meaningful interaction.

Theme 3: Leveraging Technology for Customized Learning Pathways

Teacher 2 stated,

I use an online reading app which focuses on digital books according to the level and literacy resources to augment reading, comprehension and assessment for students.

The role of technology in facilitating decision making regarding instructional practices is lamented through this quote. Data supported strategy to differentiation through an online reading application which includes literacy assistance, levelled digital books, reading comprehension exercises and where learners are provided with resources that are according to their assessed reading levels. Teachers can

efficiently monitor progress through the digital levelled texts and tailor their reading materials to improve comprehension. This statement also pinpoints how technology plays a significant role in collaborative reflective planning by empowering teachers with accessible resources to customise teaching while regulating performance through integrated digital functions.

Theme 4: Challenges in Differentiated Instruction

Teacher 6 responded,

The role of parents is crucial in implementation of Differentiated Instruction.

Teacher 5 explained,

Assistance from school leadership plays an important role as there are a lot of challenges like large class size, limited resources, access to assistive materials and time constraints.

These quotes notify key institutional challenges to differentiated instruction. For implementation of differentiation, parents' involvement and understanding is important. Parents need to be aware of their child's learning style, needs, strengths and weaknesses. If parents show reluctance in cooperating with the teacher, learning becomes difficult. Implementation of personalized instruction also becomes detrimental due to large class size and limited resources. For providing assistive learning help and scaffolding access to assistive materials is crucial. Subsequently, leadership guidance offers support and sustained learning. There's a need for investing in assistive learning resources and teaching aids followed with enhanced leadership support in differentiation. Teacher's confidence and self-efficacy are hindered due to these challenges. Insufficient professional resources and teaching aids signal a need for enhanced investment in assistive learning tools and leadership facilitation in improved differentiation.

Discussion

According to Gheysens et al. (2022) the essence of Differentiated instruction is in personalized and customized instruction that meets the needs of diverse learners determined by their readiness and interest levels. Moreover, it deals with content, product, process and learning environment (Tomlinson & Imbeau, 2023). Teachers in this research shared time constraints and uncertainty about planning differentiated tasks in advance, given limited resources and large class sizes. This shows a gap between theoretical insights and practical application, consistent with previous studies by Maia and Freire (2025) who stated that teachers are aware of the importance of differentiation but encounter challenges in its implementation. DI facilitates multiple learning avenues, with provision of accessible resources, assistive tools, technology enhanced personalization promoting equitable opportunities for learners (Ayeni et al. 2024). Additionally, for maintaining and monitoring students based on their skills, abilities, interest and readiness levels flexible grouping is practiced (Dhakal, 2025). This promotes efficiency in implementing differentiated instruction allowing peer collaboration, goal-oriented learning and enhanced engagement. Moreover, as argued by Prastikawati et al. (2024), a valuable reflective strategy of ongoing formative assessment emerged that assist teachers to evaluate learners' strengths and weaknesses, their abilities and readiness levels and tailor their instructional practices cooperatively. While prior findings have suggested that tiered activities complimented with assessments promote teachers to conduct distinct activities according to different levels of learners at the same time to work for a common learning outcome (Sapan & Mede, 2022). The tiered tasks in this research enabled enhanced engagement promoting more meaningful responses and improved scaffolding to acknowledge individual differences.

Furthermore, technology substantially influence in promoting DI in teaching and learning. As noted by Navas-Bonilla et al. (2025) enhanced participation and creating multiple learning avenues is possible with the use of audio-visual aids, online reading and literacy apps that allow levelled digital books. However, as stated by Irmayani and Mahabbati (2025) assessment-guided differentiation is affected by recurring challenges like large class size, time constraints and limited access to resources. In addition, leadership support was recognized as a critical enabler of DI. The persistent hurdle in implementing differentiated instruction is limited leadership support and reduced parental engagement (Whitley et al., 2021). Well-

Informed parents are equipped to respond to learning needs and recognize the importance of tiered activities, flexible grouping and varied instructional practices. The present study broadens this literature by pinpointing how time constraints, large class sizes, limited access to assistive tools and technology and low level of leadership support further hinders differentiation in routine classroom practice.

CONCLUSION

Despite of many challenges in Differentiated Instruction application, it holds significant prospect for facilitating diverse learners in elementary classrooms. Persistent challenges were indicated by the results involving large class sizes, limited access to resources, in adequate professional training, inconsistent teacher readiness, and lack of leadership support, all of which contributes to ineffective DI practice. Leadership support in guiding and facilitating teachers in DI implementation holds significant importance. Additionally, conducting on going professional development trainings, collaborative meetings and leadership facilitation is essential to bring theory into practice. Despite of these issues teachers adopt active learning strategies, adjusting instructional practices where possible to meet learners' needs. This study contributes rich insights into classroom practices and emphasizes the crucial role of organizational support systems that allow teachers to be inclusive and offer equitable learning opportunities

Recommendations

- Professional development programs focusing on collaboration, planning time and practical differentiation instructional practices is suggested.
- Managing institutional issues and challenges by giving access to adaptive tools and teaching resources
- Assessing flexible grouping methods to overcome structural issues including large class sizes
- Creating an environment of reflective practice, allowing teachers to observe each other's classes and involve in reflective dialogue both formal and informal to adapt teaching strategies for effective DI implementation
- Design and develop simple easy to use differentiation resources according to diverse elementary classrooms to foster consistent implementation
- Maintain cordial relationship with parents and keep them informed about their child's progress and recognizing differentiation goals and encouraging learner diversity
- Mixed method or quantitative methods should be utilized to have a more comprehensive analysis of Differentiated Instruction in education

Limitations

- Limited generalizability of findings due to the sample as it may not include all teachers
- Potential bias may be present, as interpretation focuses on personal perspective notwithstanding of the measures ensuring accuracy
- Strong engagement with participant teachers and prolonged class observations impacted by time constraints
- Alignment of Differentiation to student learning outcomes was limited as the study excluded students' perspectives or leadership standpoints
- Differences between schools made it difficult to compare instructional practices consistently because of school policies and available resources

Competing Interest

The authors declare no conflict of interest.

Authors' Biography

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