


Examining Grade 6 Teachers' Knowledge and Understanding of Differentiated Instruction in O.R. Tambo Inland District in South Africa



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ABSTRACT

It is essential to ensure differentiation in curriculum delivery to give all learners access to learning while also meeting the diversity of learner needs in the classroom in line with the Republic of South Africa's inclusive education policy. This mixed methods study sought to examine grade 6 teachers' knowledge and understanding of differentiated instruction to respond to the diverse needs of learners in OR Tambo Education District in the Eastern Cape. Data was collected from three randomly selected primary schools using interviews, questionnaires, and classroom observation tools. Four grade 6 teachers for mathematics and reading-to-learn were selected from each school (N 12). Key findings revealed that teachers lacked knowledge and understanding of differentiated instruction, and how it should be implemented in the classroom. This implies that all teachers should be trained or in-serviced (during and after training respectively) on how to respond to learners' diverse needs during teaching and learning. This study contributes to knowledge in the field of inclusive education. The results of this study may influence universities to design teacher education programmes, methods, and/or interventions, which will enhance responses to learner diversity through differentiated instruction. This study could help researchers uncover the critical areas of differentiated instruction, its importance and its application in the classroom, its benefits for teachers and learners, and its impact on student learning.

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INTRODUCTION

Every person is born with unique qualities that make them who they are. This implies that learners come to the classroom with different perspectives, ideas, orientations, opinions, and information-processing techniques.¹ It is for this reason that Kamarulzaman, Azman, and Zahidi, perceive learner diversity as inherent in education.² Rasheed and Wahid elucidate that even though learners in the same class might be of the same age, race, and gender, they still have many differences in their approach toward studies, for example, their learning ability levels, learning styles, preferences, and interests, as well as the pace at

¹ Mohd Hasrul Kamarulzaman, Hazita Azman, and Azizah Mohd Zahidi, "Research Trend in the Practice of Differentiated Instruction," *The Journal of Social Sciences Research* 4, no. 12 (2018): 648–68.

² Kamarulzaman, Azman, and Zahidi, "Research Trend in the Practice of Differentiated Instruction."

which they learn.³ As a result, Onyishi and Sefotho recommend that teachers prepare lessons that are appropriate for their learners, get them ready for the nationally standardised curriculum, and make sure the lesson is both educational and engaging for all learners.⁴ Teachers must acknowledge, understand, and adapt to the diverse requirements of learners to use instructional practices that will best serve each student. For teachers to better prepare lessons that meet the diverse needs of learners, they need to have a clear understanding of differentiated instruction. There is, however, limited literature on teachers' understanding of differentiated instruction and its practice in ensuring no child is left behind. Teachers have limited knowledge of differentiated instruction procedures which is attributed to inadequacies of professional development and pre-service training which usually does not include detailed instruction on how to differentiate instruction.⁵ In South Africa, several attempts have been made to ensure that no child is left behind. The White Paper 6 was enacted to ensure equality, non-discrimination, and maximum participation by all learners in the education system.⁶

The South African Department of Basic Education (DBE) developed the Curriculum and Assessment Policy Statement (CAPS) as part of the transformation to ensure that all learners, irrespective of their abilities, could acquire knowledge and skills in a meaningful way.⁷ CAPS is rooted in the principles of human rights, social justice, and inclusivity, which leaves teachers and schools with no excuse not to differentiate the instruction to address the various learning needs of all learners in school.⁸ CAPS suggests that this can only happen if all teachers have a sound understanding of how to recognise and address barriers to learning, and how to plan for diversity.⁹ It is further suggested in CAPS that the best way to manage inclusivity is to first ensure that teachers know their learners and can identify their diverse needs and barriers to learning. Wium and Louw are concerned that even though various policy documents have been developed, responding to the diverse needs of learners has not yet been fully accepted or implemented in South Africa.¹⁰ This paper therefore explores the Grade 6 teachers' understanding and implementation of differentiated instruction as pedagogical practice, and the main research question was "What do teachers understand by 'differentiation instruction?'" The findings are presented in subsequent sections.

LITERATURE REVIEW

Conceptual understanding of differentiated instruction

The DBE defines differentiation as a strategy for responding to the diverse needs of learners by adapting and modifying teaching methods, assessment strategies, and curriculum content in response to the ability levels of learners, their interests, and backgrounds.¹¹ Mavidou and Kakana, and Abodey and Ansah envision differentiated instruction as the best approach that helps individual learners access the curriculum and get the opportunity to learn and succeed.¹² They compare differentiated instruction with traditional methods of teaching and agree that one size fits all, which is a traditional model of instruction could lead to learning achievement, but not for all learners; some learners who do not fit into the approach are left out, as they will not be actively involved in the lesson.

³ Fareeha Rasheed and Abdul Wahid, "The Theory of Differentiated Instruction and Its Applicability: An e-Learning Perspective," *VSRD International Journal of Technical & Non-Technical Research* 9, no. 4 (2018): 2216–2319.

⁴ Charity Neejide Onyishi and Maximus Monaheng Sefotho, "Teachers' Perspectives on the Use of Differentiated Instruction in Inclusive Classrooms: Implication for Teacher Education.," *International Journal of Higher Education* 9, no. 6 (2020): 136–50.

⁵ Visal Moosa and Mariyam Shareefa, "The Impact of Teachers' Experience and Qualification on Efficacy, Knowledge and Implementation of Differentiated Instruction," 2019.

⁶ White Paper 6, *Special Needs Education and Training Systems* (Pretoria: Department of Education, 2001).

⁷ Department of Education, *National Curriculum Statement (Grade R–12): Guidelines for Responding to Learner Diversity in the Classroom* (Pretoria: Government Printers, 2016).

⁸ Department of Education, *National Curriculum Statement (Grade R–12): Guidelines for Responding to Learner Diversity in the Classroom*.

⁹ Raesetja Gloria Ledwaba, "Teacher Training Guidelines for Curriculum Differentiation in a Foundation Phase Programme" (University of Pretoria (South Africa), 2017).

¹⁰ Anna-Marie Wium and Brenda Louw, "The South African National School Curriculum: Implications for Collaboration between Teachers and Speech-Language Therapists Working in Schools.," *South African Journal of Childhood Education* 5, no. 1 (2015): 19–41.

¹¹ Department of Basic Education, *National Curriculum Statement (NCS): Curriculum and Assessment Policy Statement (CAPS)* (Pretoria: Department of Education, 2011).

¹² Anastasia Mavidou and Domna Kakana, "Differentiated Instruction in Practice: Curriculum Adjustments in Kindergarten," *Creative Education* 10, no. 3 (2019): 535–54; E Abodey and J A Ansah, "Differentiated Curriculum: The Perspectives of the Special Educationist," *Research on Humanities and Social Sciences* 7, no. 21 (2017): 38–45.

Literature reveals that the effective implementation of differentiated instruction (DI) requires trained teachers. When creating lessons, the teachers will be able to embrace variety rather than view it as a challenge and will be able to adapt their teaching philosophies. In a study conducted in Asia by Shareefa et al., it was indicated that “teachers claim that they need to spend long hours planning, organising, and scheduling individuals and groups in a large class setting when responding to the diverse needs of learners”.¹³ Abodey and Ansah, however, believe that if differentiated instruction is implemented well, it can help the teacher spend time efficiently and reach a wide variety of learners, which means less work and less time taken.¹⁴ Consequently, Onyishi and Sefotho in a study conducted in Nigeria, Shareefa et al. in a study conducted in Asia, Ismajli and Imami-Morina in Kosovo (Europe), Aldossari in Saudi Arabia, Ledwaba in South Africa, Lunsford in USA and Adebayo and Shumba in Nigeria indicated a dire need for support to teachers in response to the learners’ needs.¹⁵

Given this, Tomlinson, developed the model of differentiated instruction, which guided this study and provided a framework for how to respond to the diverse needs of learners.¹⁶ The components of differentiation and the variables affecting differentiated education are derived from the framework as follows:

The key elements of differentiated instruction

Tomlinson’s model guides teachers in differentiating their lessons based on content, process, and product.¹⁷ These are discussed below.

a. Differentiating content (what learners need to know and be able to do)

Magableh and Abdulah define content as knowledge and understanding of concepts, together with skills and values that teachers want learners to learn.¹⁸ In the CAPS document, the DBE describes content as what (teachers) teach and what learners are expected to master and be able to do.¹⁹ Furthermore, when differentiating content, teachers teach at varied levels from simple to complex and from concrete to abstract to reach all the learners’ ability levels.²⁰ Teachers can differentiate what they want learners to know and be able to do based on the learners’ background knowledge and how easily they learn new facts and concepts.²¹ The DBE warns that differentiating content should not be viewed as a way of diminishing the curriculum but as a process where different routes are used so that all learners achieve the desired outcomes.²²

b. Differentiating process (how learners learn the content)

Differentiating the process involves teachers’ planning for how learners will learn the content and how they will teach and help learners access the curriculum without any difficulty.²³ In this case, activities are

¹³ Mariyam Shareefa et al., “Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers,” in *3rd International Conference on Special Education (ICSE 2019)* (Atlantis Press, 2019), 44–49.

¹⁴ Abodey and Ansah, “Differentiated Curriculum: The Perspectives of the Special Educationist.”

¹⁵ Onyishi and Sefotho, “Teachers’ Perspectives on the Use of Differentiated Instruction in Inclusive Classrooms: Implication for Teacher Education.”; Shareefa et al., “Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers”; Hatixhe Ismajli and Iirjana Imami-Morina, “Differentiated Instruction: Understanding and Applying Interactive Strategies to Meet the Needs of All the Students.” *International Journal of Instruction* 11, no. 3 (2018): 207–18; Ali Tared Aldossari, “The Challenges of Using the Differentiated Instruction Strategy: A Case Study in the General Education Stages in Saudi Arabia.” *International Education Studies* 11, no. 4 (2018): 74–83; Ledwaba, “Teacher Training Guidelines for Curriculum Differentiation in a Foundation Phase Programme”; Kristin Joy Lunsford, “Challenges to Implementing Differentiated Instruction in Middle School Classrooms with Mixed Skill Levels,” 2017; Takunda Shumba, “Mnangagwa Appoints Queen B as One of His Advisors...Full List,” ZWNEWS, 2019.

¹⁶ Carol Ann Tomlinson, “Mapping a Route toward Differentiated Instruction,” *Educational Leadership* 57 (1999): 12–17.

¹⁷ Tomlinson, “Mapping a Route toward Differentiated Instruction.”

¹⁸ Ibrahim Suleiman Ibrahim Magableh and Amelia Abdullah, “The Effectiveness of Differentiated Instruction by Streaming: A Preliminary Study of Current Practices in the UAE,” *International Journal of Learning, Teaching and Educational Research* 19, no. 6 (2020): 95–110.

¹⁹ Department of Basic Education, *National Curriculum Statement (NCS): Curriculum and Assessment Policy Statement (CAPS)*.

²⁰ Abodey and Ansah, “Differentiated Curriculum: The Perspectives of the Special Educationist”; Department of Basic Education, *National Curriculum Statement (NCS): Curriculum and Assessment Policy Statement (CAPS)*.

²¹ Awoniyi Samuel Adebayo and Christine Banda Shumba, “An Assessment Of The Implementation Of Differentiated Instruction In Primary Schools, Kabwe Ditric, Zambia,” *European Scientific Journal* 10, no. 7 (2014).

²² Department of Basic Education, *National Curriculum Statement (NCS): Curriculum and Assessment Policy Statement (CAPS)*.

²³ Onyishi and Sefotho, “Teachers’ Perspectives on the Use of Differentiated Instruction in Inclusive Classrooms: Implication for Teacher Education.”

adapted to suit the needs of learners, and resources are organised to cater for diverse needs.²⁴ Abodey and Ansah state that when teachers differentiate the process, they use a combination of teaching strategies, flexible grouping, personalised teaching, and learner-to-learner interaction.²⁵

The strategies that teachers can use to differentiate the process include tiering activities, which entails providing instruction at varied levels of specificity, varying the pace at which learners work, offering multiple options of expression, giving students alternative topics on which to focus, and creating activities that suit learners' learning styles.²⁶

c. Differentiating product (how learners show their understanding of the content)

Ramsook proposes that products are closing assessments that allow learners to demonstrate their knowledge and understanding of the content and how well they can apply it.²⁷ It is further explained that to effectively differentiate products, learners should be offered opportunities to present their knowledge and understanding in multiple ways. In the same vein, teachers must use different approaches to assess the learners' mastery of the curriculum and to demonstrate acquired knowledge after an extended period of learning.²⁸

Reis and Renzulli argue that assessment of/for learning and assessment as learning should be used as a teaching tool rather than a measure of instruction.²⁹ Lee, Mak, and Yuan make a clear distinction between assessment of/for and learning as follows: Assessment of learning involves giving learners work at the end of the teaching and learning process to measure the learners' mastery of the content.³⁰ Assessment for learning, on the other hand, involves continuously assessing learners throughout the learning process and adjusting the instructional strategy based on the learners' needs. Assessment as learning involves giving learners lesson objectives so that they become aware of the expectations and work towards achieving those objectives.

Factors that influence differentiated instruction

*As depicted in the model, teachers' understanding of learners' readiness levels, interests and learning profiles is of the utmost importance.*³¹ *Rasheed and Wahid define readiness as the learner's readiness for conceptual understanding of a new topic.*³²

The second factor that influences differentiation is interest. Tomlinson explains that interest refers to all those aspects that raise the attention, curiosity, and involvement of a learner.³³ Rasheed and Wahid and Tomlinson regard the third factor (learning profile) as consisting of learning style, thinking style and affective state. These concepts are unpacked below.³⁴

a. Learning style

İlçin et al. define learning style as the learners' preferred way of processing information presented by the teacher for them to learn effectively.³⁵ Their study revealed that certain learning styles may be an effective way to increase the academic performance of learners. İlçin et al. and Awla agree that teaching strategies

²⁴ Joseph Renzulli and Sally M Reis, *Reflections on Gifted Education: Critical Works by Joseph S. Renzulli and Colleagues* (Routledge, 2021); Ruben Gentry, April P Sallie, and Carrie A Sanders, "Differentiated Instructional Strategies to Accommodate Students with Varying Needs and Learning Styles," *Online Submission*, 2013.

²⁵ Abodey and Ansah, "Differentiated Curriculum: The Perspectives of the Special Educationist."

²⁶ Abodey and Ansah, "Differentiated Curriculum: The Perspectives of the Special Educationist."

²⁷ Leela Ramsook, "Cooperative Learning as a Constructivist Strategy in Tertiary Education," *International Journal of Education and Research* 6, no. 1 (2018): 149–60.

²⁸ Abodey and Ansah, "Differentiated Curriculum: The Perspectives of the Special Educationist."

²⁹ Renzulli and Reis, *Reflections on Gifted Education: Critical Works by Joseph S. Renzulli and Colleagues*.

³⁰ Icy Lee, Pauline Mak, and Rui Eric Yuan, "Assessment as Learning in Primary Writing Classrooms: An Exploratory Study," *Studies in Educational Evaluation* 62 (2019): 72–81.

³¹ Tomlinson, "Mapping a Route toward Differentiated Instruction."

³² Rasheed and Wahid, "The Theory of Differentiated Instruction and Its Applicability: An e-Learning Perspective."

³³ Carol Ann Tomlinson, *The Differentiated Classroom: Responding to the Needs of All Learners* (Ascd, 2014).

³⁴ Rasheed and Wahid, "The Theory of Differentiated Instruction and Its Applicability: An e-Learning Perspective"; Tomlinson, *The Differentiated Classroom: Responding to the Needs of All Learners*.

³⁵ Nursen İlçin et al., "The Relationship between Learning Styles and Academic Performance in TURKISH Physiotherapy Students," *BMC Medical Education* 18 (2018): 1–8.

need to be consistent with the unique characteristics of the learners' learning styles; hence, teachers need to modify their teaching style to respond to the learners' needs.³⁶

b. Thinking style

Fatemi and Heidarie investigated the relationship between thinking styles and the academic achievement of students.³⁷ Fatemi and Heidarie define thinking styles as preferred methods that people use to process information.³⁸ Fatemi and Heidarie, in their study conducted in Iran, discovered a positive connection between thinking styles and academic achievement.³⁹ The authors thus urge teachers to pay particular attention to learners' diverse needs such as thinking and learning styles.

c. Affective state

Frasso views an 'affect' as the underlying state such as feeling, emotions, or mood that is caused by unconscious experiences.⁴⁰ The results of the study conducted by Grawemeyer et al. suggested that affect-awareness support has the potential to reduce the boredom that brings about a lack of concentration, which may have a negative impact on learning.⁴¹ This implies that teachers need to be aware of learners' affect and try to reduce its impact.

Teachers' Understanding of Differentiated Instruction

Research shows solid evidence of the positive relationship between teachers' knowledge and the level of implementation of differentiated instruction.⁴² Shareefa et al. conclude that knowledge and understanding of the concept of differentiated instruction with its strategies lead to its effective implementation.⁴³ However, the results of their study revealed that mainstream teachers lacked knowledge and understanding of differentiated instruction. Teachers do not take cognisance of the fact that learners are different and, therefore, they learn in different ways. Consequently, Shareefa et al. recommend continuous professional development, teacher training and support demonstrations, workshops, and action research.⁴⁴

Moosa and Shareefa opine that educators will embrace differentiated instruction and use it effectively to respond to learner diversity when they have a clear understanding of what it is and what its benefits are and are given the necessary support and training to develop the skills to accomplish what is required of them.⁴⁵ Ledwaba reveals that even though teachers lack knowledge of what differentiated instruction stands for, they unintentionally differentiate some aspects of instruction.⁴⁶ The researchers are of the view that differentiated instruction cannot be left to accidental occurrence but must be deliberate and structured, hence the significance of this study which sought to reveal the significance of differentiated instruction in multi-ability classrooms. Furthermore, Ledwaba warns that if teachers unintentionally differentiate instruction, it means that they do not understand it.⁴⁷ These findings imply that there are important facts that have to be addressed, for example, the signs of lacking adequate knowledge and misconceptions about what differentiated instruction is indicate a greater need for more training and knowledge delivery for teachers.

³⁶ İlçin et al., "The Relationship between Learning Styles and Academic Performance in TURKISH Physiotherapy Students"; Hawkar Akram Awla, "Learning Styles and Their Relation to Teaching Styles," *International Journal of Language and Linguistics* 2, no. 3 (2014): 241–45.

³⁷ Mojgan Fatemi and Alireza Heidarie, "Relationship between Thinking Styles and Academic Achievement of the Students," *International Journal of Humanities and Social Science*. 2 (4), 1353 1361 (2016).

³⁸ Fatemi and Heidarie, "Relationship between Thinking Styles and Academic Achievement of the Students."

³⁹ Fatemi and Heidarie, "Relationship between Thinking Styles and Academic Achievement of the Students."

⁴⁰ Giuseppe Frasso, "Umanesimo e Rinascimento Di Carlo Dionisotti," *Umanesimo e Rinascimento Di Carlo Dionisotti*, 2010, 29–46.

⁴¹ Beate Grawemeyer et al., "Affective Learning: Improving Engagement and Enhancing Learning with Affect-Aware Feedback," *User Modeling and User-Adapted Interaction* 27 (2017): 119–58.

⁴² Moosa and Shareefa, "The Impact of Teachers' Experience and Qualification on Efficacy, Knowledge and Implementation of Differentiated Instruction"; Kevin Brentnall, *Believing Everyone Can Learn: Differentiating Instruction in Mixed Ability Classrooms* (College of Saint Elizabeth, 2016).

⁴³ Shareefa et al., "Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers."

⁴⁴ Shareefa et al., "Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers."

⁴⁵ Moosa and Shareefa, "The Impact of Teachers' Experience and Qualification on Efficacy, Knowledge and Implementation of Differentiated Instruction."

⁴⁶ Ledwaba, "Teacher Training Guidelines for Curriculum Differentiation in a Foundation Phase Programme."

⁴⁷ Ledwaba, "Teacher Training Guidelines for Curriculum Differentiation in a Foundation Phase Programme."

In a study by Moosa and Shareefa, it was revealed that teachers' experience and qualifications do not significantly indicate their understanding and ability to implement differentiated instruction.⁴⁸ The consulted literature indicates that there is a strong relationship between teachers' knowledge of differentiated instruction and its implementation.⁴⁹ Literature also indicates that effective implementation is hampered by a lack of proper training.⁵⁰ Researchers such as Ledwaba and Dalton et al. share the same sentiments that South African teachers seem to have challenges in understanding and ability to implement differentiated instruction.⁵¹ Consequently, there is a dire need for training and support to learn new skills that will enable teachers to respond to learners' diverse learning needs in the classroom through differentiated instruction.⁵²

Learner-centred Teaching Strategies for DI in Multi-ability Contexts

Darsih defines learner-centred teaching strategies as the method that does not use a single method but a variety of different teaching methods that involve learners more and shift the role of the teacher to that of a facilitator.⁵³ The findings by Du Plessis revealed that there is a limited understanding of learner-centred teaching among student teachers and serious challenges relating to learner-centred teaching.⁵⁴ To fight this, Du Plessis suggests intensive support by lecturers and student mentors.⁵⁵ Learner-centred teaching prioritises the learning abilities, learners' interests and learning styles, as all learners differ from each other.⁵⁶ Renzulli and Reis, Hu and Tomlinson presented several differentiated instruction strategies that teachers can use to create unique characteristics of differentiated classrooms.⁵⁷ (1) Ongoing assessment, whether oral or written, for teachers to know at which level learners are and not take it for granted that they will not know because of their performance in other topics. (2) Flexible grouping has to be used unswervingly and has to be changed from time to time. Sometimes learners are grouped according to their interests and readiness, and they can work in pairs or individually. (3) The teacher acts as a facilitator helping learners to be explorers, guiding them to be responsible for their learning by fostering independence. (4) Compacting is a differentiation strategy where teachers credit learners for what they already know and adjust activities with higher-order questions for those learners. (5) Tiered lessons where teachers differentiate by providing instruction at varied levels of specificity, varying the pace at which learners work and offering multiple options of expression, giving students alternative topics on which to focus, and creating activities that suit learners' learning styles.⁵⁸

School Environment and Resources as Constraints for Implementing DI

Studies by Aldossari, have revealed that there are several challenges that constrain teachers' use of differentiated strategies during the teaching and learning process.⁵⁹ These challenges include high student-teacher ratios in classrooms, lack of availability of educational equipment and instruments, classroom

⁴⁸ Moosa and Shareefa, "The Impact of Teachers' Experience and Qualification on Efficacy, Knowledge and Implementation of Differentiated Instruction."

⁴⁹ Moosa and Shareefa, "The Impact of Teachers' Experience and Qualification on Efficacy, Knowledge and Implementation of Differentiated Instruction"; Brentnall, *Believing Everyone Can Learn: Differentiating Instruction in Mixed Ability Classrooms*.

⁵⁰ Shareefa et al., "Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers"; Cecile Martine Nedellec, "Teachers' Understanding of Differentiated Instruction in Swiss Elementary Schools" (Capella University, 2015).

⁵¹ Ledwaba, "Teacher Training Guidelines for Curriculum Differentiation in a Foundation Phase Programme"; Elizabeth M Dalton, Judith Anne Mckenzie, and Callista Kahonde, "The Implementation of Inclusive Education in South Africa: Reflections Arising from a Workshop for Teachers and Therapists to Introduce Universal Design for Learning," *African Journal of Disability* 1, no. 1 (2012): 1–7.

⁵² Shareefa et al., "Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers."

⁵³ Endang Darsih, "Learner-Centered Teaching: What Makes It Effective," *Indonesian EFL Journal* 4, no. 1 (2018): 33–42.

⁵⁴ Elize Du Plessis, "Student Teachers' Perceptions, Experiences, and Challenges Regarding Learner-Centred Teaching," *South African Journal of Education* 40, no. 1 (2020).

⁵⁵ Du Plessis, "Student Teachers' Perceptions, Experiences, and Challenges Regarding Learner-Centred Teaching."

⁵⁶ Darsih, "Learner-Centered Teaching: What Makes It Effective."

⁵⁷ Renzulli and Reis, *Reflections on Gifted Education: Critical Works by Joseph S. Renzulli and Colleagues*; Weiping Hu et al., "Increasing Students' Scientific Creativity: The 'Learn to Think' Intervention Program," *The Journal of Creative Behavior* 47, no. 1 (2013): 3–21; Carol Ann Tomlinson, "Deciding to Differentiate Instruction in Middle School: One School's Journey," *Gifted Child Quarterly* 39, no. 2 (1995): 77–87.

⁵⁸ Abodey and Ansah, "Differentiated Curriculum: The Perspectives of the Special Educationist."

⁵⁹ Aldossari, "The Challenges of Using the Differentiated Instruction Strategy: A Case Study in the General Education Stages in Saudi Arabia."

layouts not being suitable for differentiated instruction, and the amount of planning time and effort that is required for effective differentiation according to interest, readiness, and ability.

One of the factors that constrain the teachers' ability to implement DI has been cited as the lack of in-service training in the schools. Dixon et al alluded that targeted professional development training on DI has the advantage of improving teacher self-efficacy regarding the approach to teaching.⁶⁰ This improves the chances of teachers practising DI in their lessons. It is prudent that teachers should through in-service training be properly trained on the different techniques of using DI in their classes. In-service training plays a critical role in skilling teachers on the use of DI. Hutchinson opines that at the pre-service level, there should be more instruction on differentiation strategies as it will definitely improve their instruction in inclusive settings.⁶¹

THEORETICAL FRAMEWORK

Differentiation Theory

Washburn developed the differentiation theory "Adjusting the programme to the child".⁶² Washburn encouraged teachers to use relevant teaching approaches to teach learners with different learning abilities and believed that learners need to master subjects on their own terms, as they work at different paces with different amounts of practice they need.⁶³ The differentiation theory evolved over the years into differentiated instruction theory. Tomlinson's Differentiated Instruction Theory is based on the premise that teachers need to purposefully vary the learning content, process, product, or environment in response to learners' readiness, interests and learning profiles.⁶⁴ The goal of differentiated learning theory is therefore to ensure that the curriculum considers the diverse needs of learners for them to comprehend new material (often in the same classroom). This includes developing teaching materials and assessment tools so that all learners in a classroom can learn effectively, regardless of differences in their abilities.⁶⁵ Tomlinson further elucidates that differentiated instruction means giving learners multiple options for taking in information.⁶⁶ Consequently, Tomlinson developed the model that acts as a guide for how differentiation should be implemented, the methods and other techniques used, and this model is used worldwide.⁶⁷ Onyishi and Sefotho agree and explain that learners have a wide range of differences in abilities, interests and development and that teachers should work on how best they can accommodate and build on students' diverse learning needs.⁶⁸ Mavidou and Kakana argue that one-size-fits-all teaching approaches are destined to fail in classrooms today.⁶⁹ These authors are in favour of differentiated instruction because it respects the different learning styles, individuals' learning paces and interests, and provides a teaching and learning environment that responds to those diverse needs and makes sure that no child is left behind.

In view of the above theory and perspectives, learners need support in different ways, as they have different learning approaches that call for differentiated instruction. These learners learn better when the teacher actively involves and engages them as a facilitator rather than dominates the lesson. The one-size-fits-all approach does not work, as learners have diverse learning needs, so differentiated instruction works well in responding to these diverse learning needs.

METHODOLOGY

The study used the mixed methods research approach drawn from the pragmatic paradigm. The mixed methods approach was chosen for this study due to its ability to combine both qualitative and quantitative

⁶⁰ Felicia A Dixon et al., "Differentiated Instruction, Professional Development, and Teacher Efficacy," *Journal for the Education of the Gifted* 37, no. 2 (2014): 111–27.

⁶¹ Mary Hutchinson, "Bridging the Gap: Preservice Teachers and Their Knowledge of Working with English Language Learners," *Tesol Journal* 4, no. 1 (2013): 25–54.

⁶² Carleton W Washburne, "Adjusting the Program to the Child," *Educational Leadership* 11, no. 3 (1953): 138–47.

⁶³ Washburne, "Adjusting the Program to the Child."

⁶⁴ Tomlinson, "Mapping a Route toward Differentiated Instruction."

⁶⁵ Tomlinson, "Mapping a Route toward Differentiated Instruction."

⁶⁶ Tomlinson, "Mapping a Route toward Differentiated Instruction."

⁶⁷ Tomlinson, "Mapping a Route toward Differentiated Instruction."

⁶⁸ Onyishi and Sefotho, "Teachers' Perspectives on the Use of Differentiated Instruction in Inclusive Classrooms: Implication for Teacher Education."

⁶⁹ Mavidou and Kakana, "Differentiated Instruction in Practice: Curriculum Adjustments in Kindergarten."

research approaches concurrently. Thus, the reason for mixing quantitative and qualitative research approaches was to utilise the strengths and perfect the weaknesses in both.⁷⁰ The data collection procedure used questionnaires and interviews. These instruments solicited data on teachers' knowledge of differentiated learning methods during teaching and learning. The study used purposive sampling to select the three participating schools out of the 8 Circuit 4 primary schools that are part of the Pearson Marang Education Trust (PMET). They were selected purposively to provide important information that cannot be obtained from other schools that were not participating in the PMET project. Grade 6 was chosen because it is an exit grade in the intermediate phase and more support is needed to produce good learners who will cope well in the senior phase and FET phase.⁷¹

The first step in the analysis of data obtained through semi-structured interviews was to transcribe the interviews, as data reduction requires written data.⁷² To make sure that there are no added or missing data, the transcriptions were crosschecked against the original recordings. Following this crosscheck, the interview data was ready to undergo data reduction, which refers to selecting, simplifying and/or transforming the data.⁷³ Next, the raw data were scored meticulously to locate the relevant data related to the research questions and to detect repeating words or patterns within the data.⁷⁴ From the relevant data, repetitive data were highlighted and labelled using codes. Categorisation of the codes starts with the identification of the characteristics of each code, finding shared similarities and grouping them under umbrella descriptors. The data was then organised into categories and generated themes that enabled the researchers to search and identify patterns. The same sequence was followed for the production themes. The reduced and classified data were then displayed in the form of easily accessible and compact form, which freed the researchers from a bulky and overloaded set of data and ensured that conclusion drawing and verification were possible. The data obtained from questionnaires was analysed using Statistical Package for Social Science (SPSS) version 20 software and presented in the form of tables, graphs and charts. Before the commencement of data analysis, the data were checked for mistakes and errors to avoid the distortion of the statistical analysis of the results.

Finally the quantitative and the qualitative data were integrated using the joint display of both data sets. This enabled an integrated interpretation and triangulation of analysis at the point of presentation and subsequently jointly discussed. Engaging in joint display analysis involves explicitly merging the results from several data sets through a side-by-side comparison to assess for "fit" of the two types of data.⁷⁵ Integrating through joint display analysis provided an advantage because it forced the researcher to think simultaneously about both types of data for related constructs. Doing so led to new insights beyond the information gained from the data gathered separately based on the quantitative and qualitative results.⁷⁶

The following themes emerged Limited understanding of differentiated instruction; Total lack of understanding of differentiated instruction; Inadequate teacher training in differentiated instruction; lack of school-based support for DI and lack of in-service training by the Department of Basic Education.

⁷⁰ M.A. Ragab and A. Arisha, "Research Methodology in Business: A Starter's Guide," *Management and Organizational Studies* 5, no. 1 (2018): 1–14; John W Creswell and Vicki L Plano Clark, *Designing and Conducting Mixed Methods Research* (Sage publications, 2017); Gohar Saleem Parvaiz, Owais Mufti, and Muhammad Wahab, "Pragmatism for Mixed Method Research at Higher Education Level," *Business & Economic Review* 8, no. 2 (2016): 67–79.

⁷¹ DOE, EMIS records, 2019.

⁷² Burcu Leblebici, "Learning through Differentiated Instruction: Action Research in an Academic English Class." (Middle East Technical University, 2020).

⁷³ Leblebici, "Learning through Differentiated Instruction: Action Research in an Academic English Class."

⁷⁴ Philip Adu, *A Step-by-Step Guide to Qualitative Data Coding* (Routledge, 2019).

⁷⁵ Tashane K Haynes-Brown and Michael D Fetters, "Using Joint Display as an Analytic Process: An Illustration Using Bar Graphs Joint Displays from a Mixed Methods Study of How Beliefs Shape Secondary School Teachers' Use of Technology," *International Journal of Qualitative Methods* 20 (2021): 1609406921993286.

⁷⁶ Michael D Fetters, Leslie A Curry, and John W Creswell, "Achieving Integration in Mixed Methods Designs—Principles and Practices," *Health Services Research* 48, no. 6pt2 (2013): 2134–56; Timothy C Guetterman, Michael D Fetters, and John W Creswell, "Integrating Quantitative and Qualitative Results in Health Science Mixed Methods Research through Joint Displays," *The Annals of Family Medicine* 13, no. 6 (2015): 554–61; Laurel Johnson et al., "Challenging the Productivity Mantra: Academic Writing with Spirit in Place," *Higher Education Research & Development* 36, no. 6 (September 19, 2017): 1181–93, <https://doi.org/10.1080/07294360.2017.1300140>.

Data Presentation

A. Teachers' understanding of differentiated instruction

This theme concerns participants' understanding of differentiated instruction, where the researchers asked grade 6 teachers to explain their understanding of the notion of differentiated instruction, including the aspects that must be differentiated to meet the requirements of learners. An analysis of the teachers' responses revealed that teachers had varied levels of knowledge, from those with some understanding of the concept to those who showed a total lack of understanding. No teacher seemed to understand the notion completely. Participants' understanding of what differentiated instruction entails is divided into two categories: those who have limited comprehension and those who have no understanding at all.

Limited understanding of differentiated instruction

Participants were asked to explicate their understanding of differentiated instruction. The analysis revealed that some participants (T1PSA and T2PSB) showed some understanding of differentiated instruction, even though their responses were subjugated by much doubt, especially T1PSA where there were many missing words "pauses", such as "I don't know". In explaining what differentiated instruction is, T1PSA and T2PSB responded as follows:

T1PSA: - *Uhm... Yoh! I think it is the way I do things, maybe in class, the way I plan my lessons. (Pause)... just all the things I do to accommodate learners. In the class, we have learners with different abilities, so I think maybe because I know I have this group and that group of learners ... My lessons should accommodate all of them. Maybe from time to time, I can change to accommodate visual learners; in another one, I accommodate those who like to hear. I don't know, it is something along those lines. How I plan my lessons, how I assess them to help with how they perform in the classroom.*

T2PSB - *I think it is that curriculum that caters for the different abilities of learners. Learners are not the same, some have their challenges. I think it is the curriculum that caters for those learners.*

Total lack of understanding of differentiated instruction

The analysis of the data displayed that most teachers seriously lacked an understanding of differentiated instruction. A lack of understanding translates into a serious lack of implementation of differentiated instruction. Teachers' responses showed that they did not understand the concept at all; for example, "I don't know, I am still thinking" in the statements below demonstrated a serious lack of knowledge of differentiated instruction.

T1PSC - *Uhm, uhm, I am still thinking.*

T2PSC - *No ... Yoh! I don't know what it means.*

It was clear that some teachers were able to deduce the meaning from the context, but when asked follow-up questions, their lack of expertise and understanding was evident. The following examples of responses are representative of the responses given:

T1PSB – *What is differentiated instruction? Uhm differentiation? That means not the same. It's not the same.*

T3PSB – *From the context, I think it means different instructions.*

T4PSB – *Uhm... uhm... I don't know what it means but I think it has something to do with differences in learning*

T3PSC - *To me, I think it has something to do with differentiating things*

T4PSC - *It is about using different teaching methods*

From the above responses, it was apparent that none of the participants above had a good understanding of what curriculum differentiation is. They did not display any understanding of the various aspects of the curriculum to be differentiated, the factors that determine differentiated instruction and all the processes involved in the differentiation of the assessment process.

b. Understanding of differentiated instruction

The participants’ level of understanding of different aspects of differentiated instruction was explored. The table below shows the participants’ levels of understanding of the aspects of differentiated instruction that were explored.

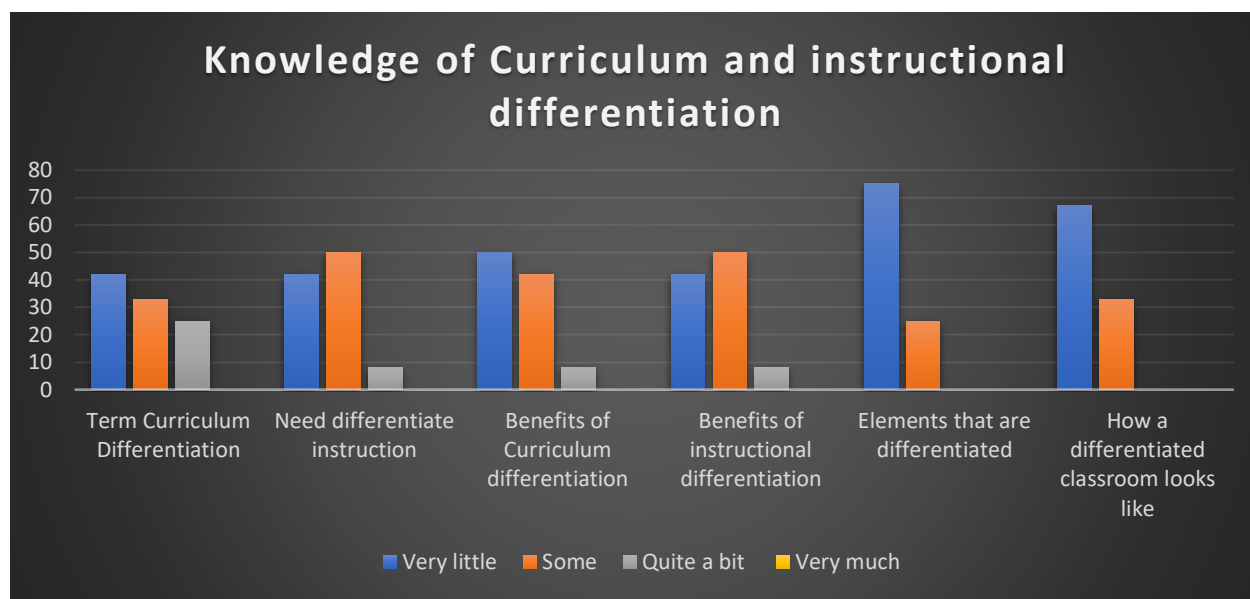


Fig 1: Teachers’ knowledge of the aspects of differentiated instruction

Looking at the table above, it is apparent that most of the respondents’ knowledge of the aspects of differentiated instruction was very limited in all aspects. The data obtained indicated that only a few of the respondents knew quite a bit of all respects of the knowledge of differentiated instruction. From the data, it was also revealed that teachers had some knowledge of the need to differentiate and its benefits. None of the teachers indicated a good understanding of the elements that are differentiated and what a differentiated classroom should look like. Unfortunately, these are crucial aspects for the effective implementation of differentiated instruction in the classroom. The data on the bar graph generally illustrate ineffective implementation of differentiated instruction and a dire need for teachers’ support to effectively implement differentiated instruction. This can only be achieved through ongoing support from the Department of Basic Education. The results indicated a serious lack of knowledge and understanding of all aspects of differentiated instruction. This raised serious concerns about how teachers dealt with learners’ diverse needs when they lacked the skills and strategies to do that.

c. Inadequate teacher training on differentiated instruction

The data showed that while teachers had relevant qualifications to teach in schools and could get accreditation from the South African Council of Education (SACE), in terms of knowledge and understanding of differentiated instruction, the teacher education curriculum had not prepared them for inclusive education.

T3PSC – We were not trained on how to deal with learners’ diverse needs through differentiated instruction at the training institution.

T1PSB - We received training, and much emphasis was on learner involvement, and no differentiated teaching strategies were taught.

T4PSA – No pre-service training on differentiated instruction, it’s the first time for me to come across the term.

T4PSB – We were encouraged to use teaching aids to enhance learning,

TIPSC – No! we did not receive any training on learner diversity

From the responses above, it is evident that teachers were not trained or supported in differentiated instruction. It was also generally clear from the comments that participants were struggling with a lack of knowledge on differentiation. Unfortunately, participants must have a working knowledge and comprehension of differentiated teaching to properly react to the unique requirements of learners. It is expected that teachers graduating from university have the requisite content and pedagogical knowledge obtained during teacher training and their respective universities.

The participants' level of understanding of different aspects of differentiated instruction was explored. It became apparent that most of the respondents' knowledge of the aspects of differentiated instruction was very limited in all aspects. The data obtained indicated that only a few of the respondents knew quite a bit of all respects of the knowledge of differentiated instruction. From the data, it was noticed that teachers had some knowledge of the need to differentiate and its benefits. None of the teachers indicated a good understanding of the elements that are differentiated and what a differentiated classroom should look like. Unfortunately, these are crucial aspects for the effective implementation of differentiated instruction in the classroom. The data generally illustrate ineffective implementation of differentiated instruction and a dire need for teachers' support to effectively implement differentiated instruction. The results indicated a serious lack of knowledge and understanding of all aspects of differentiated instruction. This raised serious concerns about how teachers dealt with learners' diverse needs when they lacked the skills and strategies to do that.

d. Differentiated teaching strategies

Due to the teachers' limited knowledge of DI, it emerged from the data that participants mainly used group work as a differentiated teaching strategy to cater for the diverse needs of learners in the classroom. They acknowledged that this worked well for them, although they also mentioned challenges associated with the grouping of learners. The following are some of the responses to the question:

T2PSA – Maybe I form intentional groups so that learners can learn from each other.

T3PSA – Yeah, I use groups, then, from time to time, I attend to learners individually because sometimes when learners are in groups, some are not active.

T1PSA – I group learners. I prefer to use grouping and peer... peer... what? I mix different ability learners, the one I know performs well and let them work with the struggling one and let them do the activity. Maybe also having one to explain to the others because they are confident enough to explain, so I usually use those three things.

A follow-up question was asked to find out which group techniques teachers used in their classes. The responses were:

T2PSA – We don't group the struggling learners alone, we mix them because if we group them alone, they will never move. We need to mix them with the achieving ones.

This statement revealed that the teacher used mixed-ability grouping, which has the advantage of allowing learners to learn from each other.

T1PSB – It is grouping them according to their needs. Sometimes you find out that some learners need to be placed elsewhere.

This indicated that learners were grouped according to their learning needs. This could also mean that slow learners were grouped on their own, away from the fast learners. From T1PSB's response, it is pleasing to note that she is aware of flexible grouping where she groups learners according to their needs and changes these groups from time to time.

The data revealed that some teachers did not just group learners for the sake of grouping; they were intentional in doing that. However, it was concerning that almost all the participants mentioned grouping learners as the only strategy they used to differentiate instruction. The expectation was to find out how to differentiate the instruction and use various approaches to meet the diverse needs of the learners. Although most participants initially demonstrated limited or a total lack of knowledge and

understanding of what differentiated instruction entailed, the empirical data presented in this theme revealed that teachers unintentionally used differentiated instruction.

T2PSC – I group my learners so that they can work and assist each other.

In addition, cooperative learning and peer tutoring as strategies to differentiate the learning process, participants T1PSC and T3PSC stated that during their teaching, they used the question-and-answer method.

T1PSC – I assess learners and I use different teaching methods like question and answer and telling method.

T3PSC – Teaching strategies that I use ... pause ... uhm questioning and answer.

It is rather worrying that teachers showed reluctance to use concrete resources to assist learners who needed additional support. One of the participants presented this as follows:

T3PSB – Another thing, I must be honest, sometimes you as the teacher, you see the need to use concrete objects. We, however, do not use those concrete objects even though we see that this help even the challenged learners to comprehend. We don't do as expected.

Researcher: Why don't you do 'as expected' if I may ask?

T3PSB: No answer – laughing

When reflecting on the response by T3PSB, it was a concern that teachers sometimes knew what they needed to do to respond to the diverse needs of learners but chose to turn a blind eye. Unfortunately, this affected the struggling learners negatively as they depended on their teachers for support to meet their needs. The use of different methods should be intentional and structured in such a way that they respond to the diverse needs of learners. It emerged from the data that teachers were not aware of the different strategies that can be used in mainstream schooling to differentiate instruction. It could be concluded that effective implementation, knowledge and understanding of differentiated instruction are correlated, as the participants who showed a lack of knowledge were not clear about differentiated teaching strategies they could employ. Mainly group work, and question and answer emerged as differentiated teaching techniques used by teachers. This showed a serious need for development to equip teachers to respond to the diverse needs of learners in the classroom through differentiated instruction.

e. Teacher in-service training and support in dealing with learner diversity

This question sought to gain an understanding of the nature of training that educators had received for dealing with learner diversity from the school management team, subject advisors and peers. Most of the educators had not received any training in this regard at all and for those who had this had been a long time ago. The following examples of responses are representative of the responses given:

T3PSA - It was a long time ago we were trained on how to identify learners with special needs. It was not training on how to deal with them.

T1PSB - ... we do it informally when you just ask your colleague. As for the training from subject advisors – The answer is no.

T4PSB - No training at all, I wouldn't be so blank. Ha ha ha (laughing).

T1PSC - Honestly, we haven't received any training at all concerning learner diversity as a result we don't know what to do.

T4PSC - We only talk as peers about the frustrations we experience in the class, especially about those learners who do not move at all.

It is evident from the data that neither the SMT nor subject advisors provided teachers with any training or support on how to cope with the various requirements of diverse learners in the classroom. The findings demonstrate how much this type of support was needed. It was interesting to find how teachers responded to this much-needed support.

DISCUSSION

Understanding of Differentiated Instruction

The study revealed that 83% of the twelve teachers lacked knowledge and understanding of differentiated instruction. From the results, it was also determined that no differentiated instruction was evident, as teachers did not differentiate content, process, and product. These findings are consistent with the results of the study by Shareefa et al. who revealed that mainstream teachers totally lack knowledge and understanding of curriculum differentiation and differentiated instruction.⁷⁷ Shareefa et al. opine that knowledge and understanding of the concept of curriculum differentiation and its strategies lead to effective implementation during teaching and learning.⁷⁸ Limited understanding of differentiated instruction as revealed by this study could translate into a lack of implementation. This is consistent with the results of Prast et al. who warn that if teachers' knowledge of differentiated instruction strategies is limited, it would be difficult to understand and put into practice.⁷⁹ As a result, some learners would be left behind.

The study further revealed that not all the teachers lacked understanding about differentiated instruction, as 17% of them demonstrated some familiarity with differentiated instruction. These teachers were aware that differentiated education addressed the various learning requirements of students, but they were unable to articulate how it differed from traditional instruction.

Knowledge of Aspects of Differentiated Instruction

The findings indicated that more than 90% of the teachers could not differentiate content, process, and product. These findings seemed to suggest that teachers did not view differentiated instruction as a strategy where different teaching strategies are used and did not see it as an excellent guide towards full learner involvement. Teachers should adapt content (what is taught and how learners access information), process (how it is taught and the engaging activities that are given to learners to master the content), product (the tasks that require learners to rehearse, apply, or extend to show mastery of the topic) and environment (the way the classroom works and feels).⁸⁰ Content, process and product differentiation require guidance, support and leadership of experienced and highly skilled practitioners, who will make sure that the approach is implemented across the curriculum.⁸¹

Aldossari and Abodey and Ansah explain that every learning activity in the curriculum should be composed of four elements: content, process, product and learning environment.⁸² Similarly, Brentnall agrees that there is an overall positive impact of the training on teachers' ability to use differentiated instruction strategies, as teachers' knowledge and implementation thereof are positively related.⁸³ Nedellec reiterates that correct instructional knowledge of differentiated instruction is the biggest reason for teachers to use differentiated instruction regularly and consistently.⁸⁴ However, Moosa and Shareefa found that the biggest cause of inconsistent and irregular use of differentiated teaching strategies is the lack of training in differentiated instruction.⁸⁵

Lack of Training on Differentiated Instruction

This study revealed that teachers were never engaged through in-service training support from either School Management Teams (SMTs) or subject advisers on how to cope with the diverse requirements of learners in the classroom. Therefore, the lack of knowledge and implementation of differentiated instruction can be attributed to the lack of in-service training since both the subject advisors and SMTs must capacitate teachers in the areas of need. This is in accord with Govender's study findings that

⁷⁷ Shareefa et al., "Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers."

⁷⁸ Shareefa et al., "Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers."

⁷⁹ Emilie J Prast et al., "Differentiated Instruction in Primary Mathematics: Effects of Teacher Professional Development on Student Achievement," *Learning and Instruction* 54 (2018): 22–34.

⁸⁰ Abodey and Ansah, "Differentiated Curriculum: The Perspectives of the Special Educationist."

⁸¹ Moosa and Shareefa, "The Impact of Teachers' Experience and Qualification on Efficacy, Knowledge and Implementation of Differentiated Instruction."

⁸² Aldossari, "The Challenges of Using the Differentiated Instruction Strategy: A Case Study in the General Education Stages in Saudi Arabia.," Abodey and Ansah, "Differentiated Curriculum: The Perspectives of the Special Educationist."

⁸³ Brentnall, *Believing Everyone Can Learn: Differentiating Instruction in Mixed Ability Classrooms*.

⁸⁴ Nedellec, "Teachers' Understanding of Differentiated Instruction in Swiss Elementary Schools."

⁸⁵ Shareefa et al., "Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers."

supervision, monitoring, or support from subject advisors, circuit managers, or SMT were not provided.⁸⁶ Govender further opines that schools were unable to supply the necessary assistance. The only school-based activities to support them were phase meetings that focused on administrative aspects of their work and did not provide a platform to integrate curriculum changes into daily classroom practice. A lack of professional development may be associated with a total lack of understanding of differentiated instruction. Consequently, researchers desperately call for focused and continuous professional development, teacher training and support.⁸⁷ In addition, the researchers recommend lesson demonstrations, ongoing mentorship and coaching sessions.

This study also revealed that teaching experience had little bearing on one's understanding of differentiated instruction. Most teachers could not use differentiated instruction to address learner diversity, since there was no significant difference between teachers fresh from training institutions and experienced teachers in terms of their knowledge and understanding of differentiated instruction. These findings are consistent with those of Aldossari's study, which revealed that failure to prepare potential teachers in higher education before service in a way that suits the requirements of differentiated instruction was a significant barrier to differentiated instruction in schools.⁸⁸ Also confirming the above are findings from a study by Asian researchers Moosa and Shareefa, which revealed that pre-service training usually does not include detailed instruction on how to differentiate instruction.⁸⁹

Strategies Used to Differentiate Instruction

Group work was the only strategy that teachers used to cater for differentiated instruction

According to the data, participants primarily used groups as a differentiated teaching strategy to accommodate the various needs of learners in the classroom. The findings, however, demonstrated that these groups were fixed and not flexible. Renzulli and Reis suggest that in a differentiated classroom, flexible grouping has to be used unswervingly and has to be changed from time to time. Sometimes learners are grouped according to interest and readiness, and they can work in pairs or individually. Both Hu and Renzulli and Reis suggest that in a differentiated classroom, whole-group teaching could be used to introduce a new topic.⁹⁰ Rasheed and Wahid elucidate that teachers must facilitate group interactions among learners who share similar needs and interests, to make activities more enjoyable and to make the learning process more effective because students are social beings. They cautioned teachers not to use fixed grouping but to let learners work with different learners from time to time.⁹¹

The study revealed that a few strategies were used by teachers to differentiate instruction. The results revealed that teachers unintentionally differentiated instruction, as few of them indicated that they occasionally used differentiated teaching strategies such as learner-centred approaches, group work and support to struggling learners. These results concur with Ledwaba's results which revealed that even though teachers lack knowledge of what differentiated instruction stands for, they unintentionally differentiate some aspects of instruction.⁹² Differentiated instruction cannot be left to chance; rather, it must be planned for and implemented, which is why this study, which aimed to highlight the need for support to teachers on differentiated instruction in multi-ability classes, was important. Ledwaba further

⁸⁶ Samantha Govender, "South African Teachers' Perspectives on Support Received in Implementing Curriculum Changes," *South African Journal of Education* 38, no. 1 (2018).

⁸⁷ Moosa and Shareefa, "The Impact of Teachers' Experience and Qualification on Efficacy, Knowledge and Implementation of Differentiated Instruction"; Shareefa et al., "Differentiated Instruction: Definition and Challenging Factors Perceived by Teachers"; Brentnall, *Believing Everyone Can Learn: Differentiating Instruction in Mixed Ability Classrooms*; Adebayo and Shumba, "AN ASSESSMENT OF THE IMPLEMENTATION OF DIFFERENTIATED INSTRUCTION IN PRIMARY SCHOOLS, KABWE DISTRICT, ZAMBIA"; Thelma de Jager, "Guidelines to Assist the Implementation of Differentiated Learning Activities in South African Secondary Schools," *International Journal of Inclusive Education* 17, no. 1 (2013): 80–94; Brenda Logan, "Examining Differentiated Instruction: Teachers Respond.," *Research in Higher Education Journal* 13 (2011).

⁸⁸ Aldossari, "The Challenges of Using the Differentiated Instruction Strategy: A Case Study in the General Education Stages in Saudi Arabia."

⁸⁹ Moosa and Shareefa, "The Impact of Teachers' Experience and Qualification on Efficacy, Knowledge and Implementation of Differentiated Instruction."

⁹⁰ Hu et al., "Increasing Students' Scientific Creativity: The 'Learn to Think' Intervention Program"; Renzulli and Reis, *Reflections on Gifted Education: Critical Works by Joseph S. Renzulli and Colleagues*.

⁹¹ Rasheed and Wahid, "The Theory of Differentiated Instruction and Its Applicability: An e-Learning Perspective."

⁹² Ledwaba, "Teacher Training Guidelines for Curriculum Differentiation in a Foundation Phase Programme."

argues that teachers who unintentionally differentiate instruction do so because they are also trained in how to deal with the diverse needs of learners.⁹³

RECOMMENDATIONS

Based on the findings and discussion, the study calls for the enhancement of teacher pedagogical content knowledge through continued in-service training and ongoing support in the form of workshops followed by demonstration lessons, mentorship and coaching sessions and classroom-based support. Support should be cyclic and continuous to strengthen differentiated instruction through practice. School-based demonstration lessons are also suggested by the study. The study further recommends that the capacitation of subject advisors (who are responsible for supporting educators) should also include curriculum differentiation and its implications for differentiated instruction and student success. Universities especially in South Africa should also encourage research on curriculum differentiation and differentiated instruction with a view to devise frameworks for scholarly approaches to the implementation of curriculum differentiation for dealing with learner diversity. This would hopefully ensure that there is increased student success.

CONCLUSION

This study has considered learner diversity as inherent in education. The majority of learners in the massified educational system have many differences in their approach towards studies, for example, their learning ability levels, learning styles, preferences, and interests, as well as the pace at which they learn. This study has demonstrated that teachers need to be aware of learner diversity in order for them to be able to understand why instruction must be differentiated. The differentiation theory that underpinned this study supports the conclusion that teachers should use relevant teaching approaches to teach learners with different learning abilities and believe that learners need to master subjects on their own terms, as they work at different paces with different amounts of practice they need. The study further argued that teachers who intentionally differentiate instruction do so because they are also trained on how to deal with the diverse needs of learners. According to the findings of the study, established teachers, including even young teachers from training institutions, lacked an understanding of differentiated instruction. This study thus concludes that effective implementation of differentiated instruction is the key that helps to ensure that no child is left behind. Differentiated instruction cannot be left to chance; rather, it must be planned for and implemented, which is why this study highlights the need for support to teachers on differentiated instruction in multi-ability classes, was important, thus more intentional academic staff development programmes are critical to equip teachers with the necessary skills on how to differentiate instruction.

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⁹³ Ledwaba, "Teacher Training Guidelines for Curriculum Differentiation in a Foundation Phase Programme."

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