



Use of Differentiated Instruction at Special Education Schools: Teachers' Perspective

Maria Hameed¹, Muhammad Dilshad², Tajammal Rasool ³

¹ M.Phil. Scholar, Department of Education, Bahauddin Zakariya University Multan, Pakistan.
Email: mahihameed317@gmail.com.

² Department of Education, Bahauddin Zakariya University Multan, Pakistan. Email: dilshadiub@hotmail.com

³ Ph.D. Scholar, Department of Education, Bahauddin Zakariya University Multan, Pakistan.
Email: tajammalrasool@gmail.com

ARTICLE INFO

Article History:

Received: May 10, 2024
Revised: June 28, 2024
Accepted: June 29, 2024
Available Online: June 30, 2024

Keywords:

Differentiated Instruction
Individualized Instruction
Special Education
Inclusive Education
Tailoring Strategies
Teaching Methods

Funding:

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

The study was designed to explore teachers' perceptions about implementation of differentiated instruction for special students by adopting quantitative approach. A questionnaire was used to collect data from the teachers of special education schools. The survey design involved the administration of questionnaire to special education teachers in selected schools within the target population. The target population for this study comprised special education teachers working in specific schools within the designated divisions of South Punjab. By adopting convenient sampling method, 346 teachers from special education schools were selected as the sample of the study. The value of Cronbach's alpha (0.836) showed that questionnaire was highly reliable. The collected data was analyzed by using Statistical Package for Social Sciences (SPSS). Findings showed that there was no significant difference in the opinions of teachers by gender and locality about implementation of differentiated instruction. Teachers were also in favor of using customized instruction, agreement about the fact that support for employing small groups, multisensory teaching, instructional decisions, pre assessment, varied learning activities, taking ownership, guiding, supporting students, individual learning, developing groups and feasibilities, understanding of students' learning profiles. Teachers had negative opinions about cooperative learning methods, peer tutoring, respecting opinion, curriculum development, assigning worksheets, student needs, adopting alternative methods and divergent thinking. Findings showed that lack of support, limited resources, behavioral challenges, time constraints were the major barriers. It was recommended that differentiated instructions could be improved by adopting including assessment techniques, developing plans, adopting technology and adaptation of advanced differentiated techniques.

© 2024 The Authors, Published by iRASD. This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License

Corresponding Author's Email: dilshadiub@hotmail.com

1. Introduction

Differentiated instruction (DI) is an important concept that addresses the issues of the special students in inclusive and special classrooms. This pedagogical approach fulfills the needs of the special students to learn alongside their peers. There is a need of differentiated instructions and policies for the special students to drive them in mainstream education. Differentiated instructions are compulsory to develop such an environment in which all the students with different abilities can achieve their academic goals. In this approach teachers are required to modify instructions, methods, content, strategies and process according to the needs of the students, particularly for the students that are facing challenges in the classrooms (Strogilos, 2018). The research results showed that effective implementation of differentiated instructions enhances the learning outcomes and performance of the special students. Strogilos (2018) stated that differentiated instructions (DI) developed the special students' skills and enhanced the

academic performance of the students with learning disabilities. It promoted the equity and developed high quality learning environment. Such as, Strogilos (2018) stated that students instructed through differential instruction (DI) showed more good results and showed high performance as compared to the students which were taught in traditional way. Usually teachers face difficulties in managing differential instruction (DI). Differentiated instruction is an instructional technique that addresses the various learning conditions of every student in the classroom (Tomlinson, 2014). Differentiated instruction entails tailoring instruction and examination to each student's needs, skills, and interests rather than using a one-size-fits-all learning method (Tomlinson, 2014). Multiple avenues for pupils to develop and demonstrate their knowledge are provided as part of differentiated education, and students are involved in learning activities catering to their interests and strengths. To fulfill the unique needs of each student, this may include utilizing a range of instructional methodologies, including small-group instruction, peer learning, and project-based learning. Differentiated instruction seeks to achieve a more inclusive and productive learning environment that supports every student's social and academic success (Tomlinson, 2014). Teachers can help students achieve their full potential and objectives by acknowledging and addressing their different learning requirements (Tomlinson, 2014). Differentiated instruction can be utilized in any classroom environment to meet the various learning requirements of kids, even though it is frequently linked with special education and inclusive classrooms. Teachers may create a more engaging and productive learning environment that fulfills the requirements of all students by delivering tailored instruction and evaluation.

According to the research Heacox (2012); Suprayogi, Valcke, and Godwin (2017), many instructors need to get the skills and knowledge that are important Heacox (2012); Suprayogi, Valcke, and Godwin (2017). With the use of differentiated teaching, teachers plan lessons according to the needs of the students. Teachers use various methods in the same classroom designed according to the requirement of the students with widely varying levels of knowledge, skill, interest, and background (Mulder, 2014). Teaching that considers students' requirements and learning styles is called differentiated instruction (Chamberlin & Powers, 2010; Smit & Humpert, 2012; Tomlinson, 2014). Teachers who don't differentiate instruction only reach a subset of their pupils, according to research (Chamberlin & Powers, 2010; Koeze, 2007). This is because a normal classroom has kids with widely varying levels of ability, readiness, and interest. Implementing DI allows teachers to differentiate instruction for their pupils Smit and Humpert (2012); Tomlinson (2014) and better address the needs of all their students. In addition, Laurian-Fitzgerald (2016) and argue that teachers can increase students' engagement and performance through differentiation by designing classes that appeal to a variety of student interests. Differentiated instruction Tomlinson (2014) is a method of teaching that aims to meet the needs of students. Differentiated teaching can play a crucial role in supporting the particular learning demands of disabled students (Hitchcock, 2019). To help all children succeed academically and socially, special education teachers should personalize their lessons and evaluations for each student (Tomlinson, 2014). To implement differentiated instruction effectively in special education schools, teachers must assess the needs and abilities of each student and develop individualized learning plans that address their unique learning needs and goals (Hitchcock, 2019). This may involve using a range of instructional strategies, such as providing multiple means of representation, offering various ways for students to demonstrate understanding and providing ongoing feedback and support. Students are likely to invest in and learn new lessons and succeed academically (Kurt, 2013). Teachers must know about the different instructional strategies used as tools (Hitchcock, 2019). Teachers can create a more inclusive and effective learning environment by recognizing each student's unique needs and abilities.

Adopting differentiated instruction in special education schools can be challenging for teachers and administrators. Ensuring teachers have the required help and training to successfully utilize differentiated education in the classroom is challenging (Kurt, 2013). It may entail providing them with professional development opportunities, coaching, and mentoring to assist instructors in acquiring the abilities and information. Regardless of their unique needs and talents, it might not be easy to ensure that all children have access to high-quality training (Hitchcock, 2019). It can entail creating procedures for detecting and helping students who need additional help, including English language learners or students with disabilities. Differentiated instructions can significantly improve the results for students with disabilities in particular education schools (Kurt, 2013). Teachers can help their pupils achieve high grades through differentiated instructions. Teachers, administrators, and policymakers must collectively address

the challenges and develop practical strategies for special education. They reported that diversity of students' problems, lack of resources, limited time and lack of professional training are the major barriers in implementation of DI. Usually teachers didn't know the targets and demands of the government and ways to implement differentiated instructional techniques (Marlina, Efrina, & Kusumastuti, 2019a). Variation of classes and implementation of DI in different classes needs effective professional development (Strogilos, 2018). It is need to pay attention to integrate differentiated instructions with the national education strategies. Teacher training institutes need to train teachers and reconsider their trainings syllabuses for successful implementation of differentiated instructions in inclusive education system in Pakistan(Saif, Safdar, Anis, & Muhammad, 2024).

Practical methods are required in unique education settings to accommodate the wide range of student needs. These children may benefit from individualized accommodations and modifications to fully participate in the classroom experience and achieve their academic goals. Differentiated instruction offers a promising approach to address this challenge, but implementing the approach in special education schools can be challenging due to limited resources, standardized assessments, and the potential for over-reliance on technology. Thus, this study was designed to investigate implementation of differentiated instruction in special education schools to meet the diverse needs of students with disabilities. This study was delimited to government special education schools/ centres located in South Punjab and only teachers working in these schools/ centres.

1.1. Research Objectives

Following were research objectives of the study:

1. To explore teachers' perceptions about implementation of differentiated instruction for students with special needs in schools.
2. To know the perception of teachers' about implementation of differentiated instruction for students with special needs by gender and location.
3. To explore the problems in implementation of differentiated instruction for students with special needs in schools.
4. To recommend the measures for implementation of differentiated instruction for students with special needs in schools.

2. Literature Review

Differentiated content (DI) provide different ways to access the material. The content is organized efficiently and presented to different levels of the students according to the capability and readiness of the students. It helps the special students to align the material to the abilities of the students (Strogilos, 2018). Implementation of differential instructions in special education and inclusive classrooms can be learned through the learning theories. Such learning theories helped a lot in planning and execution of differentiated instructional strategies for special students (Lajeunesse, 2017). While tailoring differentiated instructional strategies, experienced teachers develop effective plans and add valuable knowledge for the students with disabilities. These theories support special students to enhance their expertise in their academic career (Velazquez, 2022). On a global scale, there has been a shift towards schooling for everyone. It means students with and without disabilities should attend school together instead of in different places. In a school where kids with special needs are taught, there are more likely to be students from different backgrounds (Blackman, Conrad, & Philip, 2017) The No Child Left behind Act passed and signed into law in 2002, also calls for the "Education for All" plan. The law started the idea that most students with special needs should be able to take classes with other students. The result is a more representative cross-section of the student body. Each student is unique in terms of intelligence, resources, learning style, interests, aptitudes, limitations, experiences in the classroom, and so on. In addition to these unique characteristics, each child has an own approach to learning. Some people learn best visually, while others are auditory or kinesthetic learners. However, some people thrive in a very structured classroom while others do better with greater freedom and spontaneity (Brissett, 2019). Using a single teaching method poses risks to classroom diversity that may lead to dropout, loss of motivation, boredom, failure to learn, and underachieving of many students with special needs (Siam & Al-Natour, 2016). If given the proper teaching, 40 to 50 percent of kids with difficulties with learning may attain academic success (McLeskey & Waldron, 2011). Regular classroom teachers are responsible for making

sure every student, regardless of their unique qualities, makes the most academic progress possible throughout the academic year (Heacox, 2012; Spencer-Waterman, 2014).

Scaffolding instructions strategy is also used in differentiated an instruction which helps the students in learning. As the students gain confidence and learn the concepts this strategy is removed gradually. Scaffolding strategy is very useful and helps the students a lot in learning mathematics and reading text. It improved the performance of the students with learning disabilities. It works like a bridge between weak and students who can work independently (Little, 2022). Differentiated instruction (DI) is the process in which students are engaged with content by changing the activities. Flexible grouping strategy is used to arrange and rearrange groups to enhance students' learning abilities which have disabilities in learning. It provide opportunities to the special students to learn new thing in an conducive learning environment (Marlina, Efrina, & Kusumastuti, 2019a). Modification in curriculum and setting instructional strategies according to the requirements of the students are made in inclusive classrooms to adjust instructional activities and to develop interest of the special students (Strogilos, 2018). Flexible grouping helps the instructors to develop targeted instructional strategies to address the specific issues of the students with disabilities. Students with learning disabilities learnt a lot by working with the students who were skilled and showed high academic performance (Taylor, 2019). Incorporating multisensory approach is also an effective differentiation strategy which employs multiple senses simultaneously to enhance learning. It is an effective strategy to teach students with dyslexia and autism spectrum disorder (ASD). Multisensory instruction includes visual, auditory and kinesthetic activities which helps the students with dyslexia in learning reading fluency comprehension skills. Differentiating the product includes the presentation and demonstration of students' understanding in different ways. It is a student centered technique in which instructor develop differentiated instructions according to the requirements of the students. Students are allowed their presentations in form of projects, presentations and written assignments. Students with disabilities are allowed to perform their activities independently with their own choice. These types of teaching strategy provide multiple means of expression to address the issues of diverse learners and it is aligned with Universal Design for Learning (UDL) principles (Marlina, Efrina, & Kusumastuti, 2019a). Teacher used different styles by using projects, presenting images and presentations on the projectors according to the needs of the students (Strogilos, 2018). Same as, project based learning (PBL) is the activity in which students worked on extended projects. Project based learning promotes critical thinking, problem solving and give chance to students to learn from their own choices (Gomez, 2019). Using technology to assist special students is getting importance with the technological advancement. Use of advance technology in education has revolutionized the learning environment in the institutes. Adaptive learning technologies and use of software has enhanced the performance of the students (Cannon, 2017).

Many countries in all over the world have adopted the inclusive education to address the problems of special students. Mostly countries have developed policies, principles and framework for special educational needs. The values and procedures depends on the values of the local community (Stangvik, 2010). The current policies and steps taken by governments has enhanced the circle of inclusive education that results in the increasing the number of admissions of students with disabilities (Slee, 2013). Ramos (2021) stated that there are various theories of learning which discuss the issues, emphasize the role of learners and teaching strategies for those special students through differentiated instructions (DI). Vygotsky presented a key concept of Zone of Proximal Development (ZPD), which discussed that students can learn more effectively under guidance and independently when instructions are targeted within some range. This theory is very close to differentiated instructions (DI), where strategies and instructions are tailored according to the problems and needs of the special students. By tailoring teaching strategies the performance and ability of special students can be improved (Stingo, 2024). Carter (2023) theory of multiple intelligence revealed that every students has different intellectual abilities and different level of intelligence. Students have different learning styles which needs multiple techniques of teaching. Differentiated instructions (DI) fulfills the needs of the students by adopting various techniques, methods and by providing scaffolding support to help the academically weak students and bridging the learning gap.

Differentiated instructions (DI) is demand of inclusive education system to address the needs of gifted and students with disabilities. Tailoring educational approaches is the need of inclusive education to meet the needs of special and gifted students. During tailoring teaching strategies instructors skipped or eliminate the content in which gifted students has mastery and

select the content in which they faced difficulty in learning (Stingo, 2024). Differentiated instructions are necessary to develop individual learning plan for the gifted students to address their specific problems in learning. Individualized education plans enhanced the academic growth of the special students (Muhajirah, 2020). Such types of instructions are developed to address the challenges of special students so that they can make academic progress. Special students have multiple problems and differentiated instructions are developed to address their problems and learning requirements (Valiandes, 2015). Research studies explored that differentiated instructions (DI) had a wide impact on the academic performance of the gifted and special students. Tailoring the instructions and strategies engage the gifted students and had a positive impact on the academic achievements and socioemotional development. DI allows the teachers to tailor the strategies, content and instructions to meet the requirements of gifted, disabled and special students. Research study explored that students with disabilities showed high academic performance in reading and mathematics after implementation of differentiated instructions in setting of inclusive education (Strogilos, 2018). Students felt motivated and learn the academic concepts of their requirements with their own pace during differentiated instructions. Students performance in reading and mathematics is improved after the implementation of differentiated instructions (Carswell, 2020). Differentiated and tailored instructions improved the academic performance and socioemotional wellbeing of the special students. Differentiated instructions proved helpful in developing their level of confidence and self-esteem. It also improved collaboration between teachers and differentiated instructions to support disable and special students (Carswell, 2020). Differentiated instructions improved the learning abilities of special students. Students showed more good results who received differentiated instructions as compared to students who were taught by employing traditional methods (Alvarez, 2021).

Differentiated instructions (DI) has the ability to resolve the problems and address the needs of the special students in Pakistan. It is assessed that inclusive education system is increasingly being recognized because many students face problems in traditional educational environment. Students with diverse problems face difficulties in traditional settings. There is need to develop curriculum and syllabus for the special students in inclusive schools in Pakistan (Naseer, Muhammad, & Masood, 2020). Saif et al. (2024) reported that students with physical disabilities faced difficulties in learning but usage of differentiated instructions improved their academic performance in Pakistan. Resources in government schools are limited but it is reported that use of differentiated instructional enhances the students' academic performance positively. Lack of facilities, absence of professional trainings and lack of resources are the major problems that effects effective execution of differentiated instructions (DI) in Pakistan. There is a need to develop a favorable school system for the students with physical, mental, emotional problems (Waqar, Rashid, Safdar, & Muhammad, 2024). Use of differentiated instructions in class rooms not only enhanced the academic performance of the disables students but also uplift their social wellbeing. It is need to pay attention to integrate differentiated instructions with the national education strategies. Teacher training institutes need to train teachers and reconsider their trainings syllabuses for successful implementation of differentiated instructions in inclusive education system in Pakistan (Saif et al., 2024). There are many challenges and barriers in implementation of differentiated instructions for special and gifted students. The major problem is that teachers wants to implement differentiated instructions for the special children to adjust them through inclusive education but don't know how to tailor the instructional strategies (Marlina, Efrina, & Kusumastuti, 2019b). Students who cannot get differentiated instructional support showed weak results as compared to the other students who had faced less challenges (Knight, 2016). Lack of trained teachers for inclusive educations, lack of equipped classrooms and availability of resources are the major problems in implementation of differentiated instructions for special students in inclusive classrooms in Pakistan. Mostly educators in Pakistan are unaware about the special education techniques and had a little knowledge about the inclusive education. There need to revise training schedules to address the needs of special students. School managers should pay intension to address the needs of such special students. Community and parents should be involved for success of inclusive education system (Saif et al., 2024). Cultural and attitude toward disabilities is also a major problem that affects the support of such students with disabilities. Unawareness of inclusive education policies also create a barrier in the implementation of differentiated instructions (Strogilos, 2018).

3. Research Methodology

The research followed a quantitative approach to investigate the implementation of differentiated instruction at special education schools in South Punjab. A descriptive research design was adopted to capture the current state of the phenomenon. Following survey method, a self-structured questionnaire was used for data collection. The main objective was to explore teachers' perceptions about implementation of differentiated instruction for students with special needs in schools. The target population consisted of all the teachers working in government special education schools in Multan and Dera Ghazi Khan divisions. Out of seven districts, four districts i.e. Multan, D.G. Khan, Layyah and Rajanpur were chosen randomly. From the accessible population, a sample of 400 teachers was selected using convenient sampling technique. The researcher used self-structured questionnaire for the data collection. Twenty four close ended items were developed on five point Likert scale (strongly disagree to strongly agree. Five experts' opinions were taken for validation of questionnaire. The value of Cronbach's alpha (0.836) showed that questionnaire was reliable to measure teachers' perceptions about implementation of differentiated instruction for students with special needs in schools. Among 400 teachers 346 teachers returned completed questionnaires resulting in 86.5% return rate. The collected data was analyzed using Statistical Package for Social Sciences (SPSS). Descriptive statistics (i.e. Frequencies, Mean, Standard deviation) and inferential statistics (i.e. t-test of independent samples were applied for analyzing the data. presented in tables.

4. Results

The analysis of demographic data (as depicted in Table 1) shows that out of 346 respondents, 57% were male and 43% were female teachers. Similarly most of teachers were teaching senior classes (66.8%) and were associated with urban schools (58.1%). As far as district is concerned, 34.7% teachers were from Multan, the same number from D.G. Khan, 20.8% from Layyah and 9.8% were from Rajanpur.

Table 1: Personal Information of Respondents

Variables	Categories	Percentage
Gender	Male	57.2
	Female	42.8
Locality	Urban	58.1
	Rural	41.9
	Multan	34.7
Districts	D.G. Khan	34.7
	Layyah	20.8
	Rajanpur	09.8

N = 346

Table 2 shows teachers' perceptions about implementation of differentiated instruction at special education schools. It is clearly shown by the descriptive data that fourteen items received relatively higher rating from the respondents. The highest mean score (4.07) for item 1 indicates a positive inclination towards the idea that lessons can effectively engage students as members of a learning community. The mean score (3.93) highlights substantial support of respondents regarding the efficacy of multisensory teaching methods in differentiated instruction. Notably, the mean score (3.90) underscores possibility of utilization of student achievement data in instructional decision for special students. The respondents were also of opinion (M = 3.90) that teachers could take roles as a resource persons to support students' learning. A remarkable number of teachers (M = 3.65) observed that it was possible to pre-assess students to find out what they already knew. The mean score (3.56) shows teachers' positive opinions about use of varied learning activities in the classroom. Respondents (M = 3.56) also held that teachers could expect students to take ownership of their learning. The mean score (3.40) suggests that teachers recognized the effectiveness of tutoring as an intervention to support students who might face difficulties in their learning. The mean score (3.40) shows teachers' favorable opinions about giving students opportunity to succeed in classroom.

Teachers (M = 3.40) agreed that it might be ensured that students had a voice in classroom. Teachers (M = 3.37) were also in favor of using customized instruction for students. The mean score (3.36) shows teachers' agreement about the fact that direction of lessons could be determined by ideas originating from students. Teachers seem to extend their support for employing small groups in instruction (M = 3.05).

Table 2: Teachers' response about implementation of differentiated instructions

Items	Mean	S.D.
1. Preparing lessons for engaging students as member of a learning community	4.07	1.27
2. Using multisensory teaching approaches	3.93	1.19
3. Using students' achievement data to make instructional decisions	3.90	1.17
4. Teacher as a resource person to support students' learning	3.90	1.19
5. Pre-assessing students to know what they already know	3.65	1.54
6. Use of varied learning activities	3.56	1.20
7. Expecting students to take ownership of their learning	3.56	1.21
8. Use of tutoring to reach struggling students	3.48	1.24
9. Giving students opportunity to succeed in classroom	3.47	0.63
10. Ensuring that students should have a voice in classroom	3.40	1.20
11. Use of individualized instruction	3.37	2.80
12. Direction of lesson to be determined by ideas originating with students	3.36	1.24
13. Using small groups for instruction	3.05	1.41
14. Knowing students' learning profiles	3.02	1.14
15. Use of cooperative learning	2.91	1.09
16. Use of peer tutoring	2.85	1.15
17. Expecting students to respect each other's opinions	2.78	1.28
18. Making curriculum developmentally appropriate and sequential	2.55	1.18
19. Assigning worksheets to students	2.11	1.23
20. Matching teaching practices with needs of students	2.05	1.06
21. Encouraging students to seek and value alternative modes of investigation	1.83	1.29
22. Connecting learning to the various academic disciplines	1.74	1.01
23. Asking questions to trigger students' divergent modes of thinking	1.68	1.23
24. Teachers' awareness of developmental needs of students	1.62	1.24

The mean score (3.02) shows teachers also held favorable viewpoint about the feasibility of teachers' understanding of students' learning profiles. It is evident from the data of Table 2 that teachers showed their concern about ten aspects of differentiated instruction. The mean score (2.91) shows teachers' negative opinions about teachers' ability to utilize cooperative learning methods. Similarly the mean score (2.85) shows teachers' weak support for adoption of peer tutoring in teaching practices. The mean score (2.78) clearly indicates teachers' negative opinions on the extent to which students uphold respectful attitudes. Teachers were of the opinion that it could be hard to align curriculum with students' developmental needs (M = 2.55) and utilize traditional worksheet-based activities (2.05). The mean score (2.05) clearly shows teachers' negative opinions about possibility of matching teaching practices with the needs of students. Similarly respondents observed that encouraging students to seek and value alternative modes of investigation might be difficult for teachers (M = 1.83). The mean score (1.74) indicates that teachers expressed their reservation regarding the feasibility of integrating learning across subjects. In the same line, respondents (M = 1.68) did not show trust on teachers' ability of using questioning technique for promoting divergent thinking among students. Respondents gave lowest rating (M = 1.62) to teachers' competence of making themselves aware of developmental needs of students.

Table 3: Overall mean value for teachers' responses

Total Scale	Mean	SD
	3.27	0.725

N = 346

Table 3 depicts teachers' perceptions about implementation of differentiated instruction. The mean score (3.27) is higher than neutral mean value (3.00). It means that teachers were of the opinion that differentiated instruction may be implemented at schools for students with special needs.

Table 4: Comparison of teachers' perceptions by gender and locality

Category	N	Mean	SD	t-value	Sig.
Male	201	3.26	.415	-2.091	.084
Female	145	3.28	.478		
Urban	201	3.31	.404	.247	.071
Rural	145	3.29	.591		

Table 4 shows comparison of teachers' perceptions by gender and locality about implementation of differentiated instruction. For both the variables, the p-values (.084 and .071) are greater than 0.05 level of significance. It implies that there was no significant difference in the opinions of male and female teachers and urban and rural teachers about implementation of differentiated instruction.

Table 5: Problems in implementation of differentiated instruction

Problems	Frequency	Percentage
1. Lack of support	88	25.4%
2. Limited resources	68	19.7%
3. Balancing student needs	59	17.1%
4. Behavioral challenges	51	14.7%
5. Time constraints	42	12.1%
6. Accommodations and modifications	38	11.0%
7. Learning style preferences	34	9.8%
8. Collaboration with specialists	31	9.0%

Table 5 indicates major challenges that teachers may face when implementing differentiated instruction for special students. Lack of support, mentioned by 25.4% of participants, suggests a need for more assistance from administrators and colleagues. Limited resources, identified by 19.7% of respondents, highlights the lack of necessary materials and funding to effectively support individualized learning. Balancing student needs, identified by 17.1% of participants, emphasizes the challenge of providing appropriate support and accommodations for each student. Behavioral challenges were identified by 14.7% respondents as an important problem in differentiated instruction. Time constraints, a concern for 12.1% of respondents, indicated the difficulty of balancing differentiated instruction with other curriculum demands. Additionally, challenges related to accommodations and modifications (11.0%), learning style preferences (9.8%) and collaboration with specialists (9.0%) were mentioned. These findings underscore the complexity and multifaceted nature of implementing differentiated instruction for special students, highlighting the need for adequate resources, support, and professional development opportunities for teachers.

5. Discussion

The study aimed to explore teachers' perceptions regarding the implementation of differentiated instruction for students with special needs in schools. Through the use of a self-structured questionnaire, the research collected data on various aspects of differentiated instruction, such as its usage, challenges, and effectiveness. The findings revealed that teachers generally recognized the importance of differentiated instruction in catering to the diverse learning needs of special students (Smit & Humpert, 2012). The study provides valuable insights into teachers' perceptions about differentiated instruction and underscores the importance of addressing individual differences to effectively meet the needs of special students. Strogilos (2018) stated that differentiated instructions (DI) developed the special students' skills and enhanced the academic performance of the students with learning disabilities. It promoted the equity and developed high quality learning environment. Teachers agreed that it might be ensured that students had a voice in classroom. Teachers were also in favor of using customized instruction for students. Teachers' agreement about the fact that direction of lessons was determined by ideas originating from students. Same as, Strogilos (2018) reported that in differentiated instruction approach teachers are required to modify instructions, methods, content, strategies and process according to the needs of the students, particularly for the students that are facing challenges in the classrooms. Teachers seem to extend their support for employing small groups in instruction. Teachers also held favorable viewpoint about the feasibility of teachers' understanding of students' learning profiles. Flexible grouping helps the instructors to develop targeted instructional strategies to address the specific issues of the students with disabilities. Students with learning disabilities learnt a lot by working with the students who were skilled and showed high academic performance (Taylor, 2019). Tomlinson (2014) stated in his research study that to fulfill the unique needs of each student, this may include utilizing a range of instructional methodologies, including small-group instruction, peer learning, and project-based learning.

Usually teachers didn't know the targets and demands of the government and ways to implement differentiated instructional techniques (Marlina, Efrina, & Kusumastuti, 2019a). Variation of classes and implementation of DI in different classes needs effective professional development (Strogilos, 2018). It is need to pay attention to integrate differentiated instructions with the national education strategies. Teacher training institutes need to train teachers and reconsider their trainings syllabuses for successful implementation of differentiated instructions in inclusive education system in Pakistan (Saif et al., 2024). Differentiated instructions are necessary to develop individual learning plan for the gifted students to address their specific problems in learning. Individualized education plans enhanced the academic growth of the special students (Muhajirah, 2020). Such types of instructions are developed to address the challenges of special students so that they can make academic progress. Special students have multiple problems and differentiated instructions are developed to address their problems and learning requirements (Valiandes, 2015). Teachers had negative opinions about teachers' ability to utilize cooperative learning methods. Responses show that teachers gave weak support for adoption of peer tutoring in teaching practices. Students who cannot get differentiated instructional support showed weak results as compared to the other students who had faced less challenges (Knight, 2016). Teachers had negative opinions on the extent to which students uphold respectful attitudes. Teachers were of the opinion that it could be hard to align curriculum with students' developmental needs and utilize traditional worksheet-based activities. It was reported in a research study that differentiated instruction entails tailoring instruction and examination to each student's needs, skills, and interests rather than using a one-size-fits-all learning method (Tomlinson & Moon, 2014). The Teachers had negative opinions about possibility of matching teaching practices with the needs of students. Results were supported by this study which stated that using a single teaching method poses risks to classroom diversity that may lead to dropout, loss of motivation, boredom, failure to learn, and underachieving of many students with special needs (Siam & Al-Natour, 2016). Similarly respondents observed that encouraging students to seek and value alternative modes of investigation was difficult for teachers. Teachers expressed their reservation regarding the feasibility of integrating learning across subjects. Respondents did not show trust on teachers' ability of using questioning technique for promoting divergent thinking among students. Respondents gave lowest rate to teachers' competence of making themselves aware of developmental needs of students. Research study reported that diversity of students' problems, lack of resources, limited time and lack of professional training are the major barriers in implementation of DI. Usually teachers didn't know the targets and demands of the government and ways to implement differentiated instructional techniques (Marlina, Efrina, & Kusumastuti, 2019b).

Another objective of the research was to compare the perceptions of male and female teachers regarding the implementation of differentiated instruction for students with special needs. The data analysis did not reveal significant differences between male and female teachers' perceptions. Both groups acknowledged the importance of differentiated instruction and faced similar challenges in its implementation. This finding suggests that the understanding and attitudes towards differentiated instruction were not influenced by gender, indicating that both male and female teachers recognized its value in supporting students with disabilities (Walton, 2017). The absence of gender-based disparities in perceptions highlights the inclusive nature of differentiated instruction, where teachers from different genders show similar awareness and acceptance of this teaching approach. The research also sought to identify the challenges and problems faced by teachers in implementing differentiated instruction for students with special needs. Teachers expressed concerns about the availability of materials, funding, and assistance needed to effectively support individualized learning. Resources in government schools are limited but it is reported that use of differentiated instructional enhances the students' academic performance positively. Lack of facilities, absence of professional trainings and lack of resources are the major problems that effects effective execution of differentiated instructions (DI) in Pakistan. There is a need to develop a favorable school system for the students with physical, mental, emotional problems (Waqar et al., 2024). The findings emphasize the need for increased allocation of resources and enhanced support systems to overcome these challenges and improve the implementation of differentiated instruction in special education schools (Johnson, Jacovina, Russell, & Soto, 2016). There are many challenges and barriers in implementation of differentiated instructions for special and gifted students. The major problem is that teachers wants to implement differentiated instructions for the special children to adjust them through inclusive education but don't know how to tailor the instructional strategies (Marlina, Efrina, &

Kusumastuti, 2019b). By addressing these issues, schools can create a more conducive and supportive learning environment for students with disabilities, promoting their overall educational experience.

Lastly, the research aimed to provide recommendations for implementing differentiated instruction for students with special needs in schools. The study proposed several suggestions, including the adoption of flexible assessment strategies, personalized learning plans, and multi-sensory approaches (Tomlinson, 2014). Moreover, collaboration with specialists, utilization of assistive technology, involvement of parents or caregivers, establishment of a supportive classroom environment, and continuous professional development opportunities for teachers was suggested as key factors in promoting effective differentiated instruction (Roberts & Inman, 2022). By incorporating these recommendations, special education schools can create a more inclusive and supportive learning environment that caters to the diverse needs of students with disabilities. These evidence-based recommendations offer practical insights for educators and policymakers to enhance the implementation of differentiated instruction and improve the educational outcomes of students with special needs.

6. Conclusion

The research study explored teachers' perceptions about the implementation of differentiated instruction for students with special needs in schools. The findings provided valuable insights into teachers' awareness and recognition of the importance of differentiated instruction in catering to the diverse learning needs of special students. The study revealed that both male and female teachers acknowledged the value of differentiated instruction. Teachers were in favor of implementation of at schools for students with special needs. Regarding comparison of male and female teachers' perceptions about implementation of differentiated instruction, there was no significant difference in the opinions of male and female teachers about implementation of differentiated instruction. The major challenges in implementing differentiated instruction for special students included lack of support, limited resources, balancing student needs and behavioral challenges.

6.1. Recommendations

The research also offered evidence-based recommendations, including flexible assessment strategies, personalized learning plans, and the utilization of assistive technology, to promote effective differentiated instruction. By incorporating these recommendations, special education schools can create a more inclusive and supportive learning environment that caters to the diverse needs of students with disabilities, ultimately leading to improved academic outcomes and enhancing the overall educational experience for special student. The future implications of this research suggest the need for further investigation into specific areas, such as the impact of differentiation on different disabilities and the role of technology in supporting differentiated instruction. It is recommended that the government and special schools management authority should allocate more resources for materials, funding, and technological tools to support differentiated instruction, provide ongoing support and guidance to teachers through mentorship and professional training programs, and prioritize professional development opportunities focusing on differentiated instruction strategies and best practices.

References

- Alvarez, A. N. (2021). *Filling the gap: Assessing academic proficiency of students with disabilities*. City University of Seattle,
- Blackman, S., Conrad, D. A., & Philip, L. (2017). The Pre-University Experiences of Students with Disabilities in Barbados and Trinidad. *International Journal of Special Education, 32(2)*, 238-270.
- Brissett, N. O. M. (2019). Evolution of Educational Inclusion Policy Discourse in Jamaica: From Colonialism to Globalization. In S. N. J. Blackman, D. A. Conrad, & L. I. Brown (Eds.), *Achieving Inclusive Education in the Caribbean and Beyond* (pp. 17-33). Cham: Springer International Publishing.
- Cannon, C. G. (2017). *Teacher and student perceptions of computer-assisted instructional software to differentiate instruction*. Walden University,
- Carswell, E. M. (2020). *Teaching exceptional kids: Exploring professional development, teacher efficacy, and differentiating instruction for elementary students with individualized education plans*. The Johns Hopkins University,

- Carter, S. L. (2023). *The pursuence for differentiated special education curriculum for students living with autism spectrum disorder*. Trident University International,
- Chamberlin, M., & Powers, R. (2010). The promise of differentiated instruction for enhancing the mathematical understandings of college students. *Teaching Mathematics and its Applications, 29*(3), 113-139. doi:10.1093/teamat/hrq006
- Gomez, A. (2019). *The effects of makerspace learning on the social interactions among students with emotional or behavioral disorder*. The University of Texas at San Antonio,
- Heacox, D. (2012). *Differentiating instruction in the regular classroom: How to reach and teach all learners (Updated anniversary edition)*: Free Spirit Publishing.
- Hitchcock, R. K. (2019). Art Education: Utilizing Technology to Meet the Needs of All. In *Exploring Digital Technologies for Art-Based Special Education* pp. 79-88.
- Johnson, A. M., Jacovina, M. E., Russell, D. G., & Soto, C. M. (2016). Challenges and Solutions when Using Technologies in the Classroom. In S. A. Crossley & D. S. McNamara (Eds.), *Adaptive Educational Technologies for Literacy Instruction* (1 ed., pp. 13-30). New York, NY : Routledge, 2016.: Routledge.
- Knight, S. M. (2016). *The self-reported relationship between a teacher's perception of learner characteristics for students with disabilities and a teacher's use of differentiated instruction in Georgia public schools grades 6-12*: Liberty University.
- Koeze, P. A. (2007). Differentiated instruction: The effect on student achievement in an elementary school.
- Kurt, S. (2013). Examining teachers' use of computer-based technologies: A case study. *Education and information technologies, 18*, 557-570. doi:<https://doi.org/10.1007/s10639-012-9199-7>
- Lajeunesse, A. O. (2017). *No One Ever Asked Me That: Parent Experiences with Autism in Early Childhood Special Education*. New England College,
- Laurian-Fitzgerald, S. (2016). THE EFFECT OF TEACHING COOPERATIVE LEARNING SKILLS ON DEVELOPING YOUNG STUDENTS'GROWTH MINDSET. *Educația Plus, 14*(3), 68-83.
- Little, W. O. h. (2022). *Special education teachers descriptions of selecting and applying differentiated instruction within self-contained classrooms*. Grand Canyon University,
- Marlina, M., Efrina, E., & Kusumastuti, G. (2019a, 2019). *Differentiated Learning for Students with Special Needs in Inclusive Schools*. Paper presented at the Proceedings of the 5th International Conference on Education and Technology (ICET 2019).
- Marlina, M., Efrina, E., & Kusumastuti, G. (2019b). Differentiated learning for students with special needs in inclusive schools.
- McLeskey, J., & Waldron, N. L. (2011). Educational Programs for Elementary Students with Learning Disabilities: Can They Be Both Effective and Inclusive? *Learning Disabilities Research & Practice, 26*(1), 48-57. doi:10.1111/j.1540-5826.2010.00324.x
- Muhajirah, M. (2020). Basic of Learning Theory: (Behaviorism, Cognitivism, Constructivism, and Humanism). *International Journal of Asian Education, 1*(1), 37-42. doi:10.46966/ijae.v1i1.23
- Mulder, Q. (2014). *The effect of differentiated instruction on student mathematics achievement in primary school classrooms*. University of Twente,
- Naseer, H., Muhammad, Y., & Masood, S. (2020). Developing reflective practices of elementary school teachers: A collaborative action research study. *Research Journal of Social Sciences and Economics Review, 1*(4), 22-33. doi:[https://doi.org/10.36902/rjsser-vol1-iss4-2020\(22-33\)](https://doi.org/10.36902/rjsser-vol1-iss4-2020(22-33))
- Ramos, R. K. (2021). *Implementing differentiated instruction by building on multiple ways all students learn*: Dorrance Publishing.
- Roberts, J. L., & Inman, T. F. (2022). *Strategies for Differentiating Instruction: Best Practices for the Classroom* (4 ed.). New York: Routledge.
- Saif, S., Safdar, S., Anis, F., & Muhammad, Y. (2024). Embracing Diversity: The Case for Differentiated Instruction in Pakistan's Inclusive Classrooms. *Pakistan Journal of Law, Analysis and Wisdom, 3*(7), 151-163.
- Siam, K., & Al-Natour, M. (2016). Teacher's Differentiated Instruction Practices and Implementation Challenges for Learning Disabilities in Jordan. *International Education Studies, 9*(12), 167. doi:10.5539/ies.v9n12p167
- Slee, R. (2013). Exclusion, schooling and inclusive education. In *The Irregular School*.
- Smit, R., & Humpert, W. (2012). Differentiated instruction in small schools. *Teaching and Teacher Education, 28*(8), 1152-1162. doi:10.1016/j.tate.2012.07.003

- Spencer-Waterman, S. (2014). *Handbook on Differentiated Instruction for Middle & High Schools* (0 ed.): Routledge.
- Stangvik, G. (2010). Special education in society and culture: comparative and developmental perspectives. *European Journal of Special Needs Education*, 25(4), 349-358. doi:10.1080/08856257.2010.513539
- Stingo, J. (2024). *The Effects of Differentiated Instruction and Individualized Instruction on Special Education Students*. University of the Cumberland,
- Strogilos, V. (2018). The value of differentiated instruction in the inclusion of students with special needs/ disabilities in mainstream schools. *SHS Web of Conferences*, 42, 00003. doi:10.1051/shsconf/20184200003
- Suprayogi, M. N., Valcke, M., & Godwin, R. (2017). Teachers and their implementation of differentiated instruction in the classroom. *Teaching and Teacher Education*, 67, 291-301. doi:10.1016/j.tate.2017.06.020
- Taylor, A. P. (2019). *General education teacher experiences differentiating instruction for students with special Needs*. Capella University,
- Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners*: Ascd.
- Tomlinson, C. A., & Moon, T. (2014). Assessment in a Differentiated Classroom. In *Proven Programs in Education: Classroom Management & Assessment* (pp. 1-5). 2590 Conejo Spectrum, Thousand Oaks California 91320 United States: Corwin Press.
- Valiandes, S. (2015). Evaluating the impact of differentiated instruction on literacy and reading in mixed ability classrooms: Quality and equity dimensions of education effectiveness. *Studies in Educational Evaluation*, 45, 17-26. doi:10.1016/j.stueduc.2015.02.005
- Velazquez, K. (2022). *Collaborative networks of general and special education teachers at an inclusive school Site*: University of California, San Diego.
- Walton, E. (2017). Inclusive education in initial teacher education in South Africa: practical or professional knowledge? *Journal of Education*(67), 101-128. doi:<https://doi.org/10.17159/2520-9868/i67a05>
- Waqar, Y., Rashid, S., Safdar, S., & Muhammad, Y. (2024). Challenges and opportunities in providing inclusive education for refugee children in Pakistan. *International Journal of Social Science Archives*, 7(3), 16-22.