



Influence of Differentiated Instruction and Inclusive Practices on Diverse Needs of Senior Secondary School Students in Osun State

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Abstract

Students in secondary school classrooms exhibit diverse characteristics, varied learning abilities, cultural and linguistic backgrounds, and socio-emotional needs. This study examined the influence of differentiated instruction and inclusive practices in meeting the diverse needs of senior secondary school students in Osun State. A descriptive survey design was employed, and data were collected through well-structured questionnaires administered to 150 SSII students and 50 teachers from selected schools. The objectives were to assess the effectiveness of differentiated instructional strategies, identify barriers to inclusive practices, explore how teachers modify lesson plans to accommodate varying students' learning needs, and evaluate the impact of teacher training and students' perceptions of classroom inclusivity. Findings showed that strategies such as group discussions, hands-on activities, and visual aids were effective in enhancing students' participation and understanding. Major barriers to inclusive education included inadequate assistive technologies, poor infrastructure, and insufficient teacher training. The study also revealed that teachers employed a range of adaptive methods to support diverse learners' needs, and that professional training significantly improved inclusive teaching practices. Students reported positive experiences with inclusive classroom environments.

Keywords: Assistive technology; classroom inclusivity; differentiated instruction; inclusive practices; student diversity

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1. Introduction

Classrooms in the educational landscape are filled with students who differ in abilities, learning styles, and sociocultural backgrounds. One inclusive approach that is often discussed as a possible strategy to address students' diversity is differentiated instruction (Bondie et al., 2019). Differentiated instruction is a pedagogical-didactic approach that provides teachers with a starting point for meeting students' diverse learning needs. Differentiated instruction is considered to be an inclusive instructional practice that can be defined as the intentional, and systematically planned practices that enable teachers to meet the needs of all learners in heterogeneous classrooms (Graham et al., 2020; Pozas & Letzel, 2020). The traditional 'one-size-fits-all' teaching approaches are no longer fashionable in addressing these differences, resulting in disengagement, inequitable academic outcomes, and social exclusion for many students. While differentiated instruction and inclusive practices are widely recognized as effective strategies for meeting diverse student needs, their implementation in secondary schools remains inconsistent. Teachers frequently face challenges such as a lack of training, resources, and time to adapt their teaching methods effectively. Moreover, there is limited empirical evidence on the combined impact of differentiated instruction and inclusive practices on academic performance, students' engagement, and socio-emotional development in senior secondary school students in Ilesa West Local Government Area of Osun State. There is, therefore, a need for a deeper understanding of how these approaches can be effectively integrated into classroom practices to support all learners, with a view to fostering equitable education, promoting student success, and ensuring compliance with inclusive education policies in Ilesa West Local Government Area of Osun state.

According to Boelens et al. (2018), differentiation can occur at two levels: the administrative and classroom levels. The administrative level takes students' socio-economic status and gender into consideration. At the classroom level, differentiation revolves around content, process, product, and impact. On the content level, the teachers adapt what they are teaching to meet the needs of students. This can mean making content more challenging or simplified based on their levels. The process of learning can also be differentiated. Teachers may choose to teach individually, assign tasks to small groups, partners, or the whole class, depending on students' needs. By differentiating products, teachers decide how students will present what they have learned. This may take the form of videos, graphic organizers, photo presentations, writing, and oral presentations. Impact differentiation considers how these strategies influence students' engagement, confidence, motivation, and overall learning experiences, ensuring that differentiation fosters a positive and supportive classroom environment. All these take place in a classroom environment where students feel respected and valued.

Differentiated instruction and inclusive practices have emerged as pivotal strategies to address these challenges. Differentiated Instruction involves tailoring teaching methods, content, and assessments to meet individual student needs, thereby enhancing academic outcomes and fostering a supportive learning environment. On the other hand, inclusive practice focuses on creating equitable opportunities for all learners, particularly those with special needs, by removing barriers to participation and learning. Both approaches share the goal of improving educational experiences and outcomes for diverse student populations (Sánchez et al., 2019). In considering the substantial increase in students' learning demands, teachers are urged to address students' heterogeneity in their daily teaching practice by means of differentiated instruction. The practice of differentiated instruction, as a vehicle to achieve inclusive practices in education, not only aims to support all students' academic learning, but also fosters their social and emotional development (Smale-Jacobse et al., 2019)

From the perspective of pedagogical professionalism, teachers are responsible for providing students with equal access to learning situations and enabling them to participate in academic as well as socio-emotional interactions. As teachers have a significant role to play in the creation of educational contexts, the requested access and participation of every student greatly depend on

the implementation of teaching practices and strategies and the accompanying educational offers (Pit-ten et al., 2018). Given the fact that a heterogeneous class composition forms the pedagogical work base for teaching and learning processes, teachers are inevitably confronted with the professional demand to implement adequately adapted teaching practices that are tailored to their students' needs (Kärner et al., 2021; Pozas et al., 2020). Diverse student characteristics as well as their various educational needs necessitate suitable pedagogical reactions that are free of discrimination and exclusion and guarantee learning for every student (Ainscow & Messiou, 2018).

In Nigeria, inclusive education is still developing, and many schools face infrastructural and resource challenges. However, there have been encouraging signs of progress, with increased awareness and policy initiatives aimed at making schools more inclusive. For instance, the National Policy on Education (FRN, 2014) emphasises the importance of inclusive education, but its full implementation across the country remains uneven (Okoye, 2022). Okwudire and Okechukwu (2018) saw inclusive education as the progressive increase in the participation of students, in the reduction of their exclusion from the cultures, curricula, and communities of local schools. The authors further explained that with inclusive education, all students in a school, regardless of their strengths or weaknesses in any area, become part of the school environment. In order to differentiate their instruction, teachers must consider students' individual characteristics and educational needs by regarding five fundamental dimensions: coping with student diversity; adopting specific teaching strategies; introducing variety in learning activities; monitoring individual student needs; and pursuing optimal learning outcomes (Suprayogi & Valcke, 2019).

In educational systems worldwide, there is an increasing rate of embrace of differentiated instruction and inclusive practices to address the diverse needs of learners and ensure equitable access to high-quality education. As the importance of diversity becomes more recognized, differentiated instruction has emerged as a key strategy to cater to students' unique abilities, interests, and learning styles, promoting the success of all learners. Inclusive education practices aim to integrate students from marginalized groups, those with disabilities, and other disadvantaged individuals into general education settings. This approach helps to foster equity, social cohesion, and equal opportunities for lifelong learning. These efforts are supported by international frameworks such as the United Nations' Sustainable Development Goals (SDG 4), which strive to leave no one behind in the pursuit of quality education for all. Inclusive teaching practices are often discussed as a pedagogical solution to avoid learning barriers for students who are likely to be disadvantaged in educational settings. (Lindner & Schwab, 2020; Schwab et al., 2020; UNESCO, 2020).

Differentiated instruction is critical to creating inclusive educational environments where all students can access learning in a way that suits their individual needs. This approach involves adjusting teaching techniques, materials, and assessments to accommodate the diverse abilities and interests within the classroom. By recognizing that students have different learning paces, strengths, and preferences, differentiated instruction ensures that all learners are allowed to succeed, regardless of their background or abilities. The concept was influenced by the work of educational theorists such as Lev Vygotsky, whose ideas on scaffolding and the zone of proximal development laid the foundation for understanding the importance of individualized support in learning. In the 1980s and 1990s, as research on student diversity and inclusive education grew, the need for differentiated instructional strategies became more evident.

The classroom serves as the primary environment for implementing differentiated instruction and inclusive practices, as it is where diverse groups of students come together to learn. These educational approaches are essential in addressing the varied abilities, learning styles, and backgrounds of students, creating an environment that fosters equity and inclusion. The classroom is naturally diverse, consisting of students with different academic strengths, disabilities, cultural backgrounds, and learning needs, making it the ideal setting for personalized

and inclusive teaching strategies. Therefore, classrooms need to be flexible and adaptive to meet the diverse needs of all learners. The principles of Universal Design for Learning (UDL) support the idea that differentiated instruction and inclusive practices are best implemented in the classroom setting to ensure that all students can access learning opportunities (Hall, Strangman, & Meyer, 2003). Furthermore, assessing students' subjective well-being, social inclusion, and academic self-concept are variables that can reflect educational quality (Guillemot & Hessels, 2021). The results of a quantitative study by Alnahdi et al. (2021) indicated that students' perception of their teachers' use of differentiated instruction strongly predicted students' perceived emotional and social inclusion as well as their academic self-concept. Such results highlighted the relation between the implementation of differentiated instruction and students' non-academic outcomes (Alnahdi et al., 2021).

In implementing an inclusive teaching practice, teachers plan and design learning situations to meet students' educational needs. Therefore, the students may be conceived as recipients of teachers' pedagogical decisions and interventions. Against the background of this assumption, it seems imperative that students' perspectives be taken into account while investigating teaching and learning processes as well as their effectiveness, as the effects are consequences of measures aimed at satisfying students' diverse educational needs (Montuoro & Lewis, 2018). By emphasizing students' voices in educational research, the risk of distorting the inclusive reality in classrooms is reduced. Focusing solely on teacher samples may lead to self-serving over-reporting strategies, which can skew the investigation of classroom phenomena. (Wallace et al., 2016; Faddar et al., 2018; Gollner et al., 2018). It was against this backdrop that this study was carried out to explore how differentiated instruction and inclusive practices influence the learning experiences of senior secondary school students in Ilesa West Local Government Area. The study sought to provide insights into how these approaches impact students' academic performance, emotional well-being, and social inclusion of the students in Osun state.

The main purpose of the study was to explore how differentiated instruction and inclusive teaching practices address the diverse needs of secondary school students, while the specific objectives were to:

- i. investigate the effectiveness of differentiated instruction strategies in enhancing students' understanding and participation in the learning process in Ilesa East and West Local Government Areas of Osun State;
- ii. identify the barriers to implementing inclusive practices in Ilesa East and West Local Government Areas of Osun State;
- iii. explore how teachers adapted their lesson plans to cater to students with different learning needs and to ensure an inclusive and effective learning environment in Ilesa West Local Government Area of Osun State;
- iv. investigate the extent to which teachers' training programs promoted inclusive education in Ilesa East and West Local Government Areas of Osun State;
- v. examine students' perceptions of the inclusivity of their classroom environment in Ilesa East and West Local Government Areas of Osun State.

Answers were provided to the following research questions:

- i. How effective are differentiated instruction strategies in enhancing students' understanding and participation?
- ii. What barriers hinder the implementation of inclusive practices in secondary schools?
- iii. How do teachers adapt their lesson plans to cater to students with different learning needs?
- iv. What is the role of teachers' training in promoting inclusive education?
- v. How do students perceive the inclusivity of their classroom environment?

2. Methodology

This study adopted a descriptive survey research design, a widely used approach that involves administering questionnaires to a sample or an entire population to explore their attitudes, opinions, behaviors, or characteristics (Creswell, 2008).

2.1. Participants

The population of this study comprised all senior secondary school students and teachers in Ilesa West and East Local Government Area of Osun State. This study focused on Senior Secondary Two (SSII) students and their teachers in Ilesa East and West Local Government Areas of Osun State. A dual sampling stage was employed to ensure a structured and representative selection of participants. In the first stage, 25 senior secondary schools were purposively selected based on accessibility and willingness to participate. For the second stage, six SSII students and two teachers were selected from each school using simple random sampling, ensuring equal opportunity for participation and a diversity of perspectives.

This approach resulted in a total sample size of 200 respondents, comprising 150 students and 50 teachers. SSII students were involved in the study because they had spent sufficient time in the secondary school system to provide meaningful and reliable data; SS1 students were excluded as they were transiting to the senior school environment, while SS3 students were not considered due to their involvement in WASCE preparations. Teachers drawn across different specialisations were included to provide professional insight into instructional methods and inclusive practices, helping to deepen understanding of how teaching strategies addressed the diverse needs of learners. This dual-stage sampling approach allowed the researchers to gather balanced and relevant data on the effects of differentiated instruction and inclusive practices across the selected schools.

2.2. Instrument

Pertinent data were collected through a researcher-designed and validated questionnaire for both students and teacher respondents, titled “Influence of Differentiated Instruction and Inclusive Practices on the Diverse Needs of Senior Secondary School, tagged (IDIIP). The teachers’ questionnaire consisted of six sections, yielding a reliability co - coefficient of 0.73, while the students’ questionnaire comprised five sections, with a reliability index of 0.80. The data collected were analysed using frequency count and simple percentages.

3. Results

Table 1 presents the gender distribution of respondents. It showed that male Students were 41.3% male, and 58.7% female, while teachers had 52.0% male, and 48.0% female.

Table 1. Respondents’ Distribution by Gender

	f	%	f	%
	STUDENT (N = 150)		TEACHER (N = 50)	
Male	62	41.3	26	52.0
Female	88	58.7	24	48.0
Total	150	100.0	50	100.0

Source: field survey, 2025

Research Question 1: How effective are differentiated instruction strategies in enhancing students’ understanding and participation?

Table 2 revealed the analysis of the effectiveness of differentiated instructional strategies in enhancing students’ understanding and participation. The items the teachers agreed with were; Textbooks at different reading levels (82.0%); group discussions (92.0%); hands-on activities (68.0%); essays (74.0%); posters (76.0%); presentations (76.0%); flexible seating (82.0%); quiet study areas (78.0%); collaborative workspaces (90.0%).

Table 2. Analysis of the effectiveness of differentiated instruction strategies in enhancing students’ understanding and participation

S/N	ITEMS	RESPONSE			
		Effective		Not Effective	
		f	%	f	%
TEACHERS (N = 50)					
1	Textbooks at different reading levels	41	82.0%	9	18.0%
2	Visual aids for complex concepts	24	48.0%	26	52.0%
3	Audio versions of lessons	19	38.0%	31	62.0%
4	Group discussions	46	92.0%	4	8.0%
5	Hands-on activities	34	68.0%	16	32.0%
6	Video tutorials	15	30.0%	35	70.0%
7	Essays	37	74.0%	13	26.0%
8	Posters	38	76.0%	12	24.0%
9	Presentations	38	76.0%	12	24.0%
10	Flexible seating	41	82.0%	9	18.0%
11	Quiet study areas	39	78.0%	11	22.0%
12	Collaborative workspaces	45	90.0%	5	10.0%
STUDENTS (N = 150)					
1	Textbooks at different reading levels	134	89.3%	16	10.7%
2	Visual aids for complex concepts	77	51.3%	73	48.7%
3	Audio versions of lessons	74	49.3%	76	50.7%
4	Group discussions	123	82.0%	27	18.0%
5	Hands-on activities	99	66.0%	51	34.0%
6	Video tutorials	73	48.7%	77	51.3%
7	Essays	114	76.0%	36	24.0%
8	Posters	109	72.7%	41	27.3%
9	Presentations	118	78.7%	32	21.3%
10	Flexible seating	109	72.7%	41	27.3%
11	Quiet study areas	104	69.3%	46	30.7%
12	Collaborative workspaces	108	72.0%	42	28.0%

Source: field survey, 2025

The items that teachers disagreed with were: visual aids for complex concepts (52.0%), audio versions of lessons (62.0%), and video tutorials (70.0%). While the items the student agreed with were; textbooks at different reading level (89.3%); visual aids for complex concepts (51.3%); group discussions (82.0%); hands-on activities (66.0%); essays (76.0%); posters (72.7%); presentations (78.7%); flexible seating (72.7%); quiet study areas (69.3%), collaborative workspaces (72.0%). The items that students disagreed with were: audio versions of lessons (50.70%), video tutorials (51.3%).

Research Question 2: What barriers hinder the implementation of inclusive practices in secondary schools?

Table 3 provides the analysis of the barriers to the implementation of inclusive practices in secondary schools. The items the teachers agreed with were: lack of ramps, elevators, and accessible classrooms (54.0%); inadequate assistive technology (e.g., Braille materials, hearing aids). (52.0%), lack of differentiated instruction strategies (64.0%); lack of training in special or inclusive education (54.0%).

Table 3. Analysis of the barriers to the implementation of inclusive practices in secondary schools (N = 50)

S/ N	ITEMS	RESPONSE			
		Agree		Disagree	
		F	%	f	%
1.	Lack of ramps, elevators, and accessible classrooms.	27	54.0%	23	46.0%
2.	Inadequate assistive technology (e.g., Braille materials, hearing aids).	26	52.0%	24	48.0%
3.	Poor classroom layout that limits movement.	19	38.0%	31	62.0%
4.	Negative perceptions and stereotypes about students with disabilities.	17	34.0%	33	66.0%
5.	Resistance from teachers, parents, or students towards inclusion.	21	42.0%	29	58.0%
6.	Low expectations for students with special needs.	9	18.0%	41	82.0%
7.	Rigid curriculum that does not accommodate diverse learning needs.	22	44.0%	28	56.0%
8.	Lack of differentiated instruction strategies.	32	64.0%	18	36.0%
9.	Teaching methods that do not support multiple learning styles.	22	44.0%	28	56.0%
10.	Lack of training in special or inclusive education.	27	54.0%	23	46.0%
11.	Overloaded classrooms make it difficult to give individual attention.	24	48.0%	26	52.0%
12.	Inadequate support from the school administration.	23	46.0%	27	54.0%

Source: field survey, 2025

While the items the teachers disagreed with were; poor classroom layout that limits movement (62.0%); negative perceptions and stereotypes about students with disabilities (66.0%); resistance from teachers, parents, or students towards inclusion (58.0%); low expectations for students with special needs (82.0%); rigid curriculum that does not accommodate diverse learning needs (56.0%); teaching methods that do not support multiple learning style (56.0%); overloaded classrooms, making it difficult to give individual attention (52.0%); inadequate support from school administration (54.0%).

Research Question 3: How do teachers adapt their lesson plans to cater to students with different learning needs?

Table 4 presents the analysis of teachers' adaptation of lesson plans to cater to students with different learning needs.

Table 4. Analysis of teachers' adaptation of lesson plans to cater to students with different learning needs (N = 50)

S / N	ITEMS	RESPONSE							
		Strongly Agree		Agree		Disagree		Strongly Disagree	
		f	%	f	%	f	%	f	%
1	Use a mix of visual (pictures, charts, videos), auditory (discussions, recordings), and kinesthetic (hands-on activities, role-playing) approaches.	4	8%	41	82.0%	5	10.0%	Nil	Nil
2	Incorporate storytelling, real-life examples, and multimedia tools to engage all learners.	6	12%	41	82.0%	2	4.0%	1	2.0%
3	Provide simplified texts or summaries for students who struggle with comprehension.	6	12%	43	86.0%	1	2.0%	Nil	Nil
4	Offer bilingual resources for students learning in a second language.	7	14%	34	68.0%	9	18.0%	Nil	Nil
5	Allow students to work in pairs or small groups based on their strengths.	6	12%	43	86.0%	1	2.0%	Nil	Nil
6	Provide choices in assignments (e.g., writing an essay, making a presentation, or creating a model).	16	32%	29	58.0%	5	10.0%	Nil	Nil
7	Offer extra support to students who need it, such as one-on-one assistance.	17	34%	31	62.0%	2	4.0%	Nil	Nil
8	Break complex tasks into smaller steps and guide students through them.	16	32%	34	68.0%	0	0.0%	Nil	Nil
9	Allow multiple ways to show understanding (e.g., verbal explanations, drawings, presentations).	14	28%	35	70.0%	1	2.0%	Nil	Nil
10	Use open-book tests, oral assessments, or extended time for students who need accommodations.	18	36%	30	60.0%	2	4.0%	Nil	Nil
11	Arrange seating to support interaction and collaboration.	16	32%	33	66.0%	1	2.0%	Nil	Nil
12	Foster a supportive classroom culture where all students feel valued.	17	34%	33	66.0%	Nil	Nil	Nil	Nil
13	Encourage peer mentoring and cooperative learning.	14	28%	36	72.0%	Nil	Nil	Nil	Nil

Source: Field survey, 2025

The items in table 4 the teachers agreed were; Use a mix of visual (pictures, charts, videos), auditory (discussions, recordings), and kinesthetic (hands-on activities, role-playing) approaches (90.0%); incorporate storytelling, real-life examples, and multimedia tools to engage all learners (94.0%); provide simplified texts or summaries for students who struggle with comprehension (98.0%); offer bilingual resources for students learning in a second language (82.0%); allow students to work in pairs or small groups based on their strengths (98.0%) provide choices in assignments (e.g., writing an essay, making a presentation, or creating a model) (90.0%); offer extra support to students who need it, such as one-on-one assistance (96.0%); break complex tasks into smaller steps and guide students through them (100.0%); allow multiple ways to show understanding (e.g., verbal explanations, drawings, presentations) (98.0%); use open-book tests, oral assessments, or extended time for students who need accommodations (96.0%); arrange seating to support interaction and collaboration (98.0%); foster a supportive classroom culture where all students feel valued (100.0%); encourage peer mentoring and cooperative learning (100.0%).

Research Question 4: What is the role of teachers’ training in promoting inclusive education?

Table 5 includes the analysis of the role of teachers’ training in promoting inclusive education.

Table 5. Analysis of the role of teachers’ training in promoting inclusive education (N = 50)

S/ N	ITEMS	RESPONSE							
		Strongly Agree		Agree		Disagree		Strongly Disagree	
		f	%	f	%	f	%	f	%
1	Training helps teachers understand the importance of inclusion and the rights of all students, including those with disabilities.	18	36%	29	58.0%	3	6.0%	Nil	Nil
2	Teachers learn differentiated instruction techniques to address varied learning styles.	16	32%	33	66.0%	1	2.0%	Nil	Nil
3	Teachers are trained on how to manage diverse classrooms effectively.	19	38%	31	62.0%	0	0.0%	Nil	Nil
4	Teachers gain an understanding of different disabilities (e.g., dyslexia, autism, visual/hearing impairments).	12	24%	25	50.0%	12	24.0%	1	2.0%
5	Teachers are introduced to tools like Braille materials, screen readers, hearing aids, and adaptive software.	18	36%	18	36.0%	13	26.0%	1	2.0%
6	Training emphasizes the role of teamwork among teachers, parents, and special educators.	13	26%	34	68.0%	3	6.0%	Nil	Nil
7	Teachers are educated on inclusive education policies and laws to ensure they uphold students' rights.	18	36%	27	54.0%	5	10.0%	Nil	Nil
8	Training helps teachers understand alternative assessment techniques, such as oral exams, extended time, and project-based assessments.	8	16%	33	66.0%	9	18.0%	Nil	Nil

Source: field survey, 2025

The items the teachers agreed with were; training helps teachers understand the importance of inclusion and the rights of all students, including those with disabilities (94.0%); teachers learn differentiated instruction techniques to address varied learning styles (98.0%); teachers are trained on how to manage diverse classrooms effectively (100.0%); teachers gain an understanding of different disabilities (e.g., dyslexia, autism, visual/hearing impairments) (74.0%); teachers are introduced to tools like Braille materials, screen readers, hearing aids, and adaptive software (72.0%); training emphasizes the role of teamwork among teachers, parents, and special educators (94.0%); teachers are educated on inclusive education policies and laws to ensure they uphold students' rights (90.0%) training helps teachers understand alternative assessment techniques, such as oral exams, extended time, and project-based assessments (82.0%).

Research Question 5: How do students perceive the inclusivity of their classroom environment?

Table 6 displayed the analysis of the way students perceive the inclusivity of their classroom environment.

Table 6. Analysis of students' perception of the inclusivity of their classroom environment (N = 150)

S/ N	ITEMS	RESPONSE			
		Agree		Disagree	
		f	%	f	%
1	My teacher employs diverse instructional strategies, such as group discussions, hands-on activities, and multimedia presentations, to address various learning preferences.	122	81.3%	28	18.7%
2	I have access to learning resources that cater to my individual needs, including simplified texts, visual aids, and assistive technologies like speech-to-text software.	110	73.3%	40	26.7%
3	Classroom tasks, such as collaborative projects and peer tutoring sessions, are organized to ensure that every student can participate meaningfully.	115	76.7%	35	23.3%
4	When I encounter academic challenges, my teachers offer additional support, such as one-on-one tutoring or modified assignments, to facilitate my understanding.	119	79.3%	31	20.7%
5	I am encouraged to share my thoughts and actively engage in class discussions without fear of criticism or exclusion.	127	84.7%	23	15.3%

Source: field survey, 2025

The items the students agreed with were; there teacher employs diverse instructional strategies, such as group discussions, hands-on activities, and multimedia presentations, to address various learning preferences (81.3%); they have access to learning resources that cater to my individual needs, including simplified texts, visual aids, and assistive technologies like speech-to-text software (73.3%) classroom tasks, such as collaborative projects and peer tutoring sessions, are organized to ensure that every student can participate meaningfully (76.7%); when they encounter academic challenges, my teachers offer additional support, such as one-on-one tutoring or modified assignments, to facilitate my understanding (79.3%); they were encouraged to share their thoughts and actively engage in class discussions without fear of criticism or exclusion (84.7%).

4. Discussions

Findings of this study provided valuable insights into the effectiveness, challenges, and perceptions of inclusive education practices in secondary schools.

Findings revealed that differentiated instructional strategies are largely effective in improving students' understanding and participation. High levels of agreement were recorded for methods such as the use of textbooks at different reading levels, group discussions, and collaborative workspaces. This aligns with Lewis (2018) that when instruction is tailored to meet individual learning preferences, student engagement increases significantly. Provision of a range of instructional materials, including texts, multimedia resources, and manipulatives, to cater to diverse learning preferences and modalities. This allows students to access content in ways that resonate with their learning styles (Gregory & Chapman, 2017).

Numerous challenges hinder effective inclusive education. The most reported barrier was the lack of differentiated instruction strategies, followed by the lack of training and inaccessible infrastructure (e.g., ramps and assistive technology). The presence of negative perceptions and low expectations for students with special needs also reflects a cultural gap that must be addressed. Sánchez (2019) reported that both structural and attitudinal changes are needed for inclusive education to thrive.

Findings also showed high levels of adaptation in their instructional methods to meet diverse needs. Strategies such as simplifying texts, breaking tasks into smaller steps, and fostering supportive environments were widely used. This suggests that teachers are not only aware of students' varied needs but are also willing to accommodate them, provided they are equipped with the right training and support. This agrees with Parsons (2013) that classroom instruction is complex, and effective teachers need to adapt their instruction to navigate this complexity. However, little research has explicitly studied how teachers adapt their instruction or their reflections on adaptations (Duffy et al., 2009; Fairbanks et al., 2010).

Training plays a pivotal role in promoting inclusive education. Teachers who received training demonstrated better understanding of inclusion policies, disabilities, and classroom management. Notably, 100% of respondents agreed that training helps them to manage diverse classrooms, while 98.0% said it improved their ability to use differentiated techniques. However, areas like understanding assistive tools and alternative assessment methods still need to be emphasised. Student responses reflected a generally positive perception of classroom inclusivity. Over 84.7% felt encouraged to participate without fear of exclusion, and 81.3% acknowledged the use of varied instructional strategies. These responses affirmed that inclusive teaching practices have a direct impact on students' confidence, sense of belonging, and academic engagement.

Moreover, the role of teacher training in promoting inclusive education helps teachers understand the importance of inclusion and the rights of all students with disabilities to learn differentiated instruction techniques to address varied learning styles. This agrees with Paseka and Schwab (2020) that the importance of the organization of inclusive education in relation to the inclusion process, the perception of teaching methods and resources by various subjects of inclusion. Among the factors of the effectiveness of inclusion models, the role of teachers is a critical factor that is formed under the influence of the adopted legislative changes, the practice of inclusion, and the exchange of experience in the organization of inclusive education. Competences of educators, formed through training and skills enhancement programmes, ensure the effectiveness of adaptation and integration of primary school pupils into society. "The greatest influence on the educational and social outcomes of pupils with special educational needs is the behavior and practices of the classroom teacher" (Efthymiou and Kington, 2017).

Conclusions and recommendations

This study concluded that inclusive education is both essential and achievable when proper instructional strategies, teacher training, and infrastructural support are in place. Differentiated instruction significantly enhanced students' participation and understanding. Nonetheless, several barriers, ranging from lack of training and resources to attitudinal challenges, continue to affect the implementation of inclusive practices. Teachers were adapting their methods well, and students generally perceived their classrooms as inclusive environments. However, there remains a critical need for systemic reform to address existing gaps and sustain inclusive efforts in schools.

Inclusive education is both essential and achievable when proper instructional strategies, teacher training, and infrastructural support are in place. Differentiated instruction significantly enhanced students' participation and understanding. Barriers ranging from lack of training and resources to attitudinal challenges continue to affect the implementation of inclusive practices. Teachers were adapting their methods well, and students generally perceived their classrooms as inclusive environments. However, there remains a critical need for systemic reform to address existing gaps and sustain inclusive efforts in schools. The study recommended sustained investment in teacher development, infrastructure, and curriculum flexibility to strengthen inclusive education and differentiated teaching across schools.

Consequent upon the findings above, the following were recommended:

- School Administrators and Policy Makers should synchronize to provide continuous professional development for teachers in inclusive practices, assistive technologies, and alternative assessments.
- Government should invest in infrastructure such as ramps, elevators, and accessible classrooms.
- School administrators should revise the curriculum to allow flexibility for diverse learning needs.
- Policy makers should establish monitoring systems to evaluate the effectiveness of inclusion policies.
- Teachers should integrate varied teaching strategies (visual, auditory, kinesthetic) to cater to all learners.
- Teachers should foster a supportive and inclusive classroom culture.
- Teachers should regularly assess and adapt lesson plans based on students' feedback and learning profiles.
- Teachers should encourage collaboration among students to promote peer learning.
- Community and parents should sensitize the public on the importance of inclusive education to combat stereotypes.
- Parents should partner with schools to provide emotional and educational support to children with special needs.
- Parents should advocate for inclusive education through community forums and local governance structures.

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