Improving Students' Learning Achievement through Differentiated Teaching Strategies in Class IX A Geography

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Abstract

The study explored the effectiveness of differentiated teaching strategies in enhancing the learning outcomes of Class IX A students in Geography. Specifically, it analyzed students' academic achievement, examined their perceptions of differentiated instruction, and explored the associated benefits of using these strategies in Geography. The research was conducted over a four-week intervention period with 31 students from Class IX A. Data were collected through a geography learning achievement test and a survey questionnaire. Pre-test and post-test assessments were used to measure students' performance before and after the intervention. The results showed a significant improvement in learning outcomes, with the mean score increasing from 12.43 in the pre-test to 22.06 in the post-test, indicating the positive impact of differentiated instruction. The descriptive analysis further revealed that students had favourable perceptions of differentiated teaching strategies, highlighting their engagement and motivation. The findings also indicated several benefits, such as improved understanding and classroom management. In conclusion, the study affirms that incorporating differentiated teaching strategies positively influences students' academic achievement in Geography. It recommends the continued use of such strategies to enhance learning experiences and outcomes in Geography lessons.

Keywords: academic achievement, differentiated teaching strategies, Geography education, intervention, pre-test and post-test assessments, student perceptions,

Introduction

The action research on improving learning achievement through Differentiated Teaching Strategies addresses the needs of students who come from different backgrounds, abilities, and learning styles. Numerous studies have focused on differentiated teaching strategies directed towards exploring differentiated teaching strategies, primarily in response to the diverse learning abilities found within the regular classroom. Munna and Kalam (2021) affirmed that successful teachers always keep in view that teaching must be dynamic, challenging and by the learner's comprehension. This approach involves adapting instruction to accommodate the varying learning needs, interests, and readiness levels of students. By offering a range of teaching methods, materials, and assessment options, differentiated teaching ensures that all students have opportunities to engage with the curriculum at their own pace

(Gentry et al., 2013). The differentiated teaching strategy is a growing trend in the 21st-century classroom as educators try to find ways to address the needs of all learners served in the regular education setting. To accommodate the presence of diverse learners in general education classrooms, many schools in Bhutan have implemented a Differentiated teaching strategy.

Diversity among students in the classroom is evident from the learning achievement revealed through the test performance and classroom discussion. Suizo et al. (2023) stated that today's schools are becoming more academically diverse, and teachers must consider the types of activities they plan for their students. Implementing Differentiated Teaching Strategies has the potential to increase test scores for all students because their individual learning needs would be met. The learning outcome indicated that there exist diverse backgrounds such as their different abilities, and learning styles among students in the classroom. Addressing diverse learners poses challenges for every teacher as most teachers are not equipped to deal with diverse learners though it is an essential aspect of teaching practice that teachers must challenge. Indeed, addressing the needs of diverse learners is not only an important but also a mandatory component of teachers' evaluation, forming a crucial section of the Bhutanese Performance Standards and Teachers' Professional Standards (BPST). Therefore, addressing the challenges of diverse learners can be effectively managed through the implementation of differentiated instruction.

By implementing differentiated teaching strategies to accommodate the diverse needs, learning styles, and abilities of students, the research also seeks to analyse the perception, opportunities and challenges of differentiated teaching strategies. The study may also provide insights to educators, policymakers, and stakeholders about its applicability and relevance in enhancing academic achievement in Geography through differentiated teaching strategies.

Literature Review

Differentiated Teaching Strategy

Scholars like Tomlinson et al. (2003) define differentiation as one of the most basic levels that offers multiple options for students to take in information, make sense of ideas, and express what they learn. The researcher emphasized that differentiation serves as a foundational aspect of effective teaching by offering students various opportunities to understand and engage with the material they are learning. Therefore, it allows students to choose methods that suit their learning styles, helping them understand the concepts more effectively and express their understanding. Differentiated instruction means that students are different and that these differences have to be accepted, and the expression individualized instruction specifies that it is a differentiation based on respect for individual differences (Milosevic & Rossetti, 2015). They regarded differentiated instruction strategies as an effort to adapt the teaching to the abilities of students with different achievements thus differentiated instruction is an approach to education where the teacher adapts their teaching methods and materials to meet the diverse learning needs of students in the classroom. The teaching strategies should be based on learners' backgrounds, abilities, interests, and learning styles, aimed to provide multiple opportunities for students. Tomlison (2000) further highlighted the meaning of differentiated instruction as receiving teachers' support, identifying connections between the curriculum and their personal interests and life experiences, and the need for them to experience classrooms in which they feel safe and valued. Therefore, creating a positive classroom environment is important as every student in the classroom feels supported, engaged and respected.

Perception of Differentiated Teaching Strategy

The study conducted by Thompson (2009) revealed that There are various aspects of differentiated instruction which they utilize to promote student success. participants in the study considered differentiated instruction to be a teaching approach that meets a wide range of student needs. The study emphasizes that differentiated instruction acknowledges student diversity and aims to create equitable learning opportunities by meeting learners at their

respective levels. Tomlinson et al. (2003b) further highlighted that when learning is exciting and interesting students are more likely to be engaged. Therefore, motivation to learn is likely to increase when students are passionate about the topics they study. Differentiated instruction employs strategies such as tiered assignments to ensure that students engage with tasks appropriate to their skill level and learning needs. With the use of tiered assignments, students are less likely to be over-challenged or bored with an assignment thereby promoting student learning (Tomlinson, 2001).

Differentiated instruction enables students to make choices about what they learn, the conditions under which they learn, and how they demonstrate their understanding, all within parameters set by the teacher. Learning contracts clarify learning expectations, ensure students apply skills in context, outline conditions for the contract period, establish positive and negative consequences for meeting or violating boundaries, specify the criteria for completing tasks, and are signed by both the teacher and the student (Tomlinson, 1999). Students perceive that differentiated teaching strategies promote interest in learning. This perception is by research conducted by Wijayanti et al. (2017) on the development of mathematical self-efficacy through a differentiated teaching strategy which shows a positive response from students. Students stated that learning made them feel comfortable and became happier to learn mathematics. With different instructions that are tailored to the needs of students so that they are not discriminated against.

The study by Santangelo and Tomlinson (2009) on the application of differentiated teaching strategy in higher education shows that it is beneficial for the learning process because students have different ways of learning, interests, experiences, and goals. The application of a differentiated teaching strategy will be useful as an encouragement for students to systematically and reflectively explore ways to have meaningful and appropriate learning experiences. Iqbal et al. (2020) further affirm that students view differentiated teaching strategy adds to student success and is effective for improving strategies in learning.

The implementation of differentiated instruction (DI) serves as a valuable tool to encourage students to systematically and thoughtfully explore strategies for achieving meaningful and appropriate learning experiences (Iqbal et al., 2020). Therefore, the strategy ensures that learners can engage with content in ways that align with their interests, abilities, and learning styles, ultimately enhancing both motivation and academic outcomes.

The study conducted by Roy et al. (2013) reported that in the majority of the responses found on the questionnaire, both teachers and students reported a lack of individualized instruction. For example, students reported that on a typical day, teachers lectured while they worked alone on drills and the same assignments as other students. This suggests that, despite the recognized benefits of differentiated instruction, many educators continue to rely on traditional, one-size-fits-all teaching methods, which may not effectively address the diverse learning needs of students. This aligns with broader concerns about the slow adoption of differentiated teaching practices, reinforcing the need for more professional development and support to encourage teachers to implement these strategies effectively.

Benefits of Differentiated Teaching Strategies

The study by Asriadi et al. (2023) concluded that the differentiated instruction strategy is a great teaching strategy to meet the diverse needs of the students in the classrooms. Their study revealed that the experimental group had an outstanding remark on their post-test scores while the control group had a little improvement with a satisfactory remark. studies with a focus on differentiated instruction were carried out in many countries in various subjects. For example, a study by Özüdoğru (2022) affirms that differentiated teaching strategies had a positive impact on student's academic achievement in mathematics. The study showed that the difference between the pre-test and the post-test results was statistically significant and in favour of the experimental group. Senturk (2018) conducted a study which integrated case study and survey research methods for grade 3 students. The students received differentiated teaching in science class. The results of the study revealed that differentiated instruction applied

through tiered activities had increased student learning increased their motivation and helped the teacher ensure smooth classroom management. This suggests that differentiated instruction, when applied through tiered activities, can benefit both students and teachers by enhancing learning, motivation, and classroom management.

Cox (2014) implemented differentiated teaching strategies in the science curriculum and conducted a study where his study concluded that the implementation of differentiated teaching strategies not only improved academic performance but also enhanced students' attitudes, critical thinking abilities, and creativity. Hence the use of differentiated teaching strategies had numerous benefits beyond just academic achievement. In the field of Social Science, This suggests that students experience improvement in their academics which indicates that implementing differentiated teaching strategies meets the diverse needs of the students.

Research Approach

A mixed methods approach was employed for this research since it offers better ways of addressing the research problem than qualitative and quantitative in isolation. Furthermore, Creswell and Creswell (2018) stated that the mixed methods approach in research resides in the middle of the continuum because it incorporates elements of both qualitative and quantitative approaches. Creswell (2013) also stated that employing a mixed methods research approach entails the integration of both quantitative and qualitative research methods in a single study, encompassing data collection and analysis, to gain insight into a research problem. Therefore, the strength of one method overcomes the limitation of another method.

The purpose of the quantitative approach is also to explore the perception and benefits of Differentiated Teaching Strategies used as a teaching approach during intervention. The survey which consists of a closed-ended questionnaire was collected from the learners. In the qualitative phase of data collection, semi-structured interviews were conducted for more extensive and systematic data on differentiated teaching strategies.

Sampling Strategies

Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for determining parameters or characteristics of the whole population (Creswell & Creswell, 2018). The researchers ensured the selection of participants using purposeful sampling for data collection. The purposive sampling method is based on the assumption that the researcher wants to discover, understand and gain insight and therefore must select a sample from which the information can be gathered easily (Gentles et al., 2015). As a result, class IX A students were selected because the students exhibit a wide range of learning styles, abilities, and interests. Conducting action research in this group allows for the exploration of how differentiated teaching strategies can address these diverse needs effectively.

Sample Size

A sample size is a group of participants in the study selected from the target population from which the researcher generalizes to the target population (Creswell, 2014). By sample size, it is understood as a group of subjects that are selected from the general population and are considered representative of the real population for that specific study.

For the quantitative study, purposeful sampling will be adopted in selecting all the students from two sections which comprised 31 students. For the qualitative study, 8 students from the class were employed for a semi-structured interview. The method aimed to obtain data from purposely selected individuals rather than from a statistically representative sample of a broader population (Creswell, 2014). Therefore, the researcher has

purposefully selected the participant to gather that data for the qualitative study. In addition to knowledge and experience, the researcher noted the importance of availability and willingness to participate, and the ability to communicate experiences and opinions.

Data Collection strategies and tools

Data collection is the process of gathering, measuring, and analyzing accurate data from a variety of relevant sources to find answers to research problems, answer questions, evaluate outcomes, and forecast trends and probabilities (Creswell, 2014). Therefore, the main aim of data collection was to gather quality information that can be analyzed and used to support decisions or provide evidence. Data was collected through various strategies and tools such as the Geography Learning Achievement Test, survey and interviews.

Geography Learning Achievement Test

This study employed pre-tests and post-tests. The pre-test was developed to collect baseline data The pretest provides a measure of some attributes or characteristics that the researcher assesses for the student participants in the study before they receive intervention (Creswell, 2013). It also allows researchers to understand the starting point and to compare it with the post-intervention results to determine the effectiveness of the intervention. Then, the researcher conducted a post-test to measure the student's learning achievements after the intervention. The post-test provides information for the researcher on a measure of attributes or characteristics which is assessed for students after the intervention (Creswell, 2013). The pre-test and the post-test will be in the form of multiple-choice questions and short-answer questions.

Survey Questionnaire

The researchers employed a survey questionnaire applying closed-ended questions to collect quantitative data on the perception and benefits of Differentiated Teaching Strategies. According to Creswell (2013), in close-ended questions, the researcher poses a question and provides pre-set response options for the participant. A set of survey questionnaires were designed by the researchers and the participants were asked to indicate how much they agreed with each statement, using a scale that ranged from strongly disagree to strongly agree.

The study employed a six-point Likert scale of Pimentel (2019). By employing a six-point Likert Scale, a survey questionnaire was collected from the Experimental Group after the intervention. A six-point Likert scale was employed to encourage participants to consider the question more carefully and make a choice that either leans positively or negatively. The quantitative data collected using questionnaires were analyzed using Statistical Package for the Social Science -22 (SPSS-22).

Semi-Structured Interview

For qualitative data, the researcher conducted semi-structured interviews with students. These interviews aimed to dig deeper into the effectiveness of Differentiated Teaching Strategies in improving learning outcomes. The questions were designed to provide more details to complement the quantitative data. The interview questions comprised 6 main questions where the questions were asked after structuring depending on their response. The data collected from interviews were analyzed thematically. According to Byrne (2021), thematic analysis is a method for systematically identifying, organizing, and offering insights into patterns of meaning across a dataset.

Result and Discussion

The data presented in this study were derived from both quantitative and qualitative sources through survey questionnaires and interviews. The collected data were analyzed and triangulated to ensure the validity of the findings. A survey questionnaire was administered to 31 students to capture their perceptions perception and benefits of differentiated teaching strategies. Similarly, face-to-face interviews were conducted to provide deeper insights and address the research questions.

The discussion is structured around three main themes: students' learning achievement with the use of Differentiated Teaching Strategies, students' perceptions of differentiated teaching strategies and the benefits of differentiated teaching strategies.

Demographic Profile of the Participants

Table 1

Participants for Pretest and Post-test

Participants			Total
	N	%	%
Gender			
Male	14	45.1	100
Female	17	54. 9	100

A total of 31 students of class IX A participated in the study. The survey questionnaire was administered to 31 students who were taught through a differentiated teaching strategy for a month of which 14 (45.1%) were male and 17 (54.9%) were female. The data was collected online using Google Forms. The study also collected qualitative data from 10 participants through semi-structured interviews. A total of 10 students participated in the interview out of which 5 were male and 5 were female.

Baseline Data Collection.

For the baseline data collection, a class test was administered to all the students of Class IX A to assess and analyze their learning achievements. The purpose of this assessment was to establish a benchmark or starting point to understand the student's current knowledge, skills, and areas of strength or difficulty within the subject matter. The test covered key topics relevant to the curriculum, ensuring alignment with the expected learning outcomes for their grade level. Through this process, the teacher aimed to gather quantitative data on the student's performance, which would serve as a reference point for comparison with future assessments. Based on the marks that the students scored it enables the researcher to group students based on their ability levels, learning styles, or readiness for certain topics. Create Tiered Activities where the teacher designed assignments with varying levels of complexity to match students' initial levels of understanding and provide personalized support for students performing below expectations, individualized interventions such as additional practice, peer tutoring, or scaffolding can be planned.

Table 2

Baseline data (Pre-test)

	N	Minimum	Maximum	Mean	Std. Deviation
Class_Test (Pre-Test)	31	1.00	26.50	12.43	6.96
Valid N (listwise)	31				

The above table shows descriptive statistics for the class test scores of 31 students The scores range from 1.00 to 26.50, indicating a wide variability in achievement levels. The mean score is 12.44 suggesting that the students are performing below half of the maximum possible score (26.50). This indicates the challenges faced by the students. The standard deviation is 6.96, which reflects a high degree of dispersion around the mean. This variability suggests that there are significant differences in students' learning achievements, with some students scoring quite low and others performing much higher. Such a wide range of performance levels shows the need for differentiated teaching strategies to address the diverse learning needs within the class. These findings highlight that the implementation of differentiated instruction could be beneficial by offering targeted support for low-achieving students while also challenging high-performing students.

Intervention

Based on the findings from the baseline data, which revealed a wide range of learning achievements among the students, the teacher implemented differentiated teaching strategies in the lessons. These strategies included grouping students, creating tiered activities, and providing personal support to ensure that every student received the appropriate level of challenge and assistance. Below is an elaboration with specific examples of how each strategy was applied.

Grouping Students by Ability Levels

The teacher utilized baseline test scores to create mixed-ability groups, facilitating peer learning among students with diverse understanding levels. The group task involved analyzing the influence of climate on clothing, food, and shelter in various regions, such as Bhutan's highlands and lowlands. As a result, higher-achieving students assumed leadership roles, guiding discussions and ensuring that all group members contributed to the task.

Creating Tiered Activities

The teacher created three tiers of tasks to cater to students' varying levels of understanding:

Tier 1 (Basic): Identify climate types and describe the associated lifestyles.

Tier 2 (Intermediate): Compare two regions with different climates and discuss adaptations.

Tier 3 (Advanced): Analyze the impact of climate change on traditional lifestyles in Bhutan and suggest adaptation strategies.

As a result, each student received a task that matched their readiness level, providing appropriate cognitive challenges. Advanced learners developed critical thinking skills through complex issues, while others-built confidence by mastering foundational concepts.

Providing Personalized Support

The teacher offered personalized support to struggling students through one-on-one guidance during group activities, providing simplified materials with visual aids like maps and charts to enhance understanding. Students needing additional time received scaffolded worksheets that included key vocabulary and sentence starters. As a result, these learners were able to actively participate, gradually build their understanding, and improve their overall learning outcomes.

Monitoring Progress and Reflection

To ensure effective learning outcomes, the teacher implemented a systematic approach to monitoring student progress through formative assessments. These assessments included tools like quick quizzes and exit tickets, which served as immediate feedback mechanisms following each lesson.

Formative Assessments

Quick Quizzes: These short assessments were designed to evaluate students' understanding of the key concepts taught during the lesson. They typically included a mix of multiple-choice, true/false, and short-answer questions that allowed the teacher to gauge comprehension quickly.

Exit Tickets: At the end of each class, students filled out brief prompts on what they learned, any lingering questions, or concepts they found challenging. This encouraged reflection and provided valuable insights into individual student understanding.

Feedback Utilization

The feedback gathered from these assessments was crucial for the teacher to make informed decisions about teaching adjustments.

Data Analysis: By analyzing the results from quizzes and exit tickets, the teacher identified trends in student performance, such as common misconceptions or areas where many students struggled.

Activity Adjustments: Based on the insights gained, the teacher was able to tailor upcoming lessons and activities. For instance, if a significant number of students performed poorly on a particular concept, the teacher could revisit that topic, incorporating different teaching methods or resources to reinforce learning.

Differentiation: Additionally, the teacher could provide targeted interventions for specific groups of students who required extra support or challenge, ensuring that instruction remained responsive to the diverse needs of the classroom.

Post Data

Table 3
Post data (post-test)

	N	Minimum	Maximum	Mean	Std. Deviation
Class_Test (Post)	31	12.00	30.00	22.06	3.39
Valid N (listwise)	31				

The descriptive statistics for the post-class test scores of 31 students reveal important insights into their academic performance following the implementation of differentiated teaching strategies. The sample size (N) consists of 31 students, ensuring a robust analysis of the data. The scores ranged from a minimum of 12.00 to a maximum of 30.00, indicating a significant spread in student achievement levels. The mean score was calculated at 22.06, suggesting that, on average, students performed well, achieving approximately 73.5% of the maximum possible score. This average indicates a favourable outcome for the teaching strategies employed.

The standard deviation of 3.39 reflects a moderate degree of variability in the test scores, suggesting that while most students clustered around the mean, there were notable differences in performance. This variability highlights the presence of both high-achieving students and those who may require additional support.

Overall, these findings suggest that the differentiated teaching approaches were effective in enhancing student understanding of the material, as evidenced by the average scores. However, the observed range of scores also indicates the need for continued interventions, particularly for students who may still be struggling to reach the expected learning outcomes.

Table 4

Comparison of Pre-test and Post-test

Group	N	Mean	Mean Difference	Std. Deviation
Base-line	31	12.43	9.63	6.96
Post-Test	31	22.06		3.39

The significant mean difference of 9.63 between the pre-test and post-test scores signifies the effectiveness of the differentiated teaching strategies employed in the geography lesson. The significant increase in the average score from 12.43 to 22.06 indicates that students not only improved their understanding but also became more engaged with the lesson. Furthermore, the reduction in standard deviation from 6.96 in the pre-test to 3.39 in the post-test suggests that the differentiated strategies helped to close the achievement gap among students, leading to more consistent performance levels. Overall, these findings provide strong evidence for the positive impact of differentiated instruction on student learning outcomes.

This result is consistent with several previous studies that indicated that the differentiated teaching strategy has a positive impact on students' learning in general and in particular learning achievement, as Özüdoğru (2022) affirms that differentiated teaching strategies had a positive impact on student's academic achievement. The findings from the study are also in favour of the study conducted by Bal (2016) which revealed that differentiated teaching strategies have a positive impact on the learner's academic achievement. This reflects Bal's (2016) conclusion that differentiated strategies create meaningful learning experiences, ultimately enhancing academic performance. These findings highlight that students view differentiated instruction as essential for fostering academic success, reinforcing the importance of such strategies in supporting diverse learners.

Student's perceptions of differentiated teaching strategies.

To explore the students' perception of differentiated teaching strategies, a set of 6 statements with a 6-point Likert scale rating ranging from 1 (strongly disagree) to 6 (strongly agree) were administered to the participants. Pimental's (2019) mean interpretation scale was adapted to interpret the mean score.

Table 5

Rating of Students' Perception of Differentiated Teaching Strategies

Sl/No	Statements	N	Mean	SD	Level of opinion
1	I noticed my teacher giving different types of tasks to students based on their needs or interests.	31	6.00	.00	Highly Positive
2	I feel that having options in how I learn (e.g., reading, videos, group work) helps me understand lessons better.	31	6.00	.00	Highly Positive
3	Differentiated instruction enhances my understanding of the subject matter.	31	5.97	.18	Highly Positive
4	I feel excited when teachers give students choices in assignments or activities	31	5.84	.87	Highly Positive
5	Other teachers also apply differentiated teachingstrategies in the classroom.	31	2.19	.37	Moderately negative
6	I think my teachers understand my learning style (how I learn best)	31	6.00	.00	Highly Positive
	Overall mean	31	5.33	.23	Highly Positive

Note:1-1.82=Highly Negative, 1.83-2.65=Negative, 2.66-3.48=Moderately Negative, 2.49-4.31=Moderately Positive, 4.32-5.14=Positive, 5.15-6.00=Highly Positive. Adapted from Pimentel (2019)

The data in this table provide students' perceptions of differentiated instruction. Across six statements, the survey captures participants' (N = 31) opinions regarding the extent to which personalized teaching strategies are applied in their classrooms, with responses summarized using mean scores and standard deviations (SD). Students reported unanimously positive experiences for three key items. For the statement, "I noticed my teacher giving different types of tasks to students based on their needs or interests," the mean score was 6.00 (SD = 0.00), indicating a uniformly highly positive perception. Similarly, the item, "I feel that having options in how I learn (e.g., reading, videos, group work) helps me understand lessons better," also achieved a mean of 6.00 (SD = 0.00). This suggests complete agreement among students on the importance of choice in learning modalities. Furthermore, the perception that teachers understand students' learning styles was equally positive (M = 6.00, SD = 0.00). In contrast, the statement, "Other teachers also apply differentiated teaching strategies in the classroom," received a markedly lower mean score of 2.19 (SD = 0.37), which reflects a moderately negative perception. This result indicates that, according to students, the use of differentiated instruction is not consistently observed across all classrooms.

The overall mean score for the six items was 5.33 (SD = 0.23), reflecting a highly positive overall perception of differentiated instruction. These findings suggest that students generally view differentiated teaching strategies as valuable for their learning experiences, although there is room for improvement in the consistency with which such strategies are implemented by other teachers.

The qualitative findings of the study provide a deeper knowledge of students' perceptions of differentiated instruction, revealing both positive experiences and areas for improvement. participants expressed satisfaction with differentiated teaching strategies, highlighting that when teachers cater the individual needs, they feel more engaged and supported. For example, P1 and P2 emphasized that having options, such as reading, group work, or videos, allows them to better understand lessons, reinforcing their sense of autonomy and motivation. Similarly, participants noted that when teachers acknowledge their learning styles, it fosters a sense of being understood, which further enhances their learning experience.

However, students also voiced concerns about the inconsistent application of differentiated strategies across subjects. Some mentioned that while their primary teacher effectively used personalized tasks, other teachers tended to rely on more traditional, uniform teaching methods. This inconsistency made students feel that differentiated instruction was not a regular practice in all classrooms, creating a disparity in their learning experiences.

The finding of the study is supported by Tomlison (2000) who highlighted that differentiated instruction is receiving teachers' support, identifying connections between the curriculum and their personal interests and life experiences, and the need for them to experience classrooms in which they feel safe and valued. Milosevic and Rossetti (2015) also regarded differentiated teaching strategies as an effort to adapt the teaching to the abilities of students with different achievements thus differentiated instruction is an approach to education where the teacher adapts their teaching methods and materials to meet the diverse learning needs of students in the classroom. Therefore, the teaching strategies should be based on learners' backgrounds, abilities, interests, and learning styles, aimed at providing multiple opportunities for students.

The finding from the study also aligns with the study conducted by Thompson (2009) which emphasizes that differentiated instruction acknowledges student diversity and aims to create equitable learning opportunities by meeting learners at their respective levels. This approach not only fosters academic success but also promotes student motivation and engagement, as learners are more likely to succeed when tasks are aligned with their individual needs and capabilities. Thompson's research highlights that differentiation is not merely about providing varied tasks but about fostering inclusivity, ensuring that each student receives the resources and opportunities necessary to reach their full potential within the classroom.

The findings from the study are consistent with the study conducted by Roy et al. (2013) who reported that there is a lack of differentiated teaching strategies being practised by the teacher. Their research highlights that, despite the increasing emphasis on addressing student diversity, many educators continue to rely on traditional, uniform teaching methods. This lack of differentiation suggests that teachers may face challenges such as limited time, inadequate training, or a lack of resources, which hinder the implementation of more personalized teaching approaches.

Benefits of differentiated teaching strategy

To explore the benefits of the differentiated teaching strategy, a 6-point Likert scale comprising 5 statements was administered to the participants.

Table 6

Rating of Benefits of Co-Teaching Model

	Statements	N	Mean	SD	Level of opinion
1	I feel more confident when lessons are adjusted to match my skill level.	31	5.94	.25	Highly Positive
2	I feel I am engaged or interested when teachers use different ways to teach (like projects, games, or discussions)	31	5.81	.42	Highly Positive
3	Learning becomes easier when they are designed for my needs (e.g., simpler or more challenging tasks)	31	5.97	.18	Highly Positive
4	I feel that working in small groups or with partners helps me learn better.	31	5.87	.34	Highly Positive
5	I think differentiated learning improves my academic performance (e.g., better grades or understanding).	31	5.87	.34	Highly Positive
	Overall mean	31	5.89	.30	Highly Positive

*Note:*1-1.82=Highly Negative, 1.83-2.65=Negative, 2.66-3.48=Moderately Negative, 2.49-4.31=Moderately Positive, 4.32-5.14=Positive, 5.15-6.00=Highly Positive. Adapted from Pimentel (2019).

The table above (Table 6) summarizes the benefits of differentiated instruction, with responses measured using mean scores and standard deviations (SD) across five key statements. All statements reflect highly positive opinions, as indicated by mean scores consistently above 5.80, suggesting strong student support for the use of differentiated teaching strategies. Students reported high engagement when teachers used differentiated instruction such as projects, games, or discussions (M = 5.81, SD = 0.42). This indicates that diverse teaching methods make learning more interesting and stimulating. Students also agreed that learning becomes easier when tasks are designed to meet their individual needs, such as offering simpler or more challenging assignments (M = 5.97, SD = 0.18), reinforcing the importance of personalized content.

The relatively low standard deviations indicate consistent agreement among students regarding the benefits of personalized learning. These results highlight that differentiated instruction not only fosters confidence and engagement but also supports better learning outcomes by catering to students' individual needs and preferences.

The qualitative findings further support the benefits of differentiated instruction, emphasizing how diverse teaching methods positively impact students' learning experiences. Many participants described feeling more engaged and motivated when lessons included interactive activities, such as projects, games, and discussions, noting that such methods made learning enjoyable and meaningful. Participants also highlighted that when tasks were tailored to their skill levels—whether through simpler or more challenging activities—they felt more capable and confident in their abilities, which contributed to improved learning outcomes. The high degree of consistency in student responses, as reflected in the low variability, suggests a strong, shared perception of the value of differentiated instruction. These qualitative insights reinforce the idea that differentiated teaching strategies not only

increase engagement but also enhance students' academic performance by providing meaningful, student-centred learning experiences.

This finding is in accord with the findings of Asriadi et al. (2023) who concluded that differentiated instruction is an effective approach for addressing the diverse needs of students within the classroom. Both studies emphasize that catering learning experiences to individual abilities, interests, and learning preferences foster greater student engagement and academic success. By providing differentiated teaching strategy it ensures meaningful and inclusive learning opportunities. The study further supports the finding that differentiated instruction contributes to improved academic achievement, aligning with the conclusions of Özüdoğru (2022). The study demonstrated that applying differentiated teaching strategies in mathematics classrooms positively impacted students' performance by addressing individual learning needs. Similarly, the current study indicates that students perceive differentiated instruction as beneficial for their academic success, as they reported better grades and enhanced understanding of the subject matter when teachers apply differentiated teaching strategies to their abilities and preferences. This alignment between the two studies reinforces the idea that differentiated teaching strategies help bridge learning gaps, ensuring that students receive appropriate support.

The findings of this study also echoed those of Senturk (2018) who found that differentiated instruction implemented through tiered activities enhanced student learning, increased motivation, and facilitated smoother classroom management. Similarly, the current study highlights that students felt more confident and engaged when tasks were aligned with their skill levels and interests, indicating that personalized learning approaches motivate students by meeting their individual needs. Senturk's (2018) findings on effective classroom management are also relevant, as students in this study reported that working in small groups or with partners improved their learning experience, likely contributing to a more organized and collaborative classroom environment.

Conclusion

The action research aimed to improve learning achievement in a diverse classroom setting through the implementation of differentiated teaching strategies for class IX A Geography. The first objective was to analyze students' learning achievement with the use of the Differentiated Teaching Strategies. The Differentiated Teaching Strategies were implemented for class IX A students for a month. Students were assessed through pre-tests and post-tests to see the difference in test scores The finding suggested that students performed statistically more significantly during the post-test as the mean increased from 12.43 to 22.06. Thus, Differentiated Teaching Strategies was an effective teaching strategy for improving students' learning outcomes in Geography.

The second objective of this study was to explore students' perceptions of the use of Differentiated Teaching Strategies in Geography. The study revealed that students had a positive perception towards Differentiated Teaching Strategies. Students perceive that Differentiated Teaching Strategies was useful in learning Geography as it increased their interest and motivation and they desired to have more Differentiated Teaching Strategies in Geography classes.

The third objective of the study was to explore the benefits of Differentiated Teaching Strategies in learning Geography. The study revealed that there are benefits to using Differentiated Teaching Strategies in learning geography. The study indicated that participants strongly agreed that Differentiated Teaching Strategies are beneficial in learning Geography. However, the study revealed that most teachers do not implement differentiated teaching strategies in their subjects.

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