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Enhancing Academic Performance in Geography Among Class VIII Students Through Facilitating Test-Taking Skills

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Abstract

This action research explored the impact of facilitating test-taking Skills on the academic performance of Class VIII A students in Geography at Lamgong Higher Secondary School. While students demonstrated foundational content knowledge, many struggled to perform effectively in tests due to limited competence in test-taking strategies, such as time management, question analysis, and systematic answering techniques. The study employed a mixed-methods design, facilitating quantitative surveys, pre- and post-tests, and qualitative semi-structured interviews to assess the effectiveness of targeted interventions over three months.

The intervention included structured activities focusing on study planning, time management, question interpretation, test-answering techniques, and anxiety management. Pre-test and post-test analyses showed a significant improvement in student performance, with the mean score increasing from 20.75 to 25.87 ($t = 10.46$, $p < .001$), while Autumn Test results further confirmed enhanced learning outcomes. Survey data revealed that students held highly positive perceptions of Test-taking skills ($M = 5.44$), particularly valuing strategies such as underlining key words, eliminating wrong answers, and answering easier questions first.

The study confirms that test-taking skills are essential cognitive and psychological tools that enable students to bridge the gap between knowledge acquisition and performance. Facilitating these skills not only improves academic achievement in Geography but also fosters transferable competencies applicable across subjects and testing contexts. The findings support the integration of test-taking skills instruction into classroom practice as an effective strategy for enhancing student preparedness, motivation, and overall academic success.

Introduction

Students' academic performance is rooted in their understanding of the content, but it is also dependent on their ability to demonstrate an understanding of tests and other evaluations. Many students are unable to give their best in the test as they fail to implement test-taking Skills even when they are well aware of the subject matter (Lewandowski et al., 2012). The knowledge and performance gap seen in class VIII A students in Geography shown in class tests, does not mean that students are unable to comprehend the subject matter, but it is more about how they approach the test, manage time and test pressure.

Test- Test-taking skills are cognitive skills that allow students to undertake any test-taking situation properly and to know what to do before, during, and after the test (Peng et al., 2014). Once acquired, students may be enabled to use these skills across a variety of subjects and within different settings and conditions. Moreover, most test-taking Skills are useful in a student's practical life, where they may benefit from their effective use of time, ability to set priorities, ability to work both fast and accurately, and to make sure ideas become directly evident. Test- Test-taking skills can be effectively used to help examinees eliminate any feelings of tension and anxiety that may interfere with their ability to communicate what they know in a test situation (Stenlund et al., 2017). Therefore, test-taking skills and other variables would be of interest to most researchers and teachers, and might be seen as a means to improving grades, and might be further foreseen to fulfil the desire of educators to both identify and understand factors related to academic achievement.

This action research aims to explore the impact of facilitating test-taking skills on the academic performance of Class VIII A students in Geography. The study ensures that the students become better prepared and more confident during assessments by facilitating practice tests, question analysis, and time management training in regular lessons. The findings of this research will help determine the effectiveness of such facilitation in improving both test scores and students' overall engagement in the learning process.

Objectives

- To assess the impact of test-taking skills on students' academic performance in Geography.
- To examine students' understanding of applying test-taking skills in academic assessments.
- To analyze the academic, cognitive, and psychological benefits of implementing Test-taking Skills.

Situational Analysis

Assessment through testing is one of the key approaches used in schools to measure students' understanding of the subjects they learn. In the context of Bhutan's education system, both schools and the government place significant emphasis on tests and examinations to gauge student learning outcomes. Students are required to sit for various types of tests—ranging from class tests and term exams to national-level assessments like those conducted by the Bhutan Council for School Examinations and Assessment (BCSEA). These assessments play a vital role in determining student progress, academic enhancement, and readiness for future learning.

Despite continuous assessment efforts, many teachers report a common concern: students tend to score poorly on these tests, particularly in subjects like Geography. After administering tests, teachers often feel dissatisfied when reviewing student performance. The expected learning outcomes do not reflect in the scores, leading to disappointment and concern. This concern becomes even more pronounced when national examination results are announced by BCSEA. At that time, teachers often find themselves more anxious and disappointed than the students, as these results reflect not only the students' efforts but also the effectiveness of teaching. The academic performance of Class VIII students at Lamgong Higher Secondary School in Geography has emerged as a growing concern. An analysis of their performance in class tests, the spring test, and term examinations reveals a consistent trend of underachievement, with scores falling below expected levels. The recent spring test results further underline this issue, with only 12 out of 31 students meeting the performance targets they had set for themselves.

In an effort to understand the causes of this academic underperformance, feedback was collected from the students. The responses indicate a common challenge, such as a lack of test-taking skills. Many students reported difficulties in effectively approaching and answering examination questions, managing time during tests, and interpreting question requirements accurately. Therefore, the finding suggests that the low scores may not solely reflect a lack of content knowledge but are significantly influenced by students' limited competence in test-taking strategies.

This trend is not limited to one school or teacher; it is a shared experience across the country. When teachers discuss student performance during professional gatherings or subject forums, a recurring theme emerges: many educators are dissatisfied with the results and begin to question the effectiveness of their instructional methods. Such reflections often lead to professional introspection, where teachers analyze what went wrong, what could

have been done better, and what changes need to be made to enhance student learning outcomes. As a result, many teachers take a proactive approach, striving to refine their pedagogy and seeking innovative and practical ways to support student learning.

Geography teachers are concerned about the upcoming board examinations for Class VIII students. Low scores can affect the students' academic confidence and may reflect poorly on the school's overall performance. In response, teachers have identified that a key area for improvement lies in developing students' test-taking skills. By facilitating and strengthening these skills, students can become more familiar with exam formats, better manage their time, reduce anxiety, and apply effective strategies during assessments. This preparation goes beyond content knowledge—it empowers students with the ability to approach any form of test confidently and systematically. As a result, building test-taking competency is seen as an important step toward improving student outcomes and ensuring their success in board examinations.

Following a collaborative review involving Geography teachers at Lamgong Higher Secondary School, the teachers recognized that many students, despite demonstrating understanding during lessons, were unable to translate their knowledge effectively in test settings. In response to overcome the problem, the teaching team collectively decided to implement test-taking skills. This decision is grounded in educational research, which consistently demonstrates that explicit instruction in test-taking strategies can significantly enhance students' academic performance. Studies have shown that when students are equipped with the skills to interpret questions accurately, manage their time effectively, and approach different types of test items with appropriate strategies, their ability to perform under test conditions improves markedly.

Competence

The Primary researcher holds a master's degree in Education. He has dedicated twelve years to teaching Geography, demonstrating a deep understanding of the subject matter and pedagogical expertise. His scholarly contributions extend beyond the classroom, as evidenced by his research publications in various fields, including his latest publication. He was also involved in framing the geography curriculum framework and Geography Instructional Guide, equipping his skills and knowledge in the field of curriculum development. Moreover, his commitment to professional growth and innovation is evident in his participation in an online course on test-taking skills, which has been implemented during the lesson delivery.

The co-researchers involved in this study bring with them a diverse and rich background in education. Their academic qualifications range from Bachelor's in Education (B.Ed) to Master's in Education (M.Ed) and Master's degrees in various other relevant fields. This academic foundation is complemented by extensive practical experience in both conventional and action research, which enables them to understand educational inquiry and classroom-based problem solving. Over the years, they have actively participated in professional development programs, workshops, and seminars specifically focused on action research, equipping them with updated methodologies and reflective practices. Moreover, all co-researchers have a strong grounding in

teaching Geography, with their teaching experience spanning from five to over twenty years. This depth of subject knowledge and pedagogical expertise positions them well to contribute meaningfully to the research process, ensuring that it is both contextually grounded and professionally insightful.

The research participants are Class VIII A students who are currently preparing to sit for their board examinations. These learners possess foundational subject knowledge aligned with the national curriculum and demonstrate varying levels of academic performance across subjects. While they show basic understanding and engagement with classroom instruction, many of them face challenges in effectively applying their knowledge under exam conditions. Their ability to interpret questions, manage time during tests, and employ appropriate test-taking strategies remains underdeveloped. However, these students exhibit a willingness to learn and improve, especially when provided with structured guidance and support. Their participation in this action research project is based on their potential to develop critical academic skills, such as test readiness, time management, and strategic thinking, through targeted interventions. With consistent facilitation and reflection, they are expected to gradually build the competence needed to approach tests more confidently and perform better academically.

Critical Friend

Mr. Damcho Gyeltshen serves as a critical friend in this action research, bringing with him a wealth of experience and academic expertise. Holding a Master's degree in Education, He is a dedicated and passionate researcher who actively engages in educational research each year. His consistent involvement in research activities reflects his deep commitment to improving teaching and learning practices. At the school level, he plays a significant role in nurturing a research culture by providing ongoing support and encouragement to fellow educators.

Literature Review

Understanding Test-Taking Skills

Understanding of Test-taking skills varies across the literature, reflecting diverse perspectives and approaches. Test-taking Skills, as discussed in various literature sources, include a range of interpretations and conceptualizations. To compile an inclusive collection of definitions that encompass the diverse viewpoints on test-taking Skills, the researchers undertook a thorough review of multiple Test-taking skills definitions and conducted a critical analysis of how scholars and educators have formulated and understood the skills.

Scholars such as Tunc and Şenel (2021) define Test-taking skills as cognitive abilities that enable students to approach any test situation appropriately. These skills include managing time effectively, surveying all questions before responding, solving easy questions first, checking and reviewing answers, highlighting key words or concepts in questions, eliminating incorrect options, and others. Such strategies help students perform well in tests independently of their knowledge of the test content or materials. Later, Kies (2006) described Test-taking

skills as the ability to utilize suitable strategies to demonstrate competence and perform at an optimal level during the test. Dodeen et al. (2014) also believe that students need to be equipped with skills to know what to do before, during, and after the test. Test-taking skills are transferable; once acquired, students can apply them across various subjects and in different settings and conditions. Jackson (2013) pointed out that a key cognitive and psychological factor affecting student performance is Test-taking skills or test-wiseness. Therefore, research into test-taking strategies as a means to help students perform well is undoubtedly important. Salend (2009) states that Test-taking strategies have been widely recognized in the literature as a significant factor influencing students' test scores. Similarly, scholars such as Purpura (1999) and Cohen (2007) further emphasize that these strategies should be taken into account when considering the validity of tests. They also highlight that test-taking strategies can themselves be assessed as an integral component of the testing process, reflecting how students approach and manage examinations.

Building on these insights, the present researchers seek to apply test-taking skill instruction among Geography students to enhance their academic performance. The intention is to help students not only acquire content knowledge but also develop the strategic abilities needed to demonstrate that knowledge effectively under examination conditions. By facilitating Test-taking skills in Geography instruction, students are expected to become more confident, manage their time better, reduce anxiety, and apply systematic approaches when responding to various question types. Ultimately, this approach aims to foster improved performance by combining both subject mastery and strategic competence during assessments.

Benefits of Test-Taking Skills

The study collectively explores the relationship between test-taking skill and test performance, particularly in the context of academic performance. Test-taking skills can offer valuable support to all learners, with particularly significant benefits for students who may struggle academically. Some researchers, such as Kies (2006b), suggest that mastering test-taking strategies can be just as crucial as possessing the fundamental knowledge needed to answer exam questions. This viewpoint does not imply that strategies should substitute content knowledge or adequate preparation, but rather that these skills can help students perform to the best of their abilities based on how well they have prepared. Notably, one of the most effective strategies includes understanding how to study efficiently and prepare thoroughly before an exam.

Many researchers focus mainly on the effects of test-taking strategies on academic performance. Dollinger and Clark (2012) confirm that the quality possessed by a test at a particular time allows him/her to obtain a higher score in a test. This depends on how the student manipulates their time, speed and the ability to use the Test-taking skills to improve their writing and answering skills. There was no strategy targeted at improving students' preparedness for tests and reducing test anxiety. Kretlow et al. (2008) carried out their research to investigate whether training on test-taking strategies could improve performance. At the end of the investigation, it was observed that those given training on Test-taking skills performed better than those given

treatment. The students must practice the test-taking strategies until they comprehend the importance of the techniques.

Test-taking strategies support students in applying what they have learned in the classroom to effectively answer questions during examinations. These skills play a vital role in enhancing students' ability to perform well during tests, which in turn can lead to improved academic outcomes. According to Eklöf (2010), Test-taking skills are considered transferable—once developed, they can be applied across different subjects and under various conditions. Beyond the academic setting, such skills also contribute to students' daily lives by improving time management, prioritization, speed and accuracy in task completion, and the ability to present ideas clearly and efficiently.

Test-taking skills are related to the motivation to learn and to the attitudes students may hold with regard to specific subjects (Segal, 2008). Additionally, Test-taking skills can be effectively used to help students eliminate any feelings of tension and anxiety that may interfere with their ability to communicate what they know in a test situation (Okorodudu & Ossai, 2012). Therefore, Test-taking skills and other variables would be of interest to most researchers and teachers, and might be seen as a means to improving grades and might be further foreseen to fulfil the desire of educators to both identify and understand factors related to academic achievement. Sevilla (2017) analyzed the reading comprehension performance of three students preparing for the TOEFL exam. The findings indicated that the students used a variety of test-taking skill, including planning, monitoring, and comprehension, to address different levels of difficulty. Rogers and Bateson (1991) studied the reading comprehension strategies of five high-achieving TOEFL students, identifying eight key strategies, including scanning the text and using elimination techniques for answering multiple-choice questions. Finally, Al Fraidan and Al-Khalaf (2012) conducted a longitudinal study using think-aloud protocols and retrospective interviews to explore the test-taking strategies of 40 Saudi EFL students majoring in English. The study revealed that students employed various test-taking skill across cognitive, metacognitive, affective, and social functions which enhances their academic performance. The researcher aimed to examine not only the types of strategies students employ but also how these strategies facilitate successful test performance, suggesting that after implementing or training students in these test-taking skills, similar improvements in academic outcomes may be observed. Shirazi and Heidari (2019) demonstrated that direct instruction in test-taking strategies significantly improved the reading comprehension performance of Iranian EFL undergraduates, with students also showing positive attitudes towards the instruction. Dodeen (2009) further found that after seven weeks of test-taking strategy instruction, Vietnamese high school students exhibited marked improvements in reading comprehension scores and expressed favourable attitudes toward the testing practices, although the short intervention period may limit long-term assessments. According to Huang (2016), the benefits of strategy instruction show that participants who underwent a brief, focused training outperformed those who did not, with the added benefit of reduced test anxiety, though the study's scope was somewhat limited by its short duration and singular focus. Chaikovska et al. (2022) also highlighted that the Question Answer Relationship (QAR)

strategy effectively enhanced reading comprehension for students with low reading anxiety, although it had a limited impact on those with high anxiety, underscoring the nuanced effectiveness of different strategies depending on learner characteristics. These studies highlighted the positive impact of test-taking strategy instruction on reading comprehension and overall test performance. Effective strategy instruction not only improved students' academic outcomes but also enhanced their confidence and reduced anxiety in test situations.

Research Approach

A mixed-methods design was adopted for this study, as it provides a more holistic means of addressing the research problem compared to using either qualitative or quantitative methods alone. According to Creswell and Creswell (2018), the mixed-methods approach lies at the midpoint of the research continuum, as it combines features of both qualitative and quantitative paradigms. Similarly, Creswell (2013) emphasized that applying a mixed-methods approach involves facilitating quantitative and qualitative techniques within a single investigation—including data collection and analysis—to achieve a deeper understanding of the research issue. Consequently, the strengths of one method compensate for the weaknesses of the other.

The quantitative approach in this study aimed to examine learners' perceptions and the perceived benefits of using Test-taking skills as a teaching strategy during the intervention period. Data for this phase were gathered through a structured survey consisting of closed-ended questionnaire items designed to capture students' views and experiences in a measurable form. In the qualitative phase, semi-structured interviews were carried out to obtain more detailed and comprehensive insights into the use of Test-taking skills This phase allowed for deeper exploration of learners' perspectives, providing rich, descriptive data that complemented the quantitative findings.

Sampling Strategies

Sampling refers to the process or technique of selecting an appropriate subset or representative portion of a population to determine the characteristics or parameters of the entire group (Creswell & Creswell, 2018). In this study, participants were chosen through purposeful sampling to ensure that the data collected were rich and relevant to the research objectives. The purposive sampling technique operates on the principle that researchers aim to explore, understand, and gain in-depth insight; therefore, they intentionally select participants who can provide the most useful and meaningful information (Gentles et al., 2015). Accordingly, Class VIII A students comprising of 31 students were chosen as the sample group because their performance in both the class test and spring test was comparatively lower than that of the other two sections. This made them an appropriate group for investigating how the application of Test-taking skills could support improvement in their academic achievements in Geography.

For the quantitative study, purposeful sampling was adopted in selecting all the students from class VIII A. 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 involves the systematic process of obtaining, measuring, and examining accurate information from multiple relevant sources to address research problems, respond to questions, assess outcomes, and predict trends or probabilities (Creswell, 2014). The primary objective of data collection in this study was to acquire high-quality information that could be analyzed and utilized to inform decisions or provide evidence. For this purpose, data were gathered using a variety of strategies and instruments, including the Geography Learning Achievement Test surveys, and interviews.

Geography Learning Achievement Test

This study employed both pre-tests and post-tests to assess students' learning outcomes in Geography. The pre-test was designed to collect baseline data and measure specific attributes or characteristics of the student participants before the intervention (Creswell, 2013). It helps the researcher identify the students' initial level of knowledge and provides a point of comparison for evaluating the impact of the intervention. Following the intervention, a post-test was administered to assess students' learning achievements and determine the effectiveness of the teaching strategy. The post-test evaluates the same attributes or characteristics as the pre-test, allowing for a direct comparison of performance before and after the intervention (Creswell, 2013). Both the pre-test and post-test consisted of multiple-choice questions to comprehensively measure students' understanding.

Survey Questionnaire

A survey questionnaire with closed-ended questions was employed to collect quantitative data regarding students' perceptions and test-taking skills. As Creswell (2013) explains, closed-ended questions present participants with predetermined response options. A set of survey items was developed, and participants were instructed to indicate their level of agreement with each statement using a six-point Likert scale adapted from Pimentel (2019), ranging from strongly disagree to strongly agree.

The six-point Likert scale was adopted to encourage participants to consider each statement more carefully and provide a response that reflects a positive or negative inclination, thereby minimizing neutral answers. The questionnaire was administered to the students following the intervention. Quantitative data obtained through the survey were subsequently analyzed using Statistical Package for the Social Sciences (SPSS) version 22 to identify patterns, trends, and evaluate the effectiveness of the intervention.

Semi-Structured Interview

For the collection of qualitative data, semi-structured interviews were conducted with students. The purpose of these interviews was to gain deeper insights into the effectiveness of Test-taking skills in enhancing Geography learning outcomes. The interview questions were designed to elicit detailed information that could complement the quantitative findings. The interview consisted of six main questions, which were asked and adapted according to participants' responses. The data obtained from the interviews were analyzed using thematic analysis, a method that systematically identifies, organizes, and interprets patterns of meaning across a dataset (Byrne, 2021).

Data Collection strategies and tools

Base line Data

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 is 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 analysis of marks scored by the students in class test and Spring test.

Table 1

Baseline data Geography Learning Achievement Test-Pre-test

	N	Minimum	Maximum	Mean	Std. Deviation
GLAT (Pre-Test)	31	1.00	26.50	20.75	6.96
Valid N (listwise)	31				

The pre-test was administered to 31 students, representing the full sample for this phase of the study. Scores ranged from a minimum of 1.00 to a maximum of 26.50, indicating considerable variation in students' prior knowledge and abilities, with some students performing very low and others relatively strong, reflecting differences in preparedness before the intervention. The mean score of 20.75 represents the overall average performance of the class, which, when considered alongside the score range, suggests that while some students performed well, a significant portion scored below average, highlighting the need for targeted support. The

standard deviation of 6.96 further demonstrates substantial variability in performance, confirming that the class is heterogeneous in terms of knowledge and skills. These descriptive statistics provide a baseline for evaluating the effectiveness of the intervention and justify the use of Test-taking skills to address individual learning needs and improve outcomes.

Table 2

Baseline data (Spring-test)

	N	Minimum	Maximum	Mean	Std. Deviation
Spring Test	31	2.00	20.50	8.43	4.65
Valid N (listwise)	31				

The Spring Test was conducted in the month of April as a whole-school assessment, with all 31 students participating, providing a comprehensive measure of learning across the class. Scores ranged from a minimum of 2.00 to a maximum of 20.50, indicating considerable variation in students' performance. The mean score of 8.43 reflects a low overall achievement level, suggesting that many students struggled to demonstrate mastery of the tested content. The standard deviation of 4.65 indicates moderate variability, showing that while a few students performed relatively better, the majority scored below expectations. These results highlight the need for targeted instructional interventions and the importance of strategies such as Test-taking skills and differentiated teaching to support improved learning outcomes.

Intervention

Over a period of three months, a structured program of targeted activities was implemented to enhance students' Test-taking skills and overall academic learning effectiveness. The intervention was designed based on evidence-based strategies to address common challenges faced by students in managing study routines and retaining information effectively. The first activity of the program concentrated on cultivating good study habits, which is a critical foundation for academic success. The strategies incorporated in this activity included guiding students to create a consistent study timetable, allowing them to allocate regular time for each subject, and introducing active recall and spaced repetition techniques, which are widely recognized methods for improving memory retention and long-term learning.

To implement these strategies, a classroom session was conducted in which students were instructed on how to develop a personalized study plan tailored to their individual learning needs and schedules. In addition, practical training was provided on the use of flashcards and self-quizzing tools, enabling students to actively engage with the material and reinforce learning through repetition. The intervention was interactive, with

opportunities for students to practice these techniques during the session and receive immediate feedback on their approach.

This activity was intended not only to improve students' knowledge acquisition and retention but also to foster self-regulated learning skills, enabling students to take greater responsibility for their own learning process. By observing and documenting the application of these strategies, the researcher was able to identify patterns in student behaviour, measure adherence to study plans, and assess how the implementation of structured study habits influenced overall academic performance.

The findings from this first activity provided a foundational understanding of students' learning behaviours, which informed subsequent interventions in the study. By emphasizing consistent study routines and active engagement with the material, the activity aimed to create a sustainable approach to learning that could enhance long-term academic outcomes and prepare students for more effective performance in subsequent test-taking activities.

The second activity aimed at improving time management during tests. Students were taught to allocate time for each question and practiced through mock timed tests. Implementation included weekly mock tests under exam conditions, using classroom timers and drills to practice time allocation. The research diary tracked how frequently students practiced timed tests and noted any improvements in managing time effectively during assessments.

The third activity addressed reading and understanding questions. Strategies focused on teaching students to underline key words and reread questions carefully. In practice, the researcher modeled question analysis on the board using past questions and engaged students in group exercises to highlight and discuss keywords. The research diary monitored how often these strategies were practiced and the resulting impact on the accuracy of students' test responses.

The fourth activity targeted test answering techniques. Students learned how to structure answers for long-form questions using an introduction-body-conclusion format and applied the elimination method for multiple-choice questions. Implementation involved guided writing sessions using real test items and pair-work for peer review to improve answer structure. The diary recorded the sessions and tracked improvements in the organization and clarity of students' responses.

The fifth activity focused on anxiety and confidence management. Students were introduced to deep breathing, positive self-talk, and short mindfulness sessions before tests. Implementation included practicing deep breathing before mock tests and completing reflective journaling after assessments to examine feelings and mindset. The research diary documented the frequency of mindfulness and journaling activities, along with qualitative notes on changes in students' confidence and emotional readiness for tests.

Result and Discussion

In the Results and Discussion section, the study presents a comprehensive analysis of the collected data, facilitating multiple sources to provide a holistic understanding of the intervention's impact. This includes a detailed post-line data analysis to evaluate the students' performance following the implementation of Test-taking skills and differentiated teaching strategies. The section also includes a comparative analysis of pre-test and post-test data, allowing for the assessment of changes in learning outcomes and the effectiveness of the intervention over the study period. Additionally, findings from the survey questionnaire are presented to illustrate students' perceptions, experiences, and the perceived benefits of the intervention. These quantitative results are further triangulated with qualitative data obtained from semi-structured interviews, providing richer insights into students' attitudes, engagement, and responses to the teaching strategies. The discussion interprets these findings in the context of existing literature, drawing on relevant research to support, explain, and contrast the observed outcomes. By combining quantitative and qualitative evidence with theoretical perspectives, this section offers detail understanding of the intervention's effectiveness and its implications for teaching and learning practices.

Post Data

Table 3

(Geography Learning Achievement Test-post-test)

	N	Minimum	Maximum	Mean	Std. Deviation
GLAT (Post-Test)	31	7.00	30.00	25.87	4.46
Valid N (listwise)	31				

The post-test, which was conducted out of a maximum score of 30, demonstrates a notable improvement in student performance following the intervention. Scores ranged from a minimum of 7.00 to the maximum of 30.00, indicating that while some students still scored lower, several achieved full marks. The mean score of 25.87 reflects a significant increase compared to the pre-test, suggesting that the intervention effectively enhanced overall learning outcomes. The standard deviation of 4.46 indicates moderate variability, showing that although most students improved, differences in individual performance persisted. These findings highlight the positive impact of the implemented strategies in enhancing learning outcome in Geography.

Table 4

(Autumn -test)

	N	Minimum	Maximum	Mean	Std. Deviation
Autumn Test (Post-Test)	31	10.00	30.00	21.07	5.23
Valid N (listwise)	31				

The Autumn Test, conducted in the month of August and scored out of 30, provides insight into students' performance at the end of the term. Among the 31 students who participated, scores ranged from a minimum of 10.00 to a maximum of 30.00, indicating variability in achievement levels across the class. The mean score of 21.07 reflects a moderate to high overall performance, showing an improvement compared to earlier assessments, such as the Spring Test mean of 8.43. The standard deviation of 5.23 suggests a moderate spread of scores, highlighting that while many students benefited from the learning interventions and achieved higher marks, differences in individual performance remained. These results indicate that Test-taking skills have contributed to enhanced learning outcomes over time.

Comparison of Pre-test and Post-test

Table 5

Descriptive Analysis of the Arithmetic Mean on Pre-test Scores

Group	N	Mean	Mean Difference	Std. Deviation
Pre-Test	31	20.75	5.12	2.25
Post-Test	31	25.87		2.29

The descriptive analysis of the pre-test and post-test scores shows a clear improvement in student performance following the intervention. For the pre-test, the 31 students had a mean score of 20.75 with a standard deviation of 2.25, indicating moderate variability in their initial performance. After the intervention, the post-test mean increased to 25.87, with a standard deviation of 2.29, reflecting not only an overall gain in scores but also a relatively consistent level of improvement across the group. The mean difference of 5.12 between pre-test and post-test scores highlights a significant positive impact of the implemented strategies, such as Test-taking skills and differentiated teaching, on students' learning outcomes. This indicates that the intervention effectively enhanced students' knowledge, understanding, and ability to perform academically.

This finding aligns with Dodeen et al. (2014), who emphasize that equipping students with structured test-taking strategies enhances their ability to demonstrate competence and achieve optimal test performance. Similarly, Beidel et al. (1999) and Therrien et al. (2009) highlight that explicit instruction in test-taking strategies leads to measurable gains in students' test scores, as such interventions improve both cognitive processing and test confidence. Moreover, Cohen (2007) asserts that test-taking strategies play a vital role in determining test outcomes and should be integrated into instructional practices to strengthen assessment validity and student preparedness. The observed improvement in post-test performance also supports Sefcik, Bice, and Prerost's (2013) notion that Test-taking skills are transferable and can enhance learning across different subjects and contexts. Therefore, the significant mean difference found in this study substantiates prior literature, confirming that systematic instruction in test-taking and differentiated teaching approaches can meaningfully enhance students' learning outcomes and academic success.

Inferential Analysis of Pre-test and Post-test

Similarly, the paired sample t-test at a 95% confidence interval was conducted to compare the pre-test and post-test.

Table 6

The Test Score Difference between Pre-test and Post-test

		N	Mean	Mean Difference	SD	T	Df	Sig(2-tailed)
VIII A	Pre-test	31	20.75	5.12	2.23	10.46	25	.000
	Post-test	31	25.87					

The paired-sample analysis indicates a significant improvement in student performance following the intervention. The pre-test mean was 20.75 with a standard deviation of 2.23, while the post-test mean increased to 25.87, resulting in a mean difference of 5.12. The t-value of 10.46 with 25 degrees of freedom and a p-value of .000 (2-tailed) indicates that the difference between pre-test and post-test scores is statistically significant. This demonstrates that the implemented strategies, including Test-taking skills and differentiated teaching, had a substantial and measurable effect on enhancing students' academic achievement in the subject.

Students' Understanding of Test-Taking Skills

To explore the students' understanding of Test-taking skills, a set of 8 statements with a 6-point Likert scale rating ranging from 1 (strongly disagree) to 6 (strongly agree) was administered. Pimental's (2019) mean interpretation scale was adapted to interpret the mean score.

Table 7

Rating of Students' Understanding of Test-Taking Skills

Sl/No	Statements	N	Mean	SD	Level of opinion
1	I understand what Test-taking skills are and how they can influence my performance in exams.	31	5.68	.57	Highly Positive
2	I believe that Test-taking skills involve both cognitive and psychological skills for handling test situations effectively.	31	5.22	.22	Highly Positive
3	I am aware that Test-taking skills can be applied across different subjects and types of exams.	31	5.21	.43	Highly Positive
4	Before starting an exam, I usually survey all the questions to plan how to manage my time effectively.	31	5.56	.22	Highly Positive
5	During tests, I prefer to answer the easier questions first before moving on to the more difficult ones.	31	5.78	.34	Highly Positive
6	I use techniques such as underlining key words, eliminating wrong options, and reviewing my answers before submitting the test.	31	5.88	.21	Highly Positive
7	I consciously manage my time during tests to ensure I complete all sections within the given time limit.	31	5.12	.67	Highly Positive
8	I have learned that Test-taking skills can help me perform better in different subjects and testing situations.	31	5.11	.45	Highly Positive
Overall mean		31	5.44	0.38	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 on students' perceptions of Test-taking skills revealed a highly positive overall attitude (M = 5.44, SD = 0.38), indicating strong awareness and application of effective test-taking strategies. Among the eight indicators, the highest mean score was recorded for the use of active techniques such as underlining keywords,

eliminating wrong options, and reviewing answers (M = 5.88, SD = 0.21), followed closely by the strategy of answering easier questions first (M = 5.78, SD = 0.34), suggesting that students are highly engaged in practical test-taking behaviors. Conversely, the relatively lower mean for time management during tests (M = 5.12, SD = 0.67) indicates variability in students' confidence and consistency in managing test duration effectively. Overall, the findings suggest that students possess a well-developed understanding of Test-taking skills and recognize their importance in enhancing academic performance, although targeted support in time management could further optimize their examination outcomes.

The findings were further supported by the qualitative findings revealing that students not only understand the importance of Test-taking skills but also actively apply them during examinations (n=6) For instance, participants 2 and 3 said, "strategies such as reading all questions before starting, answering easier questions first, and underlining key words helped them reduce anxiety and improve focus, aligning with the highest-rated quantitative indicators." Students (n=5) also emphasized that these techniques enhanced their confidence and accuracy, particularly in subjects like Geography, where understanding question demands is crucial. Overall, the qualitative findings corroborate that students perceive Test-taking skills as essential tools for academic success, yet highlight time management as an area requiring continued practice and support.

These findings are consistent with existing literature emphasizing the effectiveness of test-taking strategy instruction in improving academic performance. Al Fraidan and Al-Khalaf (2012) conducted a longitudinal study using think-aloud protocols and retrospective interviews with 40 Saudi EFL students, revealing that learners employed various test-taking strategies across cognitive, metacognitive, affective, and social domains, which enhanced their academic outcomes. Similarly, Shirazi and Heidari (2019) demonstrated that direct instruction in test-taking strategies significantly improved the reading comprehension performance of Iranian EFL undergraduates, with students expressing positive attitudes toward the instruction. Dodeen (2009) also found that after seven weeks of strategy instruction, Vietnamese high school students showed marked improvements in reading comprehension and favorable attitudes toward testing, though the short intervention period limited long-term evaluation. Supporting this, Huang (2016) reported that participants who received brief, focused training in test-taking strategies outperformed those who did not and exhibited reduced test anxiety, despite the study's limited duration. Moreover, Chaikovska et al. (2022) highlighted that the Question Answer Relationship (QAR) strategy effectively enhanced reading comprehension for students with low reading anxiety, though its impact was limited for those with high anxiety, underscoring the importance of tailoring strategy instruction to learner characteristics.

In line with these studies, the present findings suggest that students who are trained or encouraged to apply test-taking strategies are likely to demonstrate improved academic performance, reduced anxiety, and heightened confidence. The consistency between this study's outcomes and previous research reinforces the

view that effective test-taking strategy instruction plays a crucial role in fostering academic achievement and supporting learners' self-regulation during assessments.

Benefits of Teaching Test-taking skills

Table 8

Students' Rating on the Benefits of Teaching Test-taking skills

Sl/No	Statements	N	Mean	SD	Level of opinion
1	I usually plan and organize my study time effectively before an exam.	31	5.02	.21	Highly Positive
2	I use specific strategies (such as summarizing, highlighting, or practicing questions) to prepare for tests.	31	5.76	.92	Highly Positive
3	I feel confident about my readiness before taking an exam because I have studied systematically.	31	5.92	.32	Highly Positive
4	I am familiar with different test-taking strategies (e.g., time management, elimination of wrong answers, reading instructions carefully).	31	5.56	.45	Highly Positive
5	I consciously apply test-taking strategies during exams to improve my performance.	31	5.87	.76	Highly Positive
6	I believe that using test-taking strategies helps me answer questions more efficiently and accurately.	31	5.32	.97	Highly Positive
7	I feel less anxious during exams when I apply effective test-taking skills.	31	5.21	.85	Highly Positive
8	My confidence in taking tests increases when I am well-prepared and know the strategies to use.	31	5.77	.22	Highly Positive
9	I believe that improving my Test-taking skills has a positive impact on my overall academic performance.	31	3.89	.65	Highly Positive
Overall mean		31	5.37	0.58	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 analysis of students' perceptions regarding the benefits of Test-taking skills indicates a highly positive overall attitude (M = 5.37), suggesting strong recognition of the value of these strategies in enhancing academic performance. Among the nine indicators, the highest mean scores were observed for confidence in readiness

due to systematic study (M = 5.92) and the conscious application of test-taking strategies during exams (M = 5.87), highlighting that students feel well-prepared and actively employ strategies to optimize their performance. Additionally, the use of specific preparation strategies such as summarizing, highlighting, and practicing questions also scored highly (M = 5.76), indicating that students engage in deliberate and structured study behaviors. Overall, the findings demonstrate that students recognize Test-taking skills as essential tools for enhancing efficiency, accuracy, confidence, and exam preparedness.

The findings from the quantitative analysis are strongly supported by the qualitative findings, which provide deeper insight into students' experiences and perceptions. For instance, Participant 1 and 2 stated, "I always plan my study schedule in advance and practice past questions; this makes me feel ready and less nervous during exams," reflecting the high mean scores for systematic study (M = 5.92) and preparation strategies (M = 5.76). Similarly, (n=6) noted, "During tests, I try to answer the easier questions first and review my answers carefully; it helps me feel confident and perform better," supporting the high mean observed for the conscious application of test-taking strategies (M = 5.87). Participant 3 and 4 also emphasized the psychological benefits, stating, "Knowing the strategies reduces my anxiety and makes me more focused on answering questions accurately," which aligns with the overall perception that Test-taking skills enhance confidence, efficiency, and exam preparedness. These qualitative findings corroborate the quantitative results, illustrating that students not only recognize the value of Test-taking skills but also actively implement them to improve their academic performance.

These findings are consistent with previous research highlighting the role of test-taking strategies in academic achievement. Dollinger and Clark (2012) assert that a student's ability to manipulate time, speed, and test-taking strategies significantly influences test scores, particularly in writing and answering tasks. Similarly, Kretlow et al. (2008) found that students who received training in test-taking strategies performed better than those who did not, emphasizing the importance of practice and understanding the value of these techniques. Jackson (2013) further noted that test-wiseness, encompassing both cognitive and psychological factors, is a key determinant of student performance.

The significance of Test-Taking Skills has also been widely acknowledged in the literature. Salend (2009) emphasizes that these strategies substantially influence students' test scores, while Purpura (1999) and Cohen (2007) argue that test-taking strategies should be considered when evaluating test validity. These scholars also highlight that strategies can be assessed as an integral component of the testing process, reflecting how students approach and manage examinations.

In alignment with these studies, the present findings suggest that students who systematically plan, practice, and consciously apply test-taking strategies not only perform better academically but also experience reduced anxiety and increased confidence. This reinforces the importance of integrating strategy instruction and practice into academic programs to optimize students' preparedness and test performance.

Conclusion

The findings of this action research clearly demonstrate that facilitating Test-taking skills significantly enhances the academic performance, confidence, and examination preparedness of Class VIII A students in Geography. The pre-test and post-test comparisons reveal a notable improvement in learning outcomes, with the mean score increasing from 20.75 to 25.87, indicating that the intervention had a substantial and statistically significant impact on student achievement. Similarly, the Autumn Test results showed a marked improvement compared to the Spring Test, further supporting the effectiveness of the strategies implemented.

Students exhibited a highly positive understanding and perception of Test-taking skills (M = 5.44) and recognized their practical value in reducing anxiety, improving focus, managing time, and applying systematic strategies during exams. The highest-rated behaviours included using active techniques such as underlining keywords, eliminating incorrect options, reviewing answers, and answering easier questions first. While time management was identified as an area requiring continued practice, the overall results indicate that students were able to translate these skills into enhanced performance.

The systematic facilitation of Test-taking skills bridges the gap between content knowledge and exam performance. By equipping students with strategies for preparation, time management, question analysis, and anxiety reduction, educators can significantly enhance academic outcomes, learner motivation, and confidence. This study affirms that facilitating Test-taking skills into regular instruction is a practical, effective, and transferable approach to fostering student success in both classroom and high-stakes assessments.

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