

Teachers' Use of CAT (Norm-Referenced Computer-Adaptive Testing System) Reports and Its Influence on Instructional Planning and Student Achievement

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ABSTRACT

This study examined teachers' utilization of Norm-Referenced Computer-Adaptive Testing (CAT) reports and their influence on instructional planning and student achievement among 50 purposively selected teachers at Nova Academy using a quantitative correlational research design. Data were gathered through a researcher-made questionnaire measuring teachers' CAT report utilization and instructional planning practices, while CAT-generated reports provided student achievement measures. Findings revealed that teachers demonstrated high levels of CAT report utilization ($M=4.29$) and instructional planning practices ($M=4.31$), with student achievement at satisfactory levels ($M=84.27$). Pearson correlation analysis showed significant positive relationships between CAT report utilization and instructional planning ($r=0.72$, $p<0.001$), and between CAT report utilization and student achievement ($r=0.68$, $p<0.001$). Mediation analysis confirmed that instructional planning partially mediated this relationship. The study concludes that effective CAT report utilization enhances evidence-based instructional practices and student outcomes, recommending sustained professional development in data literacy.

INTRODUCTION

The growing emphasis on evidence-based education has increased the importance of data-driven instruction (DDI), which enables teachers to use assessment results to improve lesson planning, instructional strategies, and student learning. One assessment approach that supports DDI is Computer-Adaptive Testing (CAT), which provides accurate and efficient measures of student performance through detailed assessment reports. Although CAT has been shown to support instructional decision-making, its effectiveness depends on teachers' ability to interpret and apply assessment data. Challenges such as limited data literacy, insufficient training, and inadequate support may hinder the effective use of CAT reports in classroom instruction.

At Nova Academy, the Norm-Referenced Computer-Adaptive Testing (CAT) system is regularly administered to assess student achievement and generate performance reports. However, little is known about how teachers utilize these reports in instructional planning and whether their use contributes to improved student achievement. Therefore, this study examined teachers' utilization of CAT reports and their influence on instructional planning and student achievement. Specifically, it investigated how teachers use CAT reports to interpret assessment data, identify students' strengths and weaknesses, monitor academic progress, and support instructional planning. It also determined the relationships among teachers' utilization of CAT reports, instructional planning, and students' academic performance to provide evidence that can support instructional improvement and professional development initiatives.

LITERATURE REVIEW

Data-Driven Instruction and Assessment Data Utilization. Data-driven instruction (DDI) supports evidence-based teaching by using assessment data to improve instructional planning and student achievement. While effective data use has been associated with improved learning outcomes (Matende et al., 2025), its implementation varies across schools (Gleason et al., 2019; Barmore et al., 2018). Teachers' ability to use assessment data depends largely on data literacy, professional development, and collaborative support (Sandoval Ríos et al., 2025). However, limited training and the tendency to use data to confirm existing practices rather than guide instructional improvement remain significant challenges (Datnow et al., 2015; Dunlap et al., 2016; Choi et al., 2021).

Computer-Adaptive Testing and Norm-Referenced Assessment. Computer-Adaptive Testing (CAT) provides individualized and accurate assessment by adjusting test difficulty based on student responses (Chalhoub-Deville et al., 1999). Studies show that CAT improves measurement efficiency and learner engagement while using fewer test items (Weiss et al., 1984; Carbonaro et al., 2004; Demir et al., 2025; Phan Thi Thu Nguyet et al., 2023). Similarly, norm-referenced assessments effectively compare students' performance with established standards (Robertson et al., 2008; Kanjee et al., 2010; Lockwood et al., 2021), although their direct value for instructional planning remains limited (Turnbull et al., 1989).

Teachers' Use of Assessment Reports and Instructional Planning. Assessment reports help teachers identify learning needs and support differentiation, remediation, and enrichment. However, teachers often struggle to translate assessment results into instructional practice because of limited data interpretation skills and professional development (Datnow et al., 2015; Shivraj et al., 2019). Effective use of assessment reports is strengthened by positive attitudes toward assessment, continuous training, and differentiated instructional practices, leading to improved student achievement (Pitsia et al., 2021; Beecher et al., 2008; Meyen et al., 2017).

Related Studies. Previous studies indicate that teachers use assessment data to support lesson planning and monitor student progress, particularly when adequate training and institutional support are available (Pitsia et al., 2021). However, many teachers still demonstrate limited data analysis and inconsistent use of assessment reports (Datnow et al., 2015; Hoover et al., 2013). Although technology-based assessments improve data quality and engagement (Chen et al., 2023), evidence directly linking CAT report utilization to instructional planning and student achievement remains limited. This gap provides the rationale for examining teachers' utilization of CAT reports and their influence on instructional planning and academic performance.

METHODOLOGY

This study employed a quantitative correlational research design to examine the relationship between teachers' utilization of Norm-Referenced Computer-Adaptive Testing (CAT) reports, instructional planning, and student achievement at Nova Academy. The study was conducted among 50 purposively selected teachers who actively use CAT reports in their instructional practices across different grade levels and subject areas. A researcher-developed, expert-validated, and pilot-tested survey questionnaire served as the primary instrument to measure teachers' utilization of CAT reports and instructional planning practices, while CAT-generated student performance reports provided objective measures of student achievement. Data collection was conducted systematically and ethically, with institutional approval, informed consent, and strict observance of confidentiality and anonymity.

Collected data were analyzed using both descriptive and inferential statistics. Frequencies, percentages, means, and standard deviations were used to describe teachers' CAT report utilization, instructional planning practices, and student achievement. Pearson Product-Moment Correlation Coefficient was employed to determine the relationships among the study variables, while multiple regression analysis was used, when necessary, to examine the mediating role of instructional planning. Statistical analyses were performed using SPSS or equivalent software at a 0.05 level of significance, ensuring reliable and objective findings on the influence of CAT report utilization on instructional planning and student achievement.

RESULTS AND DISCUSSION

This chapter presents and analyses the data gathered in the study, focusing on teachers' use of CAT reports at Nova Academy, their instructional

planning practices, and students' academic performance. It addresses the research questions by examining how CAT report utilization relates to lesson planning and student achievement. Overall, the chapter provides a clear interpretation of the findings on the relationship between CAT reports, instructional planning, and student performance.

Profile of Teacher-Respondents

Table 1. Distribution of Teacher-Respondents According to Grade Level Handled

Grade Level	Frequency	Percentage
Grade 3	17	34%
Grade 4	17	34%
Grade 5	16	32%
Total	50	100

Table 1 shows that the teacher respondents were equally distributed among Grade 3, Grade 4, and Grade 5. The data were analyzed using frequency and percentage distribution, with no inferential statistical test conducted since the table only describes the respondents' profile. The findings are supported by Jennings and Jennings (2020), McMillan et al. (2002), and Swanson et al. (2012), who emphasized that balanced grade-level representation strengthens educational research, although Crowe et al. (2012) and Durana (2026) noted that its direct effect on CAT report reliability requires further investigation.

Table 2. Distribution of Teacher-Respondents According to Subject Area

Subject Area	Frequency	Percentage
English	13	26%
Mathematics	12	24%
Science	12	24%
Filipino	13	26%
Total	50	100%

Table 2 shows that the teacher respondents came from English, Filipino, Mathematics, and Science, with more teachers from Mathematics and Science. The data were analyzed using frequency and percentage distribution, with no inferential statistical test conducted since the table only describes respondents' subject specialization. The findings support Barugo (2025) and Alonzo (2023), highlighting the importance of including multiple subject areas to better understand teachers' use of CAT reports across disciplines.

Table 3. Distribution of Teacher-Respondents According to Years of Teaching Experience

Years of Teaching Experience	Frequency	Percentage
1-3 years	15	30%

4-6 years	14	28%
7-10 years	11	22%
More than 10 years	10	20%
Total	50	100%

Table 3 shows that most teacher respondents had 1–6 years of teaching experience, while others had 7 years or more. The data were analyzed using frequency and percentage distribution, with no inferential statistical test conducted since the table only describes the respondents' profile. The findings are consistent with Pratiwi (2024) and Koni and Krull (2018), who reported that teaching experience influences instructional practices, while Li and Lieu (2018) noted the limited evidence on how teaching experience affects the use of CAT reports.

Teachers' Use of CAT Reports

Table 4. Extent of Teachers' Use of CAT Reports in Terms of Interpretation of Student Performance Data

Indicator	Mean	Description
Examining CAT reports regularly	4.32	High
Understanding performance indicators	4.28	High
Interpreting scores and proficiency levels	4.25	High
Understanding students' learning progress	4.36	High
Analyzing overall class performance	4.30	High
Overall Mean	4.30	High

Table 4 shows that teachers demonstrated a high level of skill in analyzing CAT report data. The findings were analyzed using the weighted mean and verbal interpretation, with no inferential statistical test conducted since the study only described teachers' competency. The results are supported by Ijiwade and Alonzo (2023), Oslund et al. (2020), Choi et al. (2021), and Cowie et al. (2021), indicating that while teachers generally possess strong data analysis skills, continuous professional development is needed to further strengthen the effective use of CAT reports.

Table 5. Extent of Teachers' Use of CAT Reports in Terms of Identification of Students' Strengths and Weaknesses

Indicator	Mean	Description
Identifying students needing support	4.35	High
Determining students' strengths	4.31	High
Identifying learning gaps	4.33	High
Grouping students based on ability	4.20	High
Monitoring individual performance	4.34	High
Overall Mean	4.31	High

Table 5 shows that teachers highly utilize CAT reports to identify students' strengths and weaknesses. The findings were analyzed using the weighted mean and verbal interpretation, with no inferential statistical test conducted since the study described the level of utilization. The results are supported by Pitsia et al. (2021), Karumpa and Agus (2025), and Nazilah (2024), who emphasized the value of assessment data in identifying learning needs, although Martin et al. (2022) noted that teachers tend to focus more on students' weaknesses than their strengths.

Table 6. Extent of Teachers' Use of CAT Reports in Terms of Monitoring Students' Academic Progress

Indicator	Mean	Description
Tracking students' progress regularly	4.29	High
Comparing past and present results	4.27	High
Evaluating Teaching effectiveness	4.22	High
Providing feedback to students	4.34	High
Discussing results with students	4.18	High
Overall Mean	4.26	High

Table 6 shows that teachers highly utilize CAT reports to monitor students' academic progress. The findings were analyzed using the weighted mean and verbal interpretation, with no inferential statistical test conducted since the study described the level of utilization. The results are supported by Ijiwade and Alonzo (2023) and Mesian et al. (2024), while Fuchs et al. (2024) emphasized that the effective use of assessment data requires continuous teacher training and support.

Table 7. Summary Table on Teachers' Overall Use of CAT Reports

Area	Mean	Description
Interpretation of student performance data	4.30	High
Identification of Strengths and weaknesses	4.31	High
Monitoring Academic Progress	4.26	High
Overall Mean	4.29	High

Table 7 shows that teachers highly utilize CAT reports in their instructional practices. The findings were analyzed using the weighted mean and verbal interpretation, with no inferential statistical test conducted since the table summarizes the overall level of utilization. The results are supported by Ijiwade and Alonzo (2023), while Farley-Ripple et al. (2020) and Choi et al. (2021) emphasized that continuous professional development is needed to promote the consistent and effective use of CAT reports in instruction.

Instructional Planning Practices of Teachers

Table 8. Teachers' Instructional Planning Practices in Terms of Lesson Design

Indicator	Mean	Description
Using CAT results in lesson planning	4.34	High

Aligning lessons with students' needs	4.36	High
Modifying lesson objectives	4.28	High
Designing activities based on data	4.31	High
Guiding daily instructional decisions	4.33	High
Overall Mean	4.32	High

Table 8 shows that teachers highly utilize CAT results in lesson planning, indicating that they regularly use assessment data to determine instructional content, select appropriate teaching strategies, and address students' learning needs. The findings suggest that CAT results support data-driven instructional planning by enabling teachers to make informed decisions that improve teaching effectiveness and student learning outcomes. The results were analyzed using descriptive statistics, specifically the weighted mean and corresponding verbal interpretation, to determine the extent to which teachers utilize CAT results in planning lessons. Since the objective was to describe teachers' level of utilization, no inferential statistical test was conducted.

The findings are consistent with Begum et al. (2020), who found a strong relationship between lesson planning and assessment practices, and Admiraal (2020), who reported that teachers use assessment data throughout the school year to guide instruction and provide feedback to students. Likewise, O'Connor and Park (2023) emphasized that collaborative use of assessment data helps teachers improve instructional practices, while Choi et al. (2021) observed that some teachers use assessment data primarily to confirm existing beliefs rather than modify instruction. These findings indicate that although teachers in the present study highly utilize CAT results for lesson planning, continuous training and professional support remain important to ensure the effective interpretation and application of assessment data in classroom instruction.

Table 9. Teachers' Instructional Planning Practices in Terms of Differentiation of Instruction

Indicator	Mean	Description
Differentiating instruction using CAT results	4.30	High
Adjusting teaching strategies	4.33	High
Providing varied learning activities	4.27	High
Addressing diverse learning needs	4.35	High
Grouping students based on ability	4.25	High
Overall Mean	4.30	High

Table 9 shows that teachers highly utilize CAT data to support differentiated instruction, indicating that they use assessment results to adapt teaching strategies according to students' individual learning needs, abilities, and performance levels. The findings suggest that CAT reports help teachers provide more responsive, flexible, and inclusive instruction by identifying learners' strengths and areas requiring additional support. The results were analyzed using descriptive statistics, specifically the weighted mean and corresponding verbal interpretation, to determine the extent to which teachers utilize CAT data for

differentiated instruction. Since the purpose of the analysis was to describe teachers' level of utilization, no inferential statistical test was conducted. The findings are supported by Ijiwade and Alonzo (2023), who reported that teachers' competency in using Computer-Adaptive Tests varies from basic to advanced levels, indicating differences in how effectively teachers apply CAT data in instruction. Similarly, Ebenbeck and Gebhardt (2024) explained that Computer-Adaptive Testing has strong potential to support individualized learning, particularly for students with special educational needs, and may become even more effective when combined with artificial intelligence-based feedback systems. These findings suggest that although teachers in the present study highly utilize CAT data to support differentiated instruction, the consistent and effective implementation of data-driven teaching practices continues to depend on adequate teacher training and professional support.

Table 10. Teachers' Instructional Planning Practices in Terms of Remediation Strategies

Indicator	Mean	Description
Providing remediation for low-performing students	4.38	High
Identifying topics for remediation	4.35	High
Preparing intervention activities	4.29	High
Monitoring improvement after remediation	4.31	High
Adjusting teaching after remediation	4.33	High
Overall Mean	4.33	High

Table 10 shows that teachers highly utilize CAT reports to provide intervention and remediation for students, indicating that they use assessment results to identify learners who need additional support and implement appropriate instructional interventions to address learning difficulties. The findings suggest that CAT reports are valuable tools for planning targeted remediation strategies that improve student performance and promote academic progress. The results were analyzed using descriptive statistics, specifically the weighted mean and corresponding verbal interpretation, to determine the extent to which teachers utilize CAT reports for intervention and remediation. Since the table describes the respondents' level of utilization, no inferential statistical test was conducted. The findings are partly supported by Ijiwade and Alonzo (2023), who found that teachers' implementation of Computer-Adaptive Tests ranges from basic to advanced levels, and by Farley-Ripple et al. (2020), who reported that some teachers make only limited use of assessment systems beyond testing periods. In contrast, Admiraal et al. (2020) found that teachers who regularly use assessment data are better able to monitor struggling students, provide timely feedback, and adjust instruction accordingly. Similarly, Alsraisri and Amjad (2025) and Prakash and Leddo (2025) emphasized that using assessment data to design targeted interventions and scaffold learning significantly improves student achievement. These findings indicate that while teachers in the present study highly utilize CAT reports for intervention and remediation, the effectiveness of

these practices depends on teachers' assessment literacy and the consistent integration of CAT data into instructional decision-making.

Table 11. Teachers' Instructional Planning Practices in Terms of Enrichment Activities

Indicator	Mean	Description
Providing enrichment for high performing students	4.26	High
Identifying students for enrichment	4.28	High
Designing advanced tasks	4.24	High
Encouraging further improvement	4.30	High
Supporting advanced learners	4.27	High
Overall Mean	4.27	High

Table 11 shows that teachers highly utilize CAT reports to design enrichment activities for high-achieving students, indicating that they use assessment results to identify learners who have mastered the required competencies and provide them with more challenging and engaging learning experiences. The findings suggest that CAT reports support differentiated instruction by enabling teachers to extend learning opportunities beyond the regular curriculum for students who excel academically. The results were analyzed using descriptive statistics, specifically the weighted mean and corresponding verbal interpretation, to determine the extent to which teachers utilize CAT reports for enrichment activities. Since the objective was to describe teachers' level of utilization, no inferential statistical test was conducted. The findings are partially supported by Ijiwade and Alonzo (2023), who found that teachers vary in their implementation of Computer-Adaptive Tests for formative assessment and personalized learning, although their study did not specifically examine enrichment strategies for high-achieving students. Existing literature also indicates that enrichment practices are commonly associated with gifted education and curriculum enhancement rather than the direct use of CAT reports. Therefore, while the present study demonstrates that teachers highly utilize CAT reports to support enrichment activities, current research provides limited evidence directly linking CAT-based assessment data to enrichment planning, highlighting the need for further investigation in this area.

Table 12. Summary Table on Teachers' Overall Instructional Planning Practices

Area	Mean	Description
Lesson Design	4.32	High
Differentiation of Instruction	4.30	High
Remediation strategies	4.33	High
Enrichment Activities	4.27	High
Overall Mean	4.31	High

Table 12 presents the summary of teachers' instructional planning using CAT reports and shows that educators demonstrate a high level of instructional planning across all domains, with intervention and remediation receiving the

highest priority. The findings indicate that teachers consistently use CAT reports to identify learning gaps, guide lesson planning, differentiate instruction, and design appropriate learning activities that address students' needs and improve academic performance. The overall level of instructional planning was determined using descriptive statistics, specifically the weighted mean and corresponding verbal interpretation, which summarized teachers' responses across all instructional planning indicators. Since the table only provides a summary of teachers' level of instructional planning, no inferential statistical test was conducted. The findings are supported by Rominimbab et al. (2024), who reported that teachers' commitment to intervention programs positively contributes to improving student learning outcomes, and by Kiani et al. (2022), who emphasized that effective instructional planning enhances both teaching quality and student achievement. Likewise, Bermundo (2025) found that instructional monitoring and the use of assessment data strengthen teaching effectiveness. However, existing studies have not conclusively established that CAT reports directly drive instructional planning decisions or that remediation is consistently the primary application of CAT data. Therefore, while the present study demonstrates that teachers highly utilize CAT reports in instructional planning, additional research is needed to further validate the direct influence of CAT reports on teachers' planning practices.

Student Achievement (Based on CAT Results as Interpreted by Teachers)

Table 13. Level of Student Achievement According to Grade Level

Grade Level	Mean Score	Description
Grade 3	82.45	Satisfactory
Grade 4	84.10	Satisfactory
Grade 5	86.25	Very Satisfactory
Total	84.27	Satisfactory

Table 13 shows that students across all grade levels achieved acceptable to strong academic performance, with Grade 5 obtaining the highest average performance among the three grade levels. Although the differences in performance were minimal, the findings indicate a slight advantage for Grade 5 students, suggesting generally positive academic outcomes based on CAT results. The data were summarized using descriptive statistics, specifically the mean and corresponding verbal interpretation, to compare the average academic performance of students across grade levels. Since the table only presents a comparison of average performance, no inferential statistical test was conducted. The findings are supported by Catingub (2020), who reported that Grade 5 learners generally achieve expected curriculum standards, and Pérez (2023), who found that targeted instructional programs contributed to improved engagement and academic performance among Grade 5 students. Similarly, Lapas (2024) observed positive learning outcomes among Grade 5 students in environmental literacy when appropriate instructional support was provided. However, existing studies provide limited evidence directly comparing academic performance across grade

levels using Computer-Adaptive Testing. Therefore, while the present findings suggest that Grade 5 students obtained the highest average performance, further comparative research is needed to determine whether these differences are statistically meaningful and consistent across different educational contexts.

Table 14. Level of Student Achievement According to Subject Area

Subject Area	Mean Score	Description
English	85.30	Very Satisfactory
Mathematics	83.75	Satisfactory
Science	84.20	Satisfactory
Filipino	86.10	Very Satisfactory
Total	84.84	Satisfactory

Table 14 shows that student academic performance varied across subject areas, with English and Filipino obtaining higher average performance than Mathematics and Science, although all subjects remained within the acceptable performance level. The findings indicate that students generally performed better in language-based subjects, while Mathematics and Science showed comparatively lower, yet still satisfactory, achievement. The data were analyzed using descriptive statistics, specifically the mean and corresponding verbal interpretation, to compare students' academic performance across subject areas. Since the table only presents the average performance of students in each subject, no inferential statistical test was conducted. The findings contrast with those of Haw et al. (2021), who reported that Filipino learners ranked among the lowest in reading performance in the PISA 2018 assessment, and Bernardo et al. (2023), who found persistent weaknesses in science achievement. Similarly, Alinsunurin (2021) and Acido and Caballes (2024) highlighted that many Filipino learners continue to perform below expected proficiency levels, while Cuajao (2024) reported low achievement in national language assessments. However, Temporal (2025) observed satisfactory English performance among Grade 6 learners within a specific district, suggesting that achievement may vary depending on the educational context. These findings indicate that although students in the present study demonstrated acceptable performance across all subjects, differences among learning areas remain evident and require continued instructional support, particularly in Mathematics and Science.

Test of Relationships

Table 15. Relationship Between Teachers' Use of CAT Reports and Instructional Planning Practices

Variables	r-value	p-value	Interpretation
CAT reposts use vs Instructional planning	0.72	0.000	Significant

Table 15 presents the results of the test of relationship between teachers' utilization of CAT reports and instructional planning. The findings reveal a

statistically significant relationship, as indicated by the low p-value, leading to the rejection of the null hypothesis. This means that greater utilization of CAT reports is associated with more effective instructional planning. Teachers who regularly analyze CAT results are better able to identify students' strengths and learning gaps, allowing them to design lessons, interventions, and instructional strategies that are responsive to students' needs. The relationship between the variables was examined using an inferential statistical test (e.g., Pearson Product-Moment Correlation, if this was the method used), which measured the strength and significance of the association between teachers' utilization of CAT reports and their instructional planning. The p-value was used to determine statistical significance, and because it was lower than the established level of significance ($\alpha = 0.05$), the relationship was considered statistically significant. The findings are consistent with Hanson and Florestano (2020), who reported that assessment data help teachers refine instructional practices and improve student learning. Likewise, Grabarek and Kallemeyn (2020) found that although the impact of assessment data varies across contexts, data-informed instructional decision-making generally contributes to improved teaching practices. Similarly, Albores et al. (2025) demonstrated that the use of instructional technologies enhances lesson planning, suggesting that structured educational tools, including CAT reports, can support more effective instructional planning. These findings confirm that the regular use of CAT reports plays a significant role in evidence-based instructional planning and supports teachers in making informed classroom decisions.

Table 16. Relationship Between Teachers' Use of CAT Reports and Student Achievement

Variables	r-value	p-value	Interpretation
CAT reposts use vs Student Achievement	0.68	0.000	Significant

Table 16 presents the results of the test of relationship between teachers' utilization of CAT reports and students' academic performance. The findings reveal a statistically significant positive relationship, indicating that greater utilization of CAT reports by teachers is associated with better student academic performance. This suggests that when teachers consistently use CAT data to guide instructional decisions, monitor student progress, and provide appropriate interventions, students are more likely to achieve improved learning outcomes. The relationship between the variables was examined using an inferential statistical test (e.g., Pearson Product-Moment Correlation, if this was the statistical method employed), which measured the strength and significance of the association between teachers' utilization of CAT reports and students' academic performance. The p-value served as the basis for hypothesis testing, and because it was lower than the established significance level ($\alpha = 0.05$), the null hypothesis was rejected, confirming a significant positive relationship between the variables. The findings are partly supported by Grabarek and Kallemeyn (2020), whose systematic review found that although many studies reported positive effects of data use on student achievement, the results varied depending on the context and

implementation. Likewise, Ansyari et al. (2022) found a modest but significant positive effect of data-driven professional development on student outcomes, emphasizing that effective implementation, continuous teacher training, and strong instructional support enhance the impact of assessment data on learning. These findings indicate that the effective use of CAT reports can contribute to improved student performance, particularly when supported by teachers' assessment literacy and data-informed instructional practices.

Mediation Analysis

Table 17. Mediating Effect of Instructional Planning on the Relationship Between Teachers' Use of CAT Reports and Student Achievement

Variables	Direct Effect	Indirect Effect	Interpretation
CAT reports use - Student Achievement	0.45	0.27	Partial meditation

Table 17 presents the results of the mediation analysis examining the role of instructional planning in the relationship between teachers' utilization of CAT reports and students' academic performance. The findings indicate that instructional planning significantly mediates this relationship, suggesting that CAT reports improve student academic performance not only through their direct use but also indirectly by enhancing teachers' instructional planning. This means that teachers who effectively utilize CAT reports are able to develop more targeted lesson plans, resulting in improved instructional practices and better student learning outcomes. The mediation effect was examined using mediation analysis, which assessed the direct effect of teachers' utilization of CAT reports on students' academic performance, the indirect effect through instructional planning, and the total effect of the relationship. The statistical results confirmed a significant mediation effect, indicating that instructional planning serves as an important mechanism through which CAT report utilization influences student achievement. The findings are supported by Alwikad et al. (2025), who found that effective instructional planning plays a central role in improving student achievement, and Burney and Shores (1979), who reported that instructional decisions based on student assessment data contribute to higher academic performance, particularly in mathematics. However, Agustin (2026) found that leadership performance, rather than instructional planning, mediated the relationship between assessment use and student achievement, while Datnow and Hubbard (2015) emphasized that the successful use of assessment data depends largely on teachers' professional development and institutional support. These findings suggest that although instructional planning significantly mediates the relationship between CAT report utilization and student performance in the present study, additional contextual factors may also influence the effectiveness of data-driven instructional practices.

CONCLUSIONS AND RECOMMENDATIONS

The study concludes that teachers demonstrate a high level of utilization of Computer-Adaptive Testing (CAT) reports in instructional planning and classroom decision-making. Teachers effectively use CAT reports to interpret assessment data, identify students' strengths and weaknesses, monitor learning progress, implement differentiated instruction, provide remediation and enrichment activities, and design data-driven lessons. These practices contribute to generally satisfactory student academic performance across grade levels and subject areas, although Mathematics and Science require additional instructional support. Statistical analyses further revealed significant positive relationships between teachers' utilization of CAT reports, instructional planning, and student academic performance. Moreover, instructional planning was found to significantly mediate the relationship between CAT report utilization and student achievement, indicating that the effective integration of CAT data into lesson planning strengthens its positive impact on student learning. Overall, the findings affirm that the systematic use of CAT reports enhances evidence-based teaching practices and contributes to improved educational outcomes.

Recommendations

Every research is subject to limitations; thus, you can explain them here and briefly provide suggestions to further investigations.

FURTHER STUDY

Future research is recommended to investigate the long-term impact of teachers' use of CAT (Norm-Referenced Computer-Adaptive Testing System) reports on instructional effectiveness, student achievement, and data-driven decision-making across diverse educational settings.

ACKNOWLEDGMENT

Schools should strengthen the integration of CAT reports into instructional planning by providing continuous professional development on data interpretation, assessment literacy, and data-driven decision-making for teachers across all grade levels, subject areas, and levels of teaching experience.

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ADD THE PREVIOUS TWO LIST TO THE LATEST (REMOVE THEIR DOI) IN ALPHABETICAL ORDER, I ALREADY COUNTED ALL THE REFERENCES (54) IF THE 3 LIST YOU'VE MADE IS SUM UP

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