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Teacher Adaptive Expertise, Classroom Decision-Making, and Learning Recovery Practices among Public Elementary School Teachers

Anna Marie C. Paragas[1*] and Anthony N. Ualat[1,2]
[1]*Northeastern College*
[*]*annamarieparagas16@gmail.com*, [2]*ualatanthony92@yahoo.com*

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ABSTRACT

This study located learning recovery within the professional judgment of public elementary school teachers by determining how teacher adaptive expertise and classroom decision-making shaped recovery-oriented instructional practices in Bambang, Nueva Vizcaya. Using a quantitative explanatory-predictive survey design, the study gathered data from public elementary school teachers through a validated researcher-developed questionnaire on teacher adaptive expertise, classroom decision-making, and learning recovery practices. The instrument demonstrated strong validity and reliability, with an overall Cronbach's alpha of 0.95. Data were analyzed using descriptive statistics and Partial Least Squares Structural Equation Modeling to determine the measurement quality, direct effects, indirect effects, and predictive relevance of the model. Results showed high levels of teacher adaptive expertise, classroom decision-making, and learning recovery practices. However, differentiated instruction, progress monitoring, learner grouping, and collaborative decision-making appeared as weaker areas that required further support. The structural model revealed that teacher adaptive expertise significantly predicted classroom decision-making and learning recovery practices, while classroom decision-making also significantly predicted learning recovery practices. Classroom decision-making partially mediated the relationship between teacher adaptive expertise and learning recovery practices, indicating that adaptive expertise became more meaningful when translated into evidence-based instructional decisions. The findings suggest that learning recovery may be strengthened through professional development focused on formative assessment use, learner progress tracking, differentiated recovery tasks, and collaborative analysis of learner needs.

Keywords: *adaptive expertise, Bambang, classroom decision-making, elementary teachers, learning recovery, public schools*

INTRODUCTION

Teaching in the public elementary school setting has become more demanding as classrooms continue to carry the effects of interrupted learning, uneven learner readiness, and the continuing need to strengthen basic literacy, numeracy, and socioemotional support. Across education systems, the learning crisis became more visible after the COVID-19 pandemic, but the problem did not begin there. The World Bank, UNICEF, FCDO, USAID, the Bill & Melinda Gates Foundation, and UNESCO (2022) reported that learning poverty had already been a serious concern before the pandemic and was worsened by school closures and related disruptions. UNESCO (2023) likewise noted that while schools had reopened, education systems were still dealing with the damage caused by the historic disruption, especially among learners who were already vulnerable. In this context, the work

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of teachers can no longer be understood only as the delivery of prepared lessons. It now involves careful reading of learner needs, timely instructional adjustment, and sound classroom judgment.

Learning recovery has become a national priority. The Department of Education adopted the National Learning Recovery Program through DepEd Order No. 013, s. 2023 to address learning loss, improve literacy and numeracy, and accelerate the achievement of education targets (Department of Education, 2023). This policy direction gives importance to what happens at the classroom level because recovery efforts are ultimately carried out by teachers who diagnose gaps, adjust instruction, manage learning time, provide feedback, and support learners who may have different levels of readiness within the same class. For public elementary school teachers in Bambang, Nueva Vizcaya, this issue is especially relevant because elementary education forms the foundation for later academic success. When learners miss or only partially master basic competencies in the early grades, teachers in the succeeding grade levels are placed in the difficult position of teaching current lessons while also helping learners recover prior learning gaps.

Teacher adaptive expertise provides a useful lens for understanding how teachers respond to these classroom realities. Adaptive expertise refers to a teacher's capacity to use professional knowledge flexibly, reflect on evidence from practice, and adjust instruction when learners' needs or classroom situations call for change. Recent literature emphasizes that adaptive expertise is not simply routine competence. It involves reflective practice, attention to evidence, and a continuing focus on improvement (Bhagwandhin et al., 2025). Similarly, Suh et al. (2024) described adaptive teaching expertise as a capacity marked by flexibility and reflexiveness in teaching, particularly when teachers work in learning environments where student thinking and classroom interaction shape instructional direction. This kind of expertise matters in learning recovery because teachers are often required to make adjustments even when time, resources, and learner preparedness are uneven.

Adaptive expertise is closely connected to classroom decision-making. Teachers make many decisions within a single lesson, such as whether to reteach a concept, change an example, group learners differently, provide additional practice, simplify a task, or move forward with the planned activity. These decisions are not random acts of adjustment. They depend on what teachers notice, how they interpret learner responses, and how they connect those observations to appropriate instructional action. Seidel et al. (2026) explained that teacher professional vision involves the ability to notice and reason about classroom events, including instructional learning processes and classroom management interactions. Their discussion suggests that effective classroom decision-making depends on a teacher's ability to select relevant classroom cues, organize information, and make sense of what is happening while teaching is taking place. In learning recovery classrooms, this professional noticing becomes even more important because learners may show gaps in different ways, such as silence, avoidance, guessing, low confidence, slow task completion, or inconsistent performance.

Assessment also plays a central role in teacher decision-making. Black and Wiliam (2018) argued that classroom assessment should be understood together with pedagogy because assessment information becomes meaningful only when it informs teaching and learning. In the same direction, Näsström et al. (2021) found that formative assessment practice requires teachers to gather information about learners' knowledge and skills, interpret what the information means, and use it to decide the next instructional steps. This is highly relevant to learning recovery because teachers need more than test scores. They need usable evidence from classroom questioning, written work, oral responses, group activities, and performance tasks. When teachers can interpret these sources of information responsibly, classroom decisions become more responsive to actual learner needs rather than being based only on coverage of the curriculum.

Learning recovery practices require teachers to connect adaptive expertise and decision-making with concrete instructional actions. The RAPID Framework for Learning Recovery and Acceleration identifies key actions such as reaching every child, assessing learning levels regularly, prioritizing the fundamentals, increasing the efficiency of instruction, and developing psychosocial health and well-being (UNICEF, UNESCO, World Bank, FCDO, USAID, & Bill & Melinda Gates Foundation, 2022). These actions show that learning recovery is not limited to remediation sessions or additional worksheets. It includes diagnosing learners' current levels, focusing on essential competencies, organizing catch-up instruction, and supporting learner well-being. In

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elementary classrooms, these practices depend heavily on teachers because they are the ones who see daily learner behavior, interpret classroom evidence, and decide how instruction should proceed.

For teachers, however, the ability to use evidence for instructional decisions is influenced by their confidence, professional support, and beliefs about data. Datnow and Hubbard (2016) emphasized that teachers' capacity to use data and their beliefs about data use are shaped by professional communities, training, coaching, and school leadership. This point is important because learning recovery cannot be treated only as an individual teacher responsibility. Teachers may be expected to adapt instruction and use assessment results, but they also need supportive school conditions, manageable documentation demands, access to learner data, and opportunities for professional collaboration. Without these supports, classroom decision-making may become reactive rather than reflective, and learning recovery practices may be reduced to compliance instead of becoming meaningful classroom interventions.

This study recognizes that public elementary school teachers in Bambang, Nueva Vizcaya are not merely implementers of prescribed recovery programs. They are active professional decision-makers whose adaptive expertise may shape how learning recovery is understood and practiced in real classrooms. By examining teacher adaptive expertise, classroom decision-making, and learning recovery practices together, the study aims to provide a grounded understanding of how teachers respond to learner gaps, make instructional judgments, and carry out recovery-oriented teaching in the public elementary school context.

Literature Review

Teacher Adaptive Expertise as Responsive Professional Knowledge

Teacher adaptive expertise is important in understanding how public elementary school teachers respond to varied learner needs, especially in classrooms where pupils differ in readiness, confidence, pace, and mastery of foundational skills. Bowers et al. (2020) explained that adaptive expertise in elementary teaching is shown when teachers move beyond fixed routines and respond to learners' emerging understanding during instruction. This view is supported by Moran et al. (2023), who emphasized that adaptive expertise allows teachers to balance efficiency with flexibility when classroom situations change. For the present study, teacher adaptive expertise may be viewed as the professional capacity to recognize when a planned lesson is no longer sufficient, to adjust methods without losing instructional direction, and to use both experience and reflection in responding to learners' actual conditions. This is particularly relevant in Bambang, Nueva Vizcaya because learning recovery requires teachers who can handle ordinary teaching demands while also addressing gaps that may have accumulated over time.

Classroom Decision-Making and the Use of Assessment Evidence

Classroom decision-making is central to teaching because every lesson requires teachers to interpret learner responses and decide what action should follow. Earle (2021) found that formative decision-making in primary classrooms may take place within the same lesson, in follow-up activities, or in future teaching adjustments, depending on how teachers interpret assessment information. In a related study, van der Steen et al. (2022) argued that formative assessment becomes more useful when teachers plan assessment activities in relation to the decisions they need to make about teaching and learning. Tayem and Bourgeois (2024) further noted that data-based decision-making in K to 12 schools is commonly used to inform instruction, although the quality of use depends on teachers' ability to connect evidence with classroom action. These studies suggest that classroom decision-making should not be reduced to test interpretation alone. It also includes teacher judgment drawn from questioning, written work, class participation, errors, misconceptions, and learner behavior.

Learning Recovery Practices and Foundational Skill Support

Learning recovery practices are concerned with helping learners regain, strengthen, or accelerate essential competencies that were not fully mastered. Betthäuser et al. (2023) showed through a systematic review and meta-analysis that the pandemic was associated with measurable learning setbacks, making recovery efforts necessary

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across school systems. Minea-Pic (2023) identified several recovery strategies, including adapting instruction to individual needs, extending or adjusting instructional time, and allowing flexibility in curriculum pathways. Evidence from Banerjee et al. (2017) also supports the value of matching instruction to learners' actual skill levels rather than simply following grade-level pacing. In the elementary school context, learning recovery therefore requires practices such as diagnosing current mastery, regrouping learners when needed, reteaching priority competencies, providing guided practice, and monitoring progress in small but meaningful steps. These practices are most effective when teachers can connect recovery activities with daily classroom instruction instead of treating them as separate remedial tasks.

Professional Support for Adaptive and Recovery-Oriented Teaching

Teacher adaptive expertise, classroom decision-making, and learning recovery practices are strengthened when teachers work in a supportive professional environment. Darling-Hammond et al. (2017) reported that effective teacher professional development is sustained, content-focused, collaborative, and connected to actual classroom practice. Sims et al. (2021) similarly found that professional development is more likely to influence teaching when it includes clear goals, practical techniques, feedback, and opportunities for teachers to rehearse or refine practice. This means that learning recovery should not depend only on individual teacher effort. Teachers need time to analyze learner evidence, discuss instructional responses with colleagues, receive coaching, and evaluate whether their recovery practices are working. In Bambang, Nueva Vizcaya, such support may help public elementary school teachers make more confident classroom decisions and sustain adaptive practices despite the pressures of curriculum coverage, diverse learning gaps, and limited instructional time.

METHODS

Research Design

The study used a quantitative explanatory-predictive survey design. This design was selected because the study did not only describe the levels of teacher adaptive expertise, classroom decision-making, and learning recovery practices, but also examined how these constructs were connected and how strongly teacher adaptive expertise and classroom decision-making explained variations in learning recovery practices. Instead of using a purely descriptive-correlational approach, the study adopted a predictive path model approach, which allowed the researcher to examine direct and indirect relationships among the variables. In this model, teacher adaptive expertise was treated as an antecedent variable, classroom decision-making as a professional judgment variable, and learning recovery practices as the outcome variable. This design was considered appropriate because learning recovery in elementary classrooms depends not only on what teachers know, but also on how they interpret classroom situations and translate professional judgment into instructional action.

Research Locale

The study was conducted in Bambang, Nueva Vizcaya, particularly among public elementary schools under the local basic education context. Bambang was considered a suitable research locale because public elementary schools in the municipality continued to respond to learning gaps brought by varied learner readiness, uneven mastery of foundational competencies, and the continuing implementation of school-based and system-supported learning recovery initiatives. The locale provided a relevant setting for examining how teachers used adaptive expertise and classroom decision-making in addressing learners' academic needs. Since the study focused on public elementary school teachers, the setting allowed the researcher to gather responses from teachers who were directly involved in classroom instruction, assessment, remediation, enrichment, and recovery-oriented teaching practices.

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Participants and Sampling Technique

The participants of the study were public elementary school teachers in Bambang, Nueva Vizcaya. The study did not include demographic profiling because the focus was placed on the professional constructs of teacher adaptive expertise, classroom decision-making, and learning recovery practices rather than on personal or background characteristics. A stratified random sampling technique was used to ensure that teachers from different public elementary schools in the locale had a fair chance of being represented. The schools served as the strata, and the teacher-participants were selected randomly from the eligible teaching personnel within each stratum. This sampling technique helped reduce selection bias and supported a more balanced representation of classroom experiences across the public elementary school setting.

Research Instrument

The study used a researcher-developed survey questionnaire that was constructed based on the major variables of the study. The instrument had three main parts: teacher adaptive expertise, classroom decision-making, and learning recovery practices. The teacher adaptive expertise section measured the teachers' flexibility in instruction, reflective adjustment, responsiveness to learner needs, and use of professional knowledge in changing classroom situations. The classroom decision-making section measured how teachers interpreted learner evidence, selected instructional responses, adjusted classroom activities, and made professional judgments during teaching. The learning recovery practices section measured teachers' implementation of assessment-based remediation, prioritization of essential competencies, progress monitoring, learner support, and recovery-oriented instructional strategies.

The questionnaire used a five-point Likert scale to determine the extent to which the participants agreed with each statement. The draft instrument was subjected to content validation by experts in educational research, curriculum and instruction, and elementary education. The validators reviewed the clarity, relevance, alignment, and appropriateness of the indicators. Based on their comments, some items were reworded for clarity, overlapping statements were removed, and terms that could be interpreted differently by teachers were simplified. The content validity index showed strong validity, with item-level ratings ranging from 0.86 to 1.00 and an overall scale-content validity index of 0.94.

A pilot test was conducted among public elementary school teachers outside the actual research locale. These teachers were not included in the final data gathering. The pilot test examined whether the items were understandable, properly sequenced, and suitable for the intended respondents. Reliability testing using Cronbach's alpha showed that the instrument had strong internal consistency. The teacher adaptive expertise scale obtained a Cronbach's alpha of 0.91, the classroom decision-making scale obtained 0.89, and the learning recovery practices scale obtained 0.93. The overall reliability coefficient of the questionnaire was 0.95, which indicated that the instrument was highly reliable for measuring the constructs of the study.

Data Gathering Procedure

The researcher first secured permission from the proper school authority before conducting the study. After approval was granted, coordination was made with the concerned school heads regarding the schedule, manner of distribution, and retrieval of the survey questionnaire. The purpose of the study was explained clearly to the participants, including the voluntary nature of their participation and the confidentiality of their responses. The participants were given enough time to answer the questionnaire without pressure or interference from the researcher or school personnel.

The completed questionnaires were retrieved, checked for completeness, and encoded for statistical analysis. Responses with substantial missing entries were excluded from the final dataset, while minor missing values were treated using appropriate data screening procedures. The researcher ensured that all responses were handled with care and that no personally identifying information was used in the analysis. The data gathering process was conducted in a manner that respected the schedule of the teachers and minimized disruption to regular school activities.

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Data Analysis

The study used descriptive and predictive statistical procedures. To describe the level of teacher adaptive expertise, classroom decision-making, and learning recovery practices, the median, mean, standard deviation, and interquartile range were computed. These measures were used because the responses came from Likert-scale items and required both central tendency and response dispersion. The use of the interquartile range provided a clearer view of how closely or widely the responses were distributed around the typical rating.

For the main inferential analysis, the study used Partial Least Squares Structural Equation Modeling. This statistical treatment was selected because the study involved latent constructs measured through several indicators and because the research objective included prediction and explanation of relationships among variables. Partial Least Squares Structural Equation Modeling allowed the researcher to examine the direct effect of teacher adaptive expertise on learning recovery practices, the direct effect of teacher adaptive expertise on classroom decision-making, the direct effect of classroom decision-making on learning recovery practices, and the indirect effect of teacher adaptive expertise on learning recovery practices through classroom decision-making.

Before testing the structural model, the measurement model was examined through indicator loadings, composite reliability, average variance extracted, and discriminant validity. The structural model was then assessed using path coefficients, t-values, p-values, confidence intervals, coefficient of determination, effect size, and predictive relevance. Bootstrapping was conducted to test the significance of the direct and indirect effects. This approach was considered more suitable than ordinary correlation alone because it showed not only whether the variables were related, but also how the variables worked together in explaining learning recovery practices among public elementary school teachers.

Ethical Considerations

The study observed ethical standards throughout the research process. Permission was obtained from the proper authority before the conduct of the study. The participants were informed about the purpose of the research, the voluntary nature of their participation, and their right to decline or withdraw without penalty. Informed consent was secured before the questionnaire was administered. The researcher ensured that participation did not interfere with the teachers' official duties and that no participant was forced to answer the instrument.

Confidentiality and anonymity were strictly maintained. The questionnaire did not require names or personal identifiers, and the responses were used only for research purposes. The data were stored securely and were accessible only to the researcher. Results were reported in summarized form to prevent identification of individual participants or specific schools. The researcher also avoided any form of misrepresentation, fabrication, or selective reporting of findings. Respect for participants, honesty in data handling, and fairness in interpretation guided the entire research process.

RESULTS AND DISCUSSION

Table 1. *Descriptive Results on Teacher Adaptive Expertise*

Indicators of Teacher Adaptive Expertise	Median	Mean	SD	IQR	Verbal Interpretation
1. Flexibility in adjusting instruction when learner needs changed	4.00	4.08	0.61	1.00	High
2. Ability to modify teaching strategies during lessons	4.00	4.01	0.66	1.00	High
3. Use of learner responses as basis for instructional adjustment	4.00	3.94	0.69	1.00	High
4. Capacity to connect prior teaching experience with new classroom situations	4.00	4.16	0.58	1.00	High
5. Reflection on the effectiveness of teaching decisions	4.00	4.03	0.64	1.00	High
6. Openness to revising planned activities when learners encountered difficulty	4.00	3.88	0.72	1.00	High

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Indicators of Teacher Adaptive Expertise	Median	Mean	SD	IQR	Verbal Interpretation
7. Confidence in handling unexpected learner difficulties	4.00	3.82	0.75	1.00	High
8. Use of professional judgment in balancing lesson coverage and learner mastery	4.00	3.91	0.70	1.00	High
9. Adjustment of instruction for learners with different mastery levels	4.00	3.76	0.78	1.00	High
10. Continuous improvement of teaching practices based on classroom experience	4.00	4.10	0.60	1.00	High
Overall	4.00	3.97	0.67	1.00	High

Table 1 shows that teacher adaptive expertise among public elementary school teachers was generally high, with an overall mean of 3.97 and a median of 4.00. This indicates that the teachers commonly demonstrated flexibility, reflection, and practical judgment in dealing with changing classroom situations. The highest mean was observed in the capacity to connect prior teaching experience with new classroom situations, which suggests that teachers relied on accumulated classroom knowledge when handling learner needs. This is a positive finding because adaptive expertise depends not only on knowledge of teaching methods, but also on the ability to decide when and how those methods should be adjusted.

However, the results also reveal areas that still required attention. The lowest mean was found in adjusting instruction for learners with different mastery levels, followed by confidence in handling unexpected learner difficulties. These results suggest that although the teachers were adaptive in general, they still encountered difficulty when instruction needed to be differentiated for learners who were not progressing at the same pace. This points to a practical problem in learning recovery. Teachers may be willing to adjust instruction, but they may still need stronger support in grouping learners, designing tiered activities, preparing varied learning tasks, and responding to wide differences in foundational skills within the same classroom.

Table 2. *Descriptive Results on Classroom Decision-Making*

Indicators of Classroom Decision-Making	Median	Mean	SD	IQR	Verbal Interpretation
1. Use of assessment results in planning the next lesson	4.00	4.05	0.63	1.00	High
2. Interpretation of learner errors during classroom activities	4.00	3.96	0.66	1.00	High
3. Decision to reteach concepts when learners showed low mastery	4.00	4.12	0.57	1.00	High
4. Selection of activities based on learners' readiness	4.00	3.84	0.73	1.00	High
5. Adjustment of pacing based on learner performance	4.00	3.89	0.71	1.00	High
6. Use of oral questioning to check understanding	4.00	4.18	0.55	1.00	High
7. Decision to provide additional guided practice	4.00	4.07	0.60	1.00	High
8. Use of learner participation as evidence for instructional decisions	4.00	3.90	0.68	1.00	High
9. Balancing curriculum coverage with mastery of essential competencies	4.00	3.79	0.76	1.00	High
10. Consultation with colleagues before making instructional adjustments	4.00	3.72	0.81	1.00	High
Overall	4.00	3.95	0.67	1.00	High

Table 2 indicates that classroom decision-making was also high, as shown by the overall mean of 3.95. The teachers appeared to make instructional decisions based on classroom evidence such as assessment results, learner errors, oral questioning, and observed performance. The highest rating was recorded in the use of oral

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questioning to check understanding, followed by the decision to reteach concepts when learners showed low mastery. This suggests that teachers actively monitored learners during instruction and commonly used immediate classroom cues in deciding whether to continue, repeat, or provide further explanation.

Still, the lower scores provide a more realistic view of the situation. Consultation with colleagues before making instructional adjustments received the lowest mean, while balancing curriculum coverage with mastery of essential competencies also received a relatively lower rating. These findings suggest that classroom decisions were often made individually and under the pressure of completing required lessons. This may limit the depth of decision-making, especially when teachers face complex recovery issues that require shared planning, analysis of learner data, and coordinated intervention. The results show that decision-making was present and generally strong, but it was not yet fully supported by collaborative professional routines.

Table 3. *Descriptive Results on Learning Recovery Practices*

	Indicators of Learning Recovery Practices	Median	Mean	SD	IQR	Verbal Interpretation
1.	Conduct of diagnostic or baseline checks before recovery activities	4.00	3.88	0.74	1.00	High
2.	Prioritization of essential literacy and numeracy competencies	4.00	4.14	0.58	1.00	High
3.	Provision of remediation for learners with low mastery	4.00	4.09	0.61	1.00	High
4.	Use of differentiated activities during recovery sessions	4.00	3.71	0.82	1.00	High
5.	Progress monitoring after remediation	4.00	3.66	0.85	1.00	High
6.	Use of small group instruction for learners needing support	4.00	3.74	0.80	1.00	High
7.	Integration of recovery activities in regular classroom instruction	4.00	3.92	0.70	1.00	High
8.	Provision of feedback to learners after recovery tasks	4.00	4.02	0.64	1.00	High
9.	Adjustment of recovery tasks based on learner progress	4.00	3.69	0.83	1.00	High
10.	Support for learner confidence and participation during recovery activities	4.00	4.06	0.62	1.00	High
	Overall	4.00	3.89	0.72	1.00	High

Table 3 shows that learning recovery practices were implemented at a high level, with an overall mean of 3.89. The strongest areas were the prioritization of essential literacy and numeracy competencies, provision of remediation, and support for learner confidence and participation. These findings indicate that teachers were aware of the importance of focusing on foundational skills and helping learners regain confidence during recovery activities. This is a meaningful result because learning recovery in elementary schools requires more than repeating lessons. It also requires teachers to rebuild learners' confidence, participation, and willingness to engage in academic tasks.

Despite the generally high result, the weaker indicators reveal the main problem of the study. Progress monitoring after remediation obtained the lowest mean, followed by adjustment of recovery tasks based on learner progress and use of differentiated activities. This suggests that teachers were able to conduct recovery activities, but the systematic tracking of learner improvement remained less consistent. In practice, this may mean that remediation was provided, but follow-up evidence was not always used to determine whether the learner had truly recovered the target competency. This finding is important because recovery practices become more effective when teachers do not only teach again, but also check progress, document improvement, and modify support based on learner response.

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Table 4. *Measurement Model Results*

Construct	Loading Range	Cronbach's Alpha	Composite Reliability	AVE	Interpretation
Teacher Adaptive Expertise	0.71 to 0.86	0.92	0.94	0.61	Reliable and valid
Classroom Decision-Making	0.70 to 0.84	0.90	0.92	0.58	Reliable and valid
Learning Recovery Practices	0.72 to 0.88	0.93	0.94	0.63	Reliable and valid

Table 4 presents the measurement model results. All construct indicators met the acceptable loading requirement, with loading ranges above 0.70. This means that the indicators properly represented their intended constructs. Teacher adaptive expertise had loadings from 0.71 to 0.86, classroom decision-making had loadings from 0.70 to 0.84, and learning recovery practices had loadings from 0.72 to 0.88. These results show that the survey indicators were not weak or unrelated measures, but were sufficiently connected to the constructs being examined.

The reliability results were also strong. Cronbach's alpha values ranged from 0.90 to 0.93, while composite reliability values ranged from 0.92 to 0.94. These findings indicate that the items within each construct were internally consistent. The average variance extracted values were also acceptable, ranging from 0.58 to 0.63. Since all AVE values were above 0.50, the constructs showed convergent validity. This means that the items for each construct shared enough common meaning and measured the same underlying concept. Overall, the measurement model was adequate for testing the structural relationships among teacher adaptive expertise, classroom decision-making, and learning recovery practices.

Table 5. *Discriminant Validity Results Using HTMT Criterion*

Construct Pair	HTMT Value	Interpretation
Teacher Adaptive Expertise and Classroom Decision-Making	0.78	Acceptable
Teacher Adaptive Expertise and Learning Recovery Practices	0.74	Acceptable
Classroom Decision-Making and Learning Recovery Practices	0.81	Acceptable

Table 5 shows the discriminant validity results using the Heterotrait-Monotrait ratio. All HTMT values were below the conservative threshold of 0.85. This indicates that the constructs were related but still distinct from one another. Teacher adaptive expertise and classroom decision-making had an HTMT value of 0.78, which suggests that teachers who were more adaptive also tended to make stronger classroom decisions, but the two constructs were not identical. Likewise, classroom decision-making and learning recovery practices had an HTMT value of 0.81, showing a strong but acceptable distinction between professional judgment and actual recovery implementation.

These results are important because the study examined three closely connected constructs. Without discriminant validity, it would be difficult to claim that adaptive expertise, classroom decision-making, and learning recovery practices were separate areas of teacher practice. The findings confirmed that the constructs overlapped in meaningful ways, but each one captured a different part of the teaching process. Adaptive expertise reflected professional flexibility, classroom decision-making reflected instructional judgment, and learning recovery practices reflected concrete classroom actions for addressing learner gaps.

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Table 6. Structural Model Results

Path	Path Coefficient	t-value	p-value	95% Confidence Interval	Effect Size f^2	Decision
Teacher Adaptive Expertise to Classroom Decision-Making	0.64	9.82	<0.001	0.52 to 0.74	0.69	Significant
Teacher Adaptive Expertise to Learning Recovery Practices	0.31	3.96	<0.001	0.16 to 0.46	0.14	Significant
Classroom Decision-Making to Learning Recovery Practices	0.47	5.88	<0.001	0.32 to 0.61	0.31	Significant

Table 6 presents the direct effects in the structural model. Teacher adaptive expertise had a strong and significant effect on classroom decision-making, with a path coefficient of 0.64. This means that teachers who were more capable of adjusting instruction, reflecting on classroom situations, and responding to learner needs were more likely to make stronger instructional decisions. The large effect size of 0.69 further indicates that adaptive expertise was a major contributor to how teachers made classroom decisions. This finding is logical because teachers who could read classroom situations flexibly were also better positioned to decide when to reteach, modify pacing, adjust activities, or provide additional support.

Teacher adaptive expertise also had a significant direct effect on learning recovery practices, with a path coefficient of 0.31. This result shows that adaptive teachers were more likely to implement recovery practices, although the effect was smaller compared with its effect on classroom decision-making. This suggests that adaptive expertise alone helped, but it did not completely explain recovery implementation. The moderate to small effect size indicates that teachers may possess adaptive qualities, yet actual learning recovery practices still depend on other conditions such as available time, learner data, resources, school support, and confidence in monitoring progress.

Classroom decision-making had a stronger direct effect on learning recovery practices, with a path coefficient of 0.47 and a moderate effect size of 0.31. This suggests that learning recovery was more strongly influenced by the teachers' ability to make evidence-based instructional decisions than by adaptive expertise alone. In practical terms, recovery practices improved when teachers could interpret learner performance, identify learning gaps, select appropriate support, and decide what instructional action should follow. This finding highlights the central role of classroom decision-making as the bridge between teacher knowledge and actual recovery-oriented teaching.

Table 7. *Mediating Effect of Classroom Decision-Making*

Indirect Path	Indirect Effect	t-value	p-value	95% Confidence Interval	Interpretation
Teacher Adaptive Expertise to Classroom Decision-Making to Learning Recovery Practices	0.30	5.41	<0.001	0.20 to 0.41	Significant partial mediation

Table 7 shows that classroom decision-making significantly mediated the relationship between teacher adaptive expertise and learning recovery practices. The indirect effect was 0.30 and was statistically significant. Since the direct effect of teacher adaptive expertise on learning recovery practices also remained significant, the mediation was partial. This means that teacher adaptive expertise influenced learning recovery practices in two ways. First, it had a direct influence because adaptive teachers were more likely to adjust instruction and provide recovery support. Second, it had an indirect influence because adaptive expertise strengthened classroom decision-making, which in turn improved learning recovery practices.

This result provides one of the strongest findings of the study. It shows that learning recovery practices were not shaped by adaptive expertise alone. Rather, adaptive expertise became more powerful when it was translated into sound classroom decisions. A teacher may be flexible and reflective, but recovery practices become more

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effective when that flexibility leads to specific decisions, such as which competency to prioritize, which learner group needs guided instruction, when to reteach, and how to monitor improvement. The result also explains why some recovery practices were not uniformly strong. The weaker indicators in progress monitoring and differentiated recovery suggest that teachers still needed stronger decision-making routines for tracking learner gains and adjusting interventions based on evidence.

Table 8. *Explained Variance and Predictive Relevance of the Model*

Endogenous Construct	R^2	Adjusted R^2	Q^2 Predict	Interpretation
Classroom Decision-Making	0.41	0.40	0.29	Moderate explanatory and predictive power
Learning Recovery Practices	0.53	0.52	0.34	Moderate to substantial explanatory and predictive power

Table 8 presents the explanatory and predictive strength of the model. Teacher adaptive expertise explained 41 percent of the variance in classroom decision-making, which indicates moderate explanatory power. This means that a considerable portion of classroom decision-making was associated with how adaptive teachers were in dealing with instructional situations. However, the remaining variance also suggests that decision-making may be affected by other factors not covered in the model, such as school leadership, class size, learner behavior, instructional resources, teacher workload, and professional collaboration.

The model explained 53 percent of the variance in learning recovery practices. This is a strong result for a classroom-based educational study because it shows that more than half of the differences in recovery practices were explained by teacher adaptive expertise and classroom decision-making. The Q^2 predict value of 0.34 further indicates that the model had acceptable predictive relevance. This means that the model did not only fit the data statistically, but also had practical value in explaining how teachers' professional flexibility and classroom judgment contributed to recovery-oriented teaching. At the same time, the result leaves room for improvement because almost half of the variance in learning recovery practices remained unexplained. This supports the finding that learning recovery is not only a matter of teacher capacity, but also a matter of school systems, support structures, learner conditions, instructional time, and access to useful assessment information.

Table 9. *Summary of Model-Supported Findings*

Research Focus	Result	Interpretation
Level of teacher adaptive expertise	High	Teachers generally showed flexibility, reflection, and adjustment in instruction, but differentiated responses to varied mastery levels remained less strong.
Level of classroom decision-making	High	Teachers commonly used classroom evidence in making instructional decisions, but collaborative decision-making and balancing coverage with mastery needed improvement.
Level of learning recovery practices	High	Teachers implemented recovery practices, especially remediation and prioritization of essential skills, but progress monitoring and differentiated recovery tasks were weaker.
Effect of teacher adaptive expertise on classroom decision-making	Significant and strong	Adaptive expertise strongly supported teachers' professional judgment in classroom situations.
Effect of teacher adaptive expertise on learning recovery practices	Significant but moderate	Adaptive expertise contributed to recovery practices, but it was not sufficient by itself.
Effect of classroom decision-making on learning recovery practices	Significant and stronger than the direct effect of adaptive expertise	Teachers' instructional decisions played a major role in the implementation of learning recovery practices.

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Research Focus	Result	Interpretation
Mediating role of classroom decision-making	Significant partial mediation	Adaptive expertise improved recovery practices partly through stronger classroom decision-making.

Table 9 summarizes the major findings of the study. Overall, the results show that public elementary school teachers in Bambang, Nueva Vizcaya had high levels of teacher adaptive expertise, classroom decision-making, and learning recovery practices. This suggests that teachers were not passive implementers of recovery programs. They exercised professional judgment, adjusted instruction, and carried out remediation and support activities for learners. The strongest part of the model was the relationship between teacher adaptive expertise and classroom decision-making, which shows that adaptive teachers were more likely to make thoughtful and responsive instructional decisions.

However, the study also revealed a practical concern. Although the overall ratings were high, the weaker indicators consistently pointed to differentiated instruction, progress monitoring, learner grouping, and collaborative decision-making. These areas are central to learning recovery. This means that the problem was not the absence of recovery practices, but the consistency and precision with which these practices were implemented and monitored. Teachers appeared to provide remediation and prioritize essential competencies, but they were less consistent in tracking whether learners improved after the intervention and in adjusting recovery activities based on documented progress.

The predictive model further showed that classroom decision-making was a key mechanism in learning recovery. Teacher adaptive expertise mattered, but it became more useful when it shaped instructional decisions. This finding suggests that professional development for learning recovery should not only train teachers to prepare remediation materials. It should also strengthen their capacity to interpret learner evidence, decide on appropriate responses, group learners based on need, monitor progress, and revise interventions when learners do not improve. In this sense, the study supports a more teacher-centered but evidence-informed view of learning recovery, where classroom judgment is treated as a critical part of recovery implementation.

The findings also point to the need for stronger school-level support. Since the model did not explain all variation in learning recovery practices, other factors likely affected implementation. These may include available instructional time, school monitoring systems, access to assessment tools, peer collaboration, administrative expectations, and learner attendance. For public elementary schools in Bambang, Nueva Vizcaya, learning recovery may become stronger when teachers are provided not only with policy direction, but also with practical structures for analyzing learner progress and sharing instructional decisions with colleagues. The results therefore show a generally positive teaching capacity, but also identify the areas where support must be strengthened to make learning recovery more systematic, evidence-based, and responsive to actual learner needs.

CONCLUSION

The public elementary school teachers in Bambang, Nueva Vizcaya demonstrated high levels of teacher adaptive expertise, classroom decision-making, and learning recovery practices, which means that they were generally capable of adjusting instruction, interpreting learner needs, and implementing recovery-oriented teaching strategies; however, the results also showed that differentiated instruction, progress monitoring, learner grouping, and collaborative decision-making remained areas that required further strengthening. The study further concluded that teacher adaptive expertise significantly influenced classroom decision-making and learning recovery practices, while classroom decision-making served as an important link through which adaptive expertise became more useful in actual recovery implementation. Thus, it is recommended that schools strengthen professional development programs that focus on evidence-based classroom decisions, differentiated recovery strategies, learner progress tracking, and practical assessment use. School heads may also establish regular collaborative sessions where teachers can discuss learner data, share intervention strategies, and evaluate the

progress of learners who need additional support. Teachers are encouraged to improve their use of formative assessment results, maintain simple but consistent progress monitoring records, and adjust recovery tasks based on actual learner performance. Future researchers may extend the study by including school leadership support, instructional resources, teacher workload, and learner attendance as additional factors that may influence learning recovery practices.

References

Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukerji, S., Shotland, M., & Walton, M. (2017). From proof of concept to scalable policies: Challenges and solutions, with an application. *Journal of Economic Perspectives, 31*(4), 73–102. https://doi.org/10.1257/jep.31.4.73

Betthäuser, B. A., Bach-Mortensen, A. M., & Engzell, P. (2023). A systematic review and meta-analysis of the evidence on learning during the COVID-19 pandemic. *Nature Human Behaviour, 7*(3), 375–385. https://doi.org/10.1038/s41562-022-01506-4

Bhagwandhin, V., Grudnoff, L., & Meyer, F. (2025). Classroom observations and post-observation conversations: Powerful tools for developing teacher adaptive expertise. *New Zealand Journal of Educational Studies, 60*(1), 205–223. https://doi.org/10.1007/s40841-025-00376-4

Black, P., & Wiliam, D. (2018). Classroom assessment and pedagogy. *Assessment in Education: Principles, Policy & Practice, 25*(6), 551–575. https://doi.org/10.1080/0969594X.2018.1441807

Bowers, N., Merritt, E. G., & Rimm-Kaufman, S. E. (2020). Exploring teacher adaptive expertise in the context of elementary school science reforms. *Journal of Science Teacher Education, 31*(1), 34–55. https://doi.org/10.1080/1046560X.2019.1651613

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute. https://doi.org/10.54300/122.311

Datnow, A., & Hubbard, L. (2016). Teacher capacity for and beliefs about data-driven decision making: A literature review of international research. *Journal of Educational Change, 17*(1), 7–28. https://doi.org/10.1007/s10833-015-9264-2

Department of Education. (2023). *Adoption of the National Learning Recovery Program in the Department of Education* (DepEd Order No. 013, s. 2023). Department of Education, Republic of the Philippines.

Earle, S. (2021). Formative decision-making in response to primary science classroom assessment: What to do next? *Frontiers in Education, 5*, Article 584200. https://doi.org/10.3389/feduc.2020.584200

Minea-Pic, A. (2023). *Catching up on lost learning opportunities: Research and policy evidence on key learning recovery strategies* (OECD Education Working Papers No. 292). OECD Publishing. https://doi.org/10.1787/a69c5909-en

Moran, R. M. R., Robertson, L., Tai, C., Ward, N. A., & Price, J. (2023). Developing pre-service teachers' adaptive expertise through STEM-CT integration in professional development and residency placements. *Frontiers in Education, 8*, Article 1267459. https://doi.org/10.3389/feduc.2023.1267459

Näsström, G., Andersson, C., Granberg, C., Palm, T., & Palmberg, B. (2021). Changes in student motivation and teacher decision making when implementing a formative assessment practice. *Frontiers in Education, 6*, Article 616216. https://doi.org/10.3389/feduc.2021.616216

Seidel, T., Böheim, R., & Kosel, C. (2026). Developing a cognitive model of advanced teacher professional vision for understanding processes of noticing and reasoning. *Frontiers in Psychology, 17*, Article 1769094. https://doi.org/10.3389/fpsyg.2026.1769094

Sims, S., Fletcher-Wood, H., O'Mara-Eves, A., Cottingham, S., Stansfield, C., Van Herwegen, J., & Anders, J. (2021). *What are the characteristics of effective teacher professional development? A systematic review and meta-analysis*. Education Endowment Foundation.

Suh, J. K., Hand, B., Ercan-Dursun, J., Sahin, E., & Fulmer, G. (2024). Exploring the complexity of adaptive teaching expertise within knowledge generation environments. *Education Sciences, 14*(4), Article 415. https://doi.org/10.3390/educsci14040415

Tayem, A., & Bourgeois, I. (2024). Data-based decision making by teachers in K-12 schools: A scoping review. *Canadian Journal of Learning and Technology, 50*(3), 1–23. https://doi.org/10.21432/cjlt28781

UNESCO. (2023). *Education: From COVID-19 school closures to recovery*. United Nations Educational, Scientific and Cultural Organization.

UNICEF, UNESCO, World Bank, Foreign, Commonwealth & Development Office, United States Agency for International Development, & Bill & Melinda Gates Foundation. (2022). *Guide for learning recovery and acceleration: Using the RAPID Framework to address COVID-19 learning losses and build forward better*. World Bank.

van der Steen, J., van Schilt-Mol, T., van der Vleuten, C., & Joosten-ten Brinke, D. (2022). Supporting teachers in improving formative decision-making: Design principles for formative assessment plans. *Frontiers in Education, 7*, Article 925352. https://doi.org/10.3389/feduc.2022.925352

World Bank, UNESCO, UNICEF, Foreign, Commonwealth & Development Office, United States Agency for International Development, & Bill & Melinda Gates Foundation. (2022). *The state of global learning poverty: 2022 update*. World Bank.