

Teachers' effectiveness, assessment competence, self-efficacy, and readiness for international student assessment

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Abstract

Aim: Concerns about Filipino students' low performance in international assessments such as the Programme for International Student Assessment (PISA) highlight gaps in teacher preparedness within the Philippine public education system. This study investigated Grade 9 teachers' effectiveness, assessment competence, and self-efficacy, and examined their relationships and predictive influence on readiness for International Student Assessments (ISA) in the Division of Cagayan de Oro City.

Methodology: The study employed a quantitative predictive-correlational design using Structural Equation Modeling (SEM). Data were collected through validated questionnaires from 262 Grade 9 English, Science, and Mathematics teachers across nine school districts during the 2025–2026 school year.

Results: The findings revealed high levels of teacher effectiveness, particularly in learning environment, communication, and subject knowledge. Teachers demonstrated reliable assessment competence in educational assessment and instructional decision-making, though relatively lower competence in identifying special educational needs. Self-efficacy levels were high across student engagement, instructional strategies, and classroom management. Teachers also exhibited moderate to high readiness for ISA, particularly in classroom practices aligned with higher-order thinking tasks. Correlation analysis showed significant positive relationships among teacher effectiveness, assessment competence, self-efficacy, and ISA readiness. Multiple regression analysis identified educational assessment competence, progress monitoring, and identification of special educational needs as significant predictors of readiness. Structural Equation Modeling confirmed that self-efficacy was the strongest predictor of teachers' readiness for international student assessments.

Conclusion: The findings emphasize the importance of strengthening teacher education and professional development programs that enhance teachers' self-efficacy and assessment competence. Targeted training in assessment strategies, inclusive education, and progress monitoring may improve teachers' readiness for international assessments and contribute to improved instructional effectiveness and student learning outcomes.

Keywords: *assessment competence, international student assessment, teacher effectiveness, teacher readiness, self-efficacy, structural equation modeling*

INTRODUCTION

In an era of globally benchmarked education, preparing students for international assessments like PISA has become urgent. PISA provides a standardized measure of 15-year-olds' skills in reading, mathematics, and science, enabling global comparisons and identifying system gaps. Its focus on real-world problem-solving drives policy and reform, with high-performing countries improving through PISA, while nations like the Philippines face pressure to enhance educational outcomes.

In the Philippines, PISA results highlight challenges such as uneven teacher preparation, limited resources, and inadequate professional development, reflected in weak use of formative data and poor integration of global standards. While assessment guides learning and instruction, its impact depends on teachers' ability to interpret frameworks and

design aligned instruction, emphasizing the role of teacher readiness, assessment competence, and self-efficacy (Levy-Feldman, 2025; Calasang et al., 2025).

Teacher readiness for international assessments involves the knowledge and skills to align instruction with global benchmarks and develop critical thinking and problem-solving. Teacher effectiveness supports this through strong instruction and engagement, while self-efficacy enhances reflective practice, data use, and adaptability, all contributing to improved student readiness (Espinosa et al., 2024; Jungjohann & Gebhardt, 2023; Täschner, 2025).

Assessment competence involves understanding, designing, interpreting, and using assessments to enhance learning—familiarity with formats, data analysis, and PISA-aligned adjustments enabled gap identification, differentiated instruction, and ethical change (Anchunda & Kaewurai, 2025). Region 10's PISA scores declined from 2018 to 2022—Mathematics (342 to 339), Reading (330 to 327), Science (342 to 337), overall (338 to 334)—remaining far below the OECD average of 500, underscoring needs ahead of cycles like March 2025 (Acido & Caballes, 2024).

National initiatives like PISA Readiness 2025 prioritized logistics over teacher capacity (DepEd memos DM 29, s. 2018; DM 15, s. 2022; DM 01, s. 2025), with limited localized research in Region 10, particularly in Cagayan de Oro. Existing studies focus on curriculum and student outcomes, overlooking teacher competencies such as effectiveness, self-efficacy, and assessment skills. Field experiences from 2018 to 2025 further reveal rushed, training-deficient preparations, reflecting a pattern of superficial implementation that risks ineffective interventions (Acido & Caballes, 2024).

In Region 10's context of persistent low scores and national-local disconnects, scrutinizing teacher-level factors proved essential; without evidence on how effectiveness, competence, and self-efficacy drove readiness, strategies remained broad. This study bridged that gap by drawing on firsthand local insights to advance sustainable, teacher-centered change and equity through Sustainable Development Goal (SDG) 4 (Quality Education), SDG 10 (Reduced Inequalities), and SDG 16 (Strong Institutions).

This study examined the relationship between Grade 9 teachers' effectiveness, assessment competence, self-efficacy, and readiness for international student assessments in the Division of Cagayan de Oro. By pinpointing influential competencies, it provided actionable insights for DepEd leaders, school heads, and coordinators to enhance instructional quality and student success in global benchmarks.

It contributes pedagogically by emphasizing sustained, embedded professional development through coaching, collaborative assessment design, and data-driven instruction to strengthen teacher readiness. It also promotes integrating PISA-type tasks into daily instruction to develop higher-order thinking skills and reduce assessment anxiety, positioning teachers as designers of globally aligned learning experiences.

Review of Related Literature and Studies

This chapter provides an overview of relevant literature and studies. It discusses significant insights and substance to support the current problem under consideration.

Teaching Effectiveness

Teacher effectiveness is essential for quality education, especially in diverse Philippine classrooms. Marquez and Oropa (2025) found that effective teaching strategies improve students' attention, motivation, and participation, with both male and female students rating them highly. This shows that strong teaching is key to achieving positive student outcomes.

Padillo et al. (2021) found that while teachers demonstrated strong skills in planning and classroom management, the impact of professional development was limited by contextual challenges. This indicates that teacher effectiveness depends not only on individual skills but also on institutional support. A holistic approach with continuous training and responsive policies is therefore necessary.

Dacoco et al. (2022) found that during the COVID-19 pandemic, teachers maintained high effectiveness through adaptability and innovative strategies despite limited resources, highlighting that teacher effectiveness is both a stable skill and a flexible response to changing educational conditions.

Seville and Guhao (2023) and Olvido et al. (2024) highlight that teacher effectiveness is shaped by job satisfaction, emotional well-being, and factors such as socio-economic background and academic preparation, underscoring the importance of quality teacher education and equitable support for sustained effectiveness.

Rebollos et al. (2025) found that while teacher competence strongly relates to classroom management, it does not always ensure student engagement, suggesting that effectiveness also depends on cultural, institutional, and emotional factors.

The studies show that teacher effectiveness is shaped by strategies, training, adaptability, and well-being, but these do not always translate into improved engagement. This reveals a gap in understanding how personal, institutional, and socio-emotional factors interact across contexts.

Teachers' Self-Efficacy

Teachers' self-efficacy influences how they view their ability to support learning and handle classroom challenges. Fabelico and Afalla (2020) found that higher self-efficacy leads to greater perseverance, less burnout, and better teaching performance. It is also linked to grit and resilience, highlighting its importance in sustaining motivation and effectiveness.

Suico (2021) and Caliba (2022) show that self-efficacy enhances classroom management and teaching effectiveness, while also being strengthened by supportive working conditions and participatory management, highlighting the need for schools to foster environments that build teachers' confidence and autonomy.

Dellomos et al. (2023) found that teachers with high self-efficacy adapted better to post-pandemic classroom changes. They were more capable of handling instructional shifts and student needs. This highlights the role of self-efficacy in promoting resilience during educational disruptions.

Most recently, Lazo (2025) examined teachers' self-efficacy, focusing on instructional strategies and classroom management. The study revealed that while self-efficacy was generally high, challenges remained in addressing low-performing students.

Teachers' self-efficacy is linked to performance, resilience, and classroom management, while readiness for international assessments depends on knowledge and assessment skills. However, studies treat these separately, revealing a gap in understanding how self-efficacy influences teacher readiness for global assessments in diverse contexts.

Teachers' self-efficacy enhances performance, resilience, and classroom management, and is strengthened by supportive school environments. However, despite its clear impact, challenges remain in addressing diverse learner needs. Existing studies also overlook how self-efficacy connects to teacher readiness for international assessments, revealing a gap in understanding its role in meeting global education standards.

Teacher Readiness for International Student Assessment

Teacher readiness for international student assessment is a key indicator of how well students are prepared for global academic standards. Bajana (2024) found that while students demonstrated basic reading skills, gaps in higher-order comprehension remained, highlighting the need for targeted instructional improvements and reinforcing the importance of assessing teacher readiness to enhance student outcomes.

At a national level, Frianeza et al. (2024) reported that Filipino students continue to perform below global averages in core subjects, reflecting ongoing challenges in readiness for international assessments. This suggests that improving teacher readiness is essential not only for student success but also for strengthening education policies and standards.

Hamzah et al. (2025) developed a localized, validated tool to assess teacher readiness across multiple dimensions, highlighting that readiness involves not just content knowledge but also adaptability and assessment literacy. Their work provides a structured and culturally relevant framework for evaluating preparedness.

Furthermore, recent policy recommendations stress integrating international assessment competencies into teacher education programs. Mgaiwa and Milinga (2024) argue that embedding skills like critical thinking and data literacy into curricula is essential to ensure sustained and proactive teacher readiness.

Teacher readiness for international assessments is essential for meeting global standards, yet gaps in higher-order skills persist. While readiness includes content knowledge, adaptability, and assessment literacy, research still lacks a clear understanding of how these are consistently developed across contexts.

Theoretical Framework

The theoretical framework anchors the study on Shulman's Pedagogical Content Knowledge (PCK), Black and Wiliam's Assessment for Learning (AfL) framework, and Bandura's Social Cognitive Theory. PCK highlights the importance of integrating subject-matter expertise and teaching strategies, enabling teachers to deliver instruction aligned with international standards like PISA. AfL emphasizes the formative role of assessment in guiding instruction and improving student outcomes, while Bandura's Social Cognitive Theory underscores the influence of teacher self-efficacy on instructional quality, motivation, and resilience. Together, these theories explain how teacher effectiveness, assessment competence, and self-efficacy collectively shape readiness for international student assessments.

Conceptual Framework

The conceptual framework hypothesizes that teacher effectiveness, assessment competence, and self-efficacy are the key independent variables influencing teacher readiness for international student assessments. Readiness is defined across four dimensions: competence, instructional practices, familiarity with international frameworks, and the

ability to foster critical thinking and problem-solving skills. This framework reflects how these teacher-level factors contribute to aligning instruction with global benchmarks such as those set by PISA.

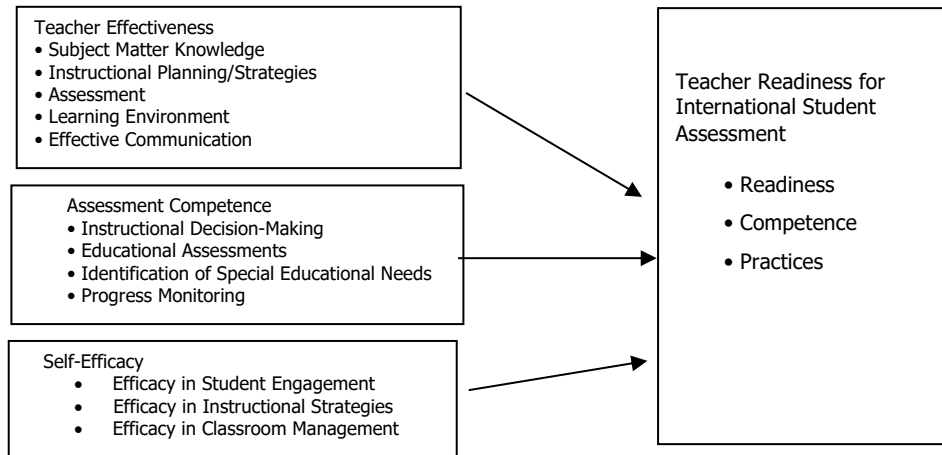


Figure 1. Schematic presentation showing the relationship between the independent and dependent variables of the study

Statement of the Problem

Despite the increasing emphasis on global standards in education, many educational systems continue to face challenges in preparing teachers for international large-scale assessments. In the Philippine context, participation in international assessments such as the Programme for International Student Assessment (PISA) has highlighted concerns regarding students' performance and the readiness of teachers to support learners in developing higher-order thinking and problem-solving skills required by these global benchmarks.

Teacher readiness for international student assessments may be influenced by several professional and psychological factors, including teacher effectiveness, assessment competence, and self-efficacy. However, there remains limited empirical evidence on how these factors collectively influence teachers' readiness for international assessments, particularly in local educational settings.

In the Division of Cagayan de Oro City, there is insufficient localized research examining how teachers' professional competencies and beliefs contribute to their readiness for international student assessments. Without such evidence, educational leaders and policymakers may find it difficult to design targeted professional development programs that strengthen teachers' capacity to prepare students for global assessments.

Therefore, this study investigated the relationships among teachers' effectiveness, assessment competence, and self-efficacy, and examined how these factors influence the readiness of Grade 9 teachers for international student assessments in the Division of Cagayan de Oro City.

Research Objectives

General Objective

This study aimed to examine the relationships among teachers' effectiveness, assessment competence, and self-efficacy and determine how these factors influence teachers' readiness for international student assessments.

Specific Objectives

1. To assess the level of teacher effectiveness in terms of:
 - subject matter knowledge,
 - instructional planning and strategies,
 - assessment practices,
 - learning environment, and
 - effective communication.
2. To determine the level of teachers' assessment competence in terms of:
 - instructional decision-making,

- educational assessments,
 - identification of special educational needs, and
 - progress monitoring.
3. To determine the level of teachers' self-efficacy in terms of:
 - student engagement,
 - instructional strategies, and
 - classroom management.
4. To assess the level of teachers' readiness for international student assessments in terms of:
 - readiness,
 - competence, and
 - instructional practices.
5. To determine whether a significant relationship exists between teachers' readiness for international student assessments and their:
 - teacher effectiveness,
 - assessment competence, and
 - self-efficacy.
6. To identify the variables that significantly predict teachers' readiness for international student assessments.
7. To determine the structural model that best explains teachers' readiness for international student assessments.

Research Questions

This study was guided by the following research questions:

1. What is the level of teacher effectiveness in terms of:
 - subject matter knowledge,
 - instructional planning and strategies,
 - assessment practices,
 - learning environment, and
 - effective communication?
2. What is the level of teachers' assessment competence in terms of:
 - instructional decision-making,
 - educational assessments,
 - identification of special educational needs, and
 - progress monitoring?
3. What is the level of teachers' self-efficacy in terms of:
 - student engagement,
 - instructional strategies, and
 - classroom management?
4. What is the level of teachers' readiness for international student assessments in terms of:
 - readiness,
 - competence, and
 - instructional practices?
5. Is there a significant relationship between teachers' readiness for international student assessments and their:
 - teacher effectiveness,
 - assessment competence, and
 - self-efficacy?
6. Which variables significantly predict teachers' readiness for international student assessments?
7. What structural model best explains teachers' readiness for international student assessments?

Hypotheses

H01: There is no significant relationship between teacher effectiveness and readiness for international student assessments.

H02: There is no significant relationship between assessment competence and readiness for international student assessments.

H03: There is no significant relationship between teacher self-efficacy and readiness for international student assessments.

H04: Teacher effectiveness, assessment competence, and self-efficacy do not significantly predict teachers' readiness for international student assessments.

H05: There is no structural model that significantly explains teachers' readiness for international student assessments.

Research Design

This study adopted a quantitative research design, employing a predictive-correlational framework supported by Structural Equation Modeling (SEM). The descriptive phase aimed to measure the levels of Teacher Readiness for International Student Assessment, teachers' effectiveness, assessment competence, and self-efficacy within the educational context. The correlational component examined how teacher readiness for assessments was statistically associated with these key educational outcomes (Jalil & Tran, 2024).

Population and Sampling

There were 262 teachers involved in the study. This study utilized a total enumeration sampling strategy. The researcher opted not to choose a representative sample but rather encouraged all teachers to participate. The English, Science, and Mathematics teachers in 9 districts of the Division of Cagayan de Oro City were included. This approach was appropriate, as the group was well-defined and of manageable size, making it feasible to include all members. Consequently, it ensured accurate and reliable results without the need for sampling. Overall, it enhances the study's credibility and lays a strong foundation for division-wide practical policy and program suggestions (Bansiong et al., 2025).

Instruments

The study utilized a structured survey questionnaire consisting of four sections to measure teachers' effectiveness, assessment competence, self-efficacy, and readiness for international student assessments. Each section was adapted from established and validated instruments, including the School Teacher Effectiveness Questionnaire (Gerdtz-Andresen et al., 2022), Diagnostic Competence Questionnaire (Jungjohann & Gebhardt, 2023), Teachers' Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001), and an international assessment readiness tool (Samosa & Jacoba, 2024).

Content Validation

The validity of the instruments was established through expert review. An expert in Educational Leadership and Management evaluated content relevance, a specialist in Quantitative Research assessed methodological rigor, and an expert in English Language examined clarity and cultural appropriateness.

Reliability Testing

Reliability was assessed using McDonald's Omega (ω) based on pilot data from 30 non-participant secondary school teachers from another division, as the study employed total enumeration of the target population. The results showed high internal consistency across the measured constructs: Teaching effectiveness ($\omega = 0.959$), Assessment competence ($\omega = 0.979$), Self-efficacy ($\omega = 0.972$), and Readiness for ISA ($\omega = 0.976$). These coefficients support the reliability of the instruments for measuring the intended constructs.

Data Collection

The study followed a systematic data-gathering process beginning with securing formal permission from educational authorities and participating schools. Survey questionnaires were then distributed to 262 teachers in both printed and online formats to ensure accessibility and higher response rates. Participants were briefed on the study's purpose and assured of confidentiality and voluntary participation. The process was closely monitored, concerns were addressed, and the completeness of responses was ensured before the organization, encoding, and analysis of the data using appropriate statistical methods, with strict data security maintained throughout.

Treatment of Data

The study employed a combination of descriptive and inferential statistical techniques to ensure accurate and meaningful data interpretation. Descriptive statistics, specifically mean and standard deviation, were used to assess the levels of teachers' effectiveness, assessment competence, self-efficacy, and readiness for international student assessment. To examine relationships among these variables, Canonical Correlation Analysis (CCA) was applied, allowing a comprehensive analysis of interrelated variable sets. Multiple Regression Analysis was then used to identify the strongest predictors of teacher readiness. Finally, Structural Equation Modeling (SEM) was conducted to test the overall model and evaluate direct and indirect relationships among variables, with model fit assessed using standard indices such as χ^2 , CFI, TLI, RMSEA, and SRMR to ensure the validity and robustness of the proposed framework.

Ethical Considerations

The study adhered to strict ethical standards by obtaining approval from the Local Research Ethics Board and relevant institutional authorities. Informed consent was secured from all participants, ensuring they were fully aware of the study's purpose, risks, and their right to withdraw at any time without penalty. Confidentiality was rigorously maintained through secure storage of data, with plans for proper disposal after five years. Measures were implemented to minimize potential discomfort, including allowing participants to skip questions and access support if needed, while ensuring transparency, respect for autonomy, and responsible reporting of findings for community benefit.

RESULTS and DISCUSSION

1. Level of the Teachers' Effectiveness

Level of Participants' Effectiveness

Sub-constructs	Mean	SD	Interpretation
subject matter knowledge	4.53	.515	Outstanding and highly effective teaching
instructional planning/strategies	4.45	.536	Consistently strong instructional delivery
Assessment	4.50	.510	Consistently strong instructional delivery
learning environment	4.62	.491	Outstanding and highly effective teaching
effective communication	4.57	.511	Outstanding and highly effective teaching
Overall Mean	4.53	.477	Outstanding and highly effective teaching

Legend: 4.51-5.00-Outstanding and highly effective teaching 1.51-2.50- Weak and inconsistent teaching practices
3.51-4.50- Consistently strong instructional delivery 1.00-1.50- Ineffective and below teaching standards
2.51-3.50- Satisfactory but needs some improvement

Table 1 presents a summary of teachers' effectiveness across five sub-constructs. The aggregate mean of 4.53 (SD = 0.477) indicates strong agreement and high consistency in teachers' self-reported effectiveness across domains. The results indicate strong agreement among teachers concerning their effectiveness across various assessed domains. This finding suggests that teachers perceive themselves as competent in fulfilling professional responsibilities, including instruction, assessment, classroom management, and learner engagement. This positive collective perception likely reflects solid preparation, relevant experience, and ongoing professional development, which contribute to their overall confidence in practice.

The learning environment (M = 4.62, SD = 0.491) and effective communication (M = 4.57, SD = 0.511) scored highest, indicating teachers' strength in creating supportive classrooms and maintaining clear communication, consistent with findings on their importance for engagement and well-being (Bansiong et al., 2025). Instructional planning (M = 4.45, SD = 0.536) and assessment (M = 4.50, SD = 0.510) were slightly lower but still positive, suggesting that contextual constraints such as time, class size, and resources may limit differentiated and feedback-driven instruction (Padillo et al., 2021; Rebollos et al., 2025; Olvido et al., 2024).

These findings indicate that teachers demonstrate high and consistent effectiveness across all domains, excelling in relational, communicative, and engagement-focused practices, while areas requiring deeper planning, assessment literacy, and feedback integration represent opportunities for targeted professional development. The results reinforce the importance of culturally responsive pedagogy, continuous pre-service and in-service training, and institutional support in enhancing teacher effectiveness in Philippine classrooms (Dacoco et al., 2022; Seville & Guhao, 2023).

2. Level of Participants' Assessment Competence

Table 2 presents a summary of the mean and standard deviation for teachers' assessment competence across the four sub-constructs. The overall mean of 3.89 indicates that teachers generally agree they are reliable and confident in assessment practices, reflecting the development of competent assessment skills. The standard deviation of 0.650 shows moderate variability, suggesting some differences in teachers' confidence and competence across the sub-constructs.

Table 2

Level of the Participants' Assessment Competence

Sub-construct	Mean	SD	Interpretation
instructional decision-making	4.18	.645	Reliable and confident in assessments
Educational assessments	4.25	.615	Reliable and confident in assessments
Identification of special educational needs	3.18	1.07	Reliable and confident in assessments
Progress monitoring	3.96	.765	Reliable and confident in assessments
Overall Mean	3.89	.650	Reliable and confident in assessments

Legend: 4.51-5.00-Expert in assessment and evaluation tasks 1.51-2.50- Limited use of assessment strategies

3.51-4.50- Reliable and confident in assessments
2.51-3.50- Satisfactory but needs some improvement

1.00-1.50- Lacks basic assessment competence

The findings indicate that teachers generally perceive themselves as competent and confident in assessment, with skills ranging from developing to proficient. However, variations in confidence across assessment areas suggest the need for ongoing professional development and collaboration to strengthen skills and ensure more consistent practices.

Educational assessment ($M = 4.25$, $SD = 0.615$) and instructional decision-making ($M = 4.18$, $SD = 0.645$) were rated highest, indicating strong teacher confidence in these areas. In contrast, identification of special educational needs ($M = 3.18$, $SD = 1.07$) and progress monitoring ($M = 3.96$, $SD = 0.765$) were lower, suggesting developing competence and greater variability in skills, particularly in identifying special needs.

The findings show that teachers have strong assessment competence in general assessment and instructional decision-making, but place less emphasis on identifying special educational needs and monitoring progress, with greater variability in these areas. This aligns with Levy-Feldman (2025) and Jungjohann and Gebhardt (2023), who highlight that gaps persist in diagnostic and inclusive assessment without sustained training and support.

Level of the Participants' Self-Efficacy

Table 3 presents a summary of the results of the mean and standard deviation for the level of the teachers' self-efficacy across the three sub-constructs. The overall mean of 4.42 indicates that teachers generally agree they possess a high level of self-efficacy in their professional practice. The overall standard deviation of 0.577 suggests moderate consistency, reflecting that responses were relatively similar across participants.

Table 3

Level of the Participants' Self-Efficacy

Sub-constructs	Mean	SD	Interpretation
efficacy in student engagement	4.42	.615	High
efficacy in instructional strategies	4.43	.610	High
efficacy in classroom management	4.42	.609	High
Overall Mean	4.42	.577	High

Legend: 4.51-5.00 – Very High Self- Efficacy

3.51-4.50- High Self- Efficacy

2.51-3.50- Moderate Self- Efficacy

1.51-2.50- Low Self- Efficacy

1.00-1.50- Very Low Self- Efficacy

Instructional strategies ($M = 4.43$, $SD = 0.610$) and student engagement ($M = 4.42$, $SD = 0.615$) scored highest, indicating strong teacher confidence in teaching delivery and learner involvement. Classroom management ($M = 4.42$, $SD = 0.609$) was slightly lower but nearly identical, showing consistently high self-efficacy across all domains.

The findings show that teachers demonstrate high self-efficacy in engagement, instruction, and classroom management, reflecting strong professional confidence, which is linked to effective teaching, improved student engagement, and positive learning outcomes (Emiru & Gedefaw, 2024; Eren et al., 2025)

4. Level of Participants' Readiness for International Student Assessment

Table 4

Level of Participants' Readiness for International Student Assessment

Sub-constructs	Mean	SD	Interpretation
Readiness	3.91	.755	Well-informed and actively engaged in ISA
Competence	3.907	.761	Well-informed and actively engaged in ISA
Practices	4.34	.618	Well-informed and actively engaged in ISA
Overall Mean	4.05	.638	Well-informed and actively engaged in ISA

Legend: 4.51-5.00-Fully prepared for international assessments

3.51-4.50- Well-informed and actively engaged in ISA

2.51-3.50- Some readiness, needs further development

1.51-2.50- Limited awareness of ISA requirements

1.00-1.50- Unprepared and unfamiliar with ISA practices

Table 4 presents the summary of the teachers' Readiness for International Student Assessment (ISA) across the sub-constructs of readiness, competence, and practices. The overall mean of 4.05 indicates that teachers generally agree they are well-informed and actively engaged in ISA, reflecting a moderate to high overall readiness. The overall standard deviation of 0.638 suggests moderate consistency, showing some variation in teachers' self-reported readiness, competence, and practices.

Among the sub-constructs, practices obtained the highest mean ($M = 4.34$, $SD = 0.618$), followed closely by competence ($M = 3.91$, $SD = 0.761$). This suggests that teachers are most confident in implementing ISA-aligned practices in the classroom and applying assessment knowledge collaboratively and strategically. In contrast, readiness recorded the

lowest mean ($M = 3.91$, $SD = 0.755$), indicating that while teachers are generally aware of international assessments, there is slightly more variability in their familiarity with frameworks, goals, and preparatory activities.

These findings indicate that teachers are generally well-informed and actively engaged in ISA, with particular strength in classroom practices, while knowledge and awareness of assessment frameworks show slightly lower, yet adequate, emphasis. This suggests that while teachers confidently implement ISA-aligned practices and collaborate in applying assessment strategies, ongoing support is needed to deepen familiarity with international assessment structures and goals.

Research shows that teacher readiness for international assessments is enhanced when self-efficacy, assessment competence, and classroom application intersect, enabling educators to design meaningful tasks, foster higher-order thinking, and prepare students for global benchmarks (Cañoso, 2024; Paniamogan & Dioso, 2024). The implication is that targeted professional development, reflective practice, and policy support are essential to strengthen teacher capacity and ensure that students are effectively prepared for international assessment standards.

5. Relationship between teacher readiness for international student assessment and their effectiveness, assessment competence, and Self-efficacy

Table 5

Relationship between Teacher Readiness for International Student Assessment, Teachers' Effectiveness, Assessment Competence, and Self-Efficacy)

Variable	Spearman's ρ	p-value	Interpretation
Subject Matter Knowledge (SMC)	0.610	.000	Significant
Instructional Planning/Strategies (IPS)	0.619	.000	Significant
Assessment (AS)	0.588	.000	Significant
Learning Environment (LEN)	0.570	.000	Significant
Effective Communication (EC)	0.644	.000	Significant
Overall Effectiveness (EFF)	0.661	.000	Significant
Instructional Decision-Making (IDM)	0.702	.000	Significant
Educational Assessment (EA)	0.741	.000	Significant
Identification of Special Needs (ISN)	0.475	.000	Significant
Progress Monitoring (PM)	0.691	.000	Significant
Overall Competence (COMP)	0.740	.000	Significant
Efficacy in Student Engagement (ESE)	0.673	.000	Significant
Efficacy in Instructional Strategies (EIS)	0.710	.000	Significant
Efficacy in Classroom Management (ECM)	0.708	.000	Significant
Overall Self-Efficacy (SELEF)	0.746	.000	Significant

The results of the Spearman's rho correlation analysis in Table 5 indicated that teacher readiness for international student assessment was positively and significantly associated with all measured sub-constructs of teacher effectiveness, assessment competence, and self-efficacy. Specifically, readiness showed strong positive correlations with overall self-efficacy ($\rho = .746$, $p < .01$), educational assessment competence ($\rho = .741$, $p < .01$), and overall assessment competence ($\rho = .740$, $p < .01$).

The correlation analysis shows that teachers' readiness for the International Student Assessment (ISA) is closely linked to their overall effectiveness, assessment skills, and confidence. Simply put, as teachers become more confident and skilled in their roles, they tend to feel more prepared to meet the demands of international assessment standards.

Significant correlations were found between readiness and instructional decision-making ($\rho = .702$), instructional strategies ($\rho = .710$), and classroom management efficacy ($\rho = .708$), all at $p < .01$. Teacher effectiveness also showed strong to moderate associations, including overall effectiveness ($\rho = .661$), effective communication ($\rho = .644$), subject knowledge ($\rho = .610$), instructional planning ($\rho = .619$), assessment ($\rho = .588$), learning environment ($\rho = .570$), and identifying special needs ($\rho = .475$). Overall, teacher readiness is strongly linked to self-efficacy, assessment competence, and teaching effectiveness, with higher confidence in instructional and assessment practices associated with greater preparedness for international assessments.

These findings are consistent with previous studies suggesting that teachers' self-efficacy and assessment competence significantly influence their readiness for global assessments, as they enable educators to design meaningful learning experiences, implement formative and higher-order thinking tasks, and align classroom practices with international standards (Cañoso, 2024; Paniamogan & Dioso, 2024). Consequently, professional development that strengthens teacher efficacy and assessment skills is critical to enhancing readiness for international student assessments.

6. Predictors of Teacher Readiness for International Student Assessment

A multiple regression analysis (Table 6) examined whether teacher effectiveness, assessment competence, and self-efficacy predict readiness for international student assessment. The model was significant, $F(12, 249) = 48.88$, $p < .001$, explaining 70.2% of the variance in readiness ($R^2 = .702$, Adjusted $R^2 = .688$). Educational assessment competence ($\beta = .292$), progress monitoring ($\beta = .266$), and identification of special educational needs ($\beta = .121$) were significant predictors, indicating that teachers skilled in assessment, monitoring, and identifying learner needs are more prepared for international assessment contexts.

Table 6

Predictors of Teacher Readiness for International Student Assessment

Predictors	B	SE B	B	t	P	Tolerance	VIF
Constant	0.152	0.222	—	0.686	.494	—	—
Subject Matter Knowledge (SMC)	0.077	0.091	0.062	0.842	.401	0.221	4.521
Instructional Planning/Strategies (IPS)	0.046	0.104	0.039	0.441	.659	0.157	6.384
Assessment (AS)	-0.142	0.109	0.113	-1.296	.196	0.156	6.401
Learning Environment (LEN)	-0.064	0.110	-0.050	-0.587	.558	0.167	5.988
Effective Communication (EC)	0.104	0.105	0.084	0.992	.322	0.168	5.943
Instructional Decision-Making (IDM)	-0.066	0.077	-0.066	-0.849	.397	0.195	5.116
Educational Assessment (EA)	0.303	0.078	0.292	3.913	.000	0.214	4.664
Identification of Special Needs (ISN)	0.072	0.027	0.121	2.666	.008	0.580	1.725
Progress Monitoring (PM)	0.222	0.048	0.266	4.587	.000	0.356	2.807
Efficacy in Student Engagement (ESE)	0.101	0.075	0.098	1.355	.177	0.230	4.354
Efficacy in Instructional Strategies (EIS)	0.156	0.087	0.150	1.789	.075	0.171	5.846
Efficacy in Classroom Management (ECM)	0.124	0.081	0.118	1.536	.126	0.202	4.942

Model Summary: $R = .838$, $R^2 = .702$, Adjusted $R^2 = .688$, $SEE = .356$
ANOVA: $F(12, 249) = 48.88$, $p < .001$

Multiple regression analysis shows that teacher effectiveness, assessment skills, and self-confidence together predict readiness for the International Student Assessment (ISA). The model explains a large part of the differences in teacher readiness, showing that these professional qualities are closely linked to being prepared for international assessment standards. These findings highlight how important competence and confidence are as the foundation for ISA readiness.

Assessment skills, progress monitoring, and identifying special educational needs are key to teacher readiness. Teachers confident in these areas feel more prepared for international assessments, highlighting the need for targeted training in assessment and learner-centered instruction.

Other factors, such as subject knowledge, planning, classroom management, instructional strategies, and student engagement, were not significant predictors of readiness, though some multicollinearity suggests overlap among variables.

Results show that educational assessment competence, progress monitoring, and identifying special needs significantly predict readiness. Teachers skilled in these areas are more confident in implementing international assessments, supporting research on the importance of assessment competence and self-efficacy in aligning instruction with global standards (Cañoso, 2024; Paniamogan & Dioso, 2024).

7. Structural model best fits Teacher Readiness for International Student Assessment

Table 7 presents the regression weights for Structural Model 2, showing the predictive relationships of teacher readiness (READ) with effectiveness (EFF) and self-efficacy (SEF). Self-efficacy emerged as the strongest and significant predictor of readiness ($\beta = .820$, $p < .001$), indicating that teachers' confidence in classroom management, instructional strategies, and student engagement is a critical determinant of their preparedness for international student assessment.

In contrast, effectiveness was not a significant predictor of readiness ($\beta = .087$, $p = .401$), suggesting that effectiveness alone does not directly influence readiness in this model. The subcomponents of self-efficacy—efficacy in classroom management (ECM), instructional strategies (EIS), and student engagement (ESE)—all showed strong and significant loadings, reinforcing the central role of teacher confidence in the model.

Structural Model 2 shows that teacher self-efficacy is the primary predictor of readiness for international student assessment, while overall effectiveness does not directly influence readiness. Confidence in classroom management, instructional strategies, and student engagement strongly drives preparedness, whereas professional skills support readiness indirectly. These findings align with research emphasizing that teacher self-efficacy is crucial for implementing effective instruction and assessment practices in global contexts (Cañoso, 2024; Paniamogan & Dioso, 2024; Mulyati & Sopiah, 2025).

Table 7
Structural Model 2 of Teacher Readiness for International Student Assessment

Path	Estimate	S.E.	C.R.	P	Std. Regression Weights Estimate
READ <--- EFF	.106	.126	.839	.401	.087
READ <--- SEF	.841	.111	7.602	***	.820
EC <--- EFF	1.000				.912
LEN <--- EFF	.963	.035	27.494	***	.914
AS <--- EFF	1.022	.039	26.115	***	.934
IPS <--- EFF	1.055	.043	24.788	***	.917
SMC <--- EFF	.980	.045	21.771	***	.886
ECM <--- SEF	1.004	.043	23.452	***	.912
EIS <--- SEF	1.030	.041	24.968	***	.934
ESE <--- SEF	1.000				.900
CO <--- READ	.959	.072	13.249	***	.714
PR <--- READ	1.000				.917

Similarly, the subcomponents of effectiveness—subject matter knowledge (SMC), instructional planning and strategies (IPS), assessment (AS), learning environment management (LEN), and effective communication (EC)—all loaded significantly on effectiveness, confirming their relevance as underlying professional skills, even if they do not directly predict readiness. Finally, readiness strongly influenced both competence (CO) and instructional practices (PR), supporting the hierarchical nature of the model.

Overall, Structural Model 2 provides a substantially better fit than Structural Model 1, supporting its validity in representing the relationships among self-efficacy, competence, effectiveness, instructional practices, and teacher readiness for international student assessment.

The fit indices for Structural Model 2 show that the model matches the observed data well, proving it valid in representing the links between teacher self-efficacy, competence, effectiveness, instructional practices, and readiness for the International Student Assessment (ISA). Most indices, like CMIN/DF, GFI, AGFI, TLI, and CFI, meet the criteria for a good model fit, which means the proposed relationships align with the actual data. The RMSEA and PCLOSE values also indicate a good fit to the population covariance matrix, further confirming the model's strength.

These findings strongly support the model's validity and suggest that teacher readiness is a complex concept influenced by self-efficacy, competence, effectiveness, and practical teaching strategies. This highlights the need to consider all these factors when preparing teachers for international assessments.

Conclusions

The findings of the study reveal that Grade 9 English, Science, and Mathematics teachers demonstrate high levels of teaching effectiveness, strong self-efficacy, and substantial readiness for international student assessments. Teachers show particular strengths in creating supportive learning environments, maintaining effective communication with learners, and implementing sound classroom assessment practices.

However, areas such as progress monitoring and the identification of special educational needs require further development to ensure that instructional practices effectively address diverse learner needs. These competencies are essential for aligning classroom instruction with the cognitive demands of international assessments such as the Programme for International Student Assessment (PISA).

The findings support Shulman's Pedagogical Content Knowledge (PCK) framework, Black and William's Assessment for Learning (AfL) framework, and Bandura's Social Cognitive Theory, which collectively emphasize that effective teaching practice results from the integration of content knowledge, pedagogical competence, assessment literacy, and teacher self-efficacy.

The study contributes to educational research by highlighting the role of teacher professional competence and psychological readiness in improving instructional quality and preparing students for global learning standards. Strengthening teachers' assessment competence and self-efficacy may therefore enhance instructional practices, support curriculum implementation, and improve student readiness for international assessments.

Recommendations

Based on the findings of the study, the following recommendations are proposed:

1. **Department of Education Central Office.** The Department of Education may strengthen national initiatives on assessment literacy by aligning teacher professional development programs with global assessment frameworks such as PISA. Policy frameworks such as the Philippine Professional Standards for Teachers (PPST) may incorporate competencies related to international assessment readiness, inclusive assessment practices, and data-driven instruction.
2. **Division Education Offices.** Division offices may implement targeted professional development programs that focus on strengthening teachers' assessment competence, particularly in progress monitoring and identification of learners with special educational needs. Coaching, mentoring, and technical assistance may also support teachers in applying assessment data to improve instruction.
3. **School Leaders.** School administrators may establish mentorship and instructional coaching programs that enhance teachers' confidence in classroom assessment practices. Structured professional learning communities may support collaborative reflection, lesson improvement, and continuous professional development.
4. **Teachers.** Teachers may engage in ongoing professional development related to inclusive assessment, formative evaluation strategies, and data-informed instruction. Collaborative learning among teachers may strengthen instructional practices that promote higher-order thinking and problem-solving skills among students.
5. **Higher Education Institutions and Community Partners.** Universities and local government units may collaborate with schools in developing training programs, instructional resources, and research initiatives that support teacher readiness for international assessments.
6. **Future Researchers.** Future studies may explore additional variables that influence teacher readiness for international assessments, including instructional leadership, professional learning communities, and technology-enhanced assessment practices. Mixed-method research may also provide deeper insights into teachers' experiences and instructional strategies related to international assessment preparation.

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