

Exploring the Strategies of Mathematics Teachers in Grading Students' Affective Learning

RIVERA, Reynaldo Jr. C.

 0009-0004-4054-3605; Marikina Polytechnic College. Marikina City, Philippines. rivera.rcjr@mpc.edu.ph

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ABSTRACT

This study explored the strategies employed by mathematics teachers in assessing and grading students' affective learning within the Philippine basic education context. Using an exploratory qualitative research design, data were gathered from mathematics teachers enrolled in the Master of Arts in Teaching major in Mathematics Teaching program at Marikina Polytechnic College through an online qualitative survey questionnaire. Responses were analyzed using a three-tiered thematic analysis, which identified three major themes: teachers' understanding of affective learning, their assessment tools and grading practices, and the challenges they encountered in ensuring fairness and consistency. Findings revealed that teachers recognize the importance of the affective domain—particularly motivation, perseverance, and collaboration—but assess it primarily through informal observation, participation marks, and self-developed rubrics. Affective grading was found to be highly subjective due to the absence of standardized tools, institutional guidance, and adequate time for systematic observation. The study concludes that objectively and separately grading the affective domain remains vague within existing systems, as affective learning resists quantification and standardization. It calls for collaboration between basic and higher education institutions to develop research-based frameworks, teacher training programs, and policy reforms that promote equitable, holistic, and values-driven assessment practices in mathematics education.

RESUME

Este estudo explorou as estratégias empregadas por professores de matemática na avaliação e atribuição de notas à aprendizagem afetiva dos alunos no contexto da educação básica nas Filipinas. Utilizando um desenho de pesquisa qualitativa exploratória, os dados foram coletados de professores de matemática matriculados no programa de Mestrado em Ensino com especialização em Ensino de Matemática do Marikina Polytechnic College, por meio de um questionário qualitativo on-line. As respostas foram analisadas por meio de uma análise temática em três níveis, que identificou três temas principais: a compreensão dos professores sobre a aprendizagem afetiva, suas ferramentas e práticas de avaliação e atribuição de notas, e os desafios enfrentados para garantir justiça e consistência. Os resultados revelaram que os professores reconhecem a importância do domínio afetivo — particularmente a motivação, a perseverança e a colaboração —, mas o avaliam principalmente por meio de observações informais, notas de participação e rubricas desenvolvidas pelos próprios docentes. Constatou-se que a avaliação afetiva é altamente subjetiva devido à ausência de ferramentas padronizadas, diretrizes institucionais e tempo suficiente para observação sistemática. O estudo conclui que avaliar objetivamente e separadamente o domínio afetivo ainda é impreciso nos sistemas existentes, uma vez que a aprendizagem afetiva resiste à quantificação e à padronização. O estudo recomenda a colaboração entre instituições de ensino básico e superior para desenvolver estruturas baseadas em pesquisa, programas de formação docente e reformas políticas que promovam práticas de avaliação equitativas, holísticas e orientadas por valores no ensino de matemática.

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Introduction

Education reforms increasingly recognize that learning outcomes extend beyond cognitive achievement to include the attitudes, motivation, and values that shape how students engage with academic tasks. Global education agendas such as Sustainable Development Goal 4 (SDG 4) highlight the importance of developing learners' social and emotional competencies alongside academic knowledge (Adipat & Chotikapanich, 2022). Within this perspective, the affective domain of learning includes dispositions such as interest, perseverance, and responsibility that influence students' engagement and persistence in learning activities (Gamage et al., 2021).

In classroom practice, however, translating these affective outcomes into assessable indicators remains challenging. Unlike cognitive and psychomotor competencies that can be evaluated through structured tests or performance tasks, affective learning involves internal dispositions and observable behaviors that are more difficult to measure systematically (Krathwohl, Bloom, & Masia, 1964). As a result, teachers often rely on observation, participation indicators, or informal criteria when evaluating students' attitudes and engagement. This challenge becomes particularly relevant in mathematics classrooms, where perseverance, collaboration, and motivation play an important role in problem solving but are rarely supported by clear or standardized grading frameworks.

Educational reforms in Asia have increasingly embraced holistic and values-based learning through frameworks such as the ASEAN Curriculum Sourcebook and Education for Sustainable Development (ESD) (Acosta Castellanos et al., 2021). This framework promotes the integration of moral, social, and emotional competencies within subject teaching, positioning education as an agent for sustainability and social cohesion. In countries like Japan (International Association for the Evaluation of Educational Achievement [IEA], 2024), Singapore (Ministry of Education Singapore, 2020), and South Korea (Lee & Kim, 2022), classrooms have become venues for cultivating perseverance, collaboration, and appreciation of logical reasoning as moral and intellectual virtues.

Yet, despite policy alignment, many educators continue to express uncertainty about systematically assessing the affective domain (Fortus et al., 2022). This difficulty also extends to the implementation of technology-supported assessment practices, where teachers encounter challenges in designing higher-order tasks, balancing assessment difficulty, and structuring digital assessments effectively (Magcalen, 2025). Research indicates that while teachers recognize the importance of nurturing positive attitudes, they often rely on informal

observation rather than structured evaluation, reflecting a gap between pedagogical intent and assessment practice (Potgieter et al., 2025).

In the Philippine context, this concern is amplified by policy expectations and curricular reform. The Department of Education's Order No. 8, s. 2015 mandates a balanced assessment of learners' cognitive, psychomotor, and affective domains, while the MATATAG Curriculum calls for "nurturing the mind, heart, and hands" (DepEd Order No. 10, s. 2024). Despite these directives, the implementation of affective assessment in mathematics classrooms remains limited (Panaoura et al., 2024).

Teachers continue to prioritize measurable outputs such as tests, problem-solving exercises, and performance tasks over attitudinal indicators like persistence, curiosity, and teamwork (Adhikari et al., 2024; Mahlambi, 2023). At the same time, emerging evidence indicates that students engage with artificial intelligence tools in a situational and strategic manner, especially during academic difficulty, while maintaining autonomy in tasks such as critical thinking and note-taking (Ignacio, 2026). These evolving learning behaviors make engagement less directly observable through traditional classroom indicators, which further complicates the assessment of affective learning.

The limited empirical documentation of how teachers operationalize affective learning in mathematics classrooms highlights a significant research gap. While policy frameworks emphasize the importance of the affective domain, relatively few studies examine how teachers translate these expectations into concrete grading practices and classroom assessment strategies (Hayuningrat et al., 2024). Understanding how teachers conceptualize affective learning, how they attempt to assess it, and what challenges they encounter is essential for bridging the gap between policy discourse and instructional practice.

Therefore, this exploratory qualitative study investigates how mathematics teachers in Philippine basic education assess and grade students' affective learning. Specifically, the study aims to examine teachers' conceptual understanding of affective learning, the strategies and tools they employ to evaluate it, and the challenges they encounter in ensuring fairness and consistency in grading. By documenting teachers' actual practices and experiences, the study contributes empirical insights into the complexities of affective assessment in mathematics education and provides a basis for developing more systematic frameworks, professional development initiatives, and institutional policies that support holistic and equitable classroom assessment.

This tension exposes a research gap in understanding how mathematics teachers conceptualize, assess, and grade affective learning. While global and regional policies highlight the necessity of holistic assessment, empirical investigations—particularly within the Philippine setting—remain limited. This qualitative exploratory study aims to document concrete strategies teachers use to evaluate affective learning, the tools they employ to

translate qualitative observations into grades, and the challenges they face in ensuring fairness and consistency.

Methodology

Research Approach

This study employed an exploratory qualitative research design to investigate the strategies used by mathematics teachers in grading students' affective learning. The design was deemed appropriate since the topic remained under-researched and conceptually complex, requiring a flexible and open-ended inquiry to uncover how teachers defined, interpreted, and implemented affective assessment in mathematics education (Creswell & Poth, 2016). Instead of testing predetermined hypotheses, the study sought to generate insights, describe patterns, and identify emerging practices that characterized how affective learning was evaluated in classroom contexts. Guided by a constructivist paradigm, the research acknowledged that teachers constructed their understanding of affective assessment through their professional experiences, curriculum expectations, and institutional policies (Lincoln & Guba, 1985).

Description of Respondent

The participants of this study were mathematics teachers who were enrolled in the Master of Arts in Teaching major in Mathematics Teaching program at Marikina Polytechnic College (MPC) during the first semester of Academic Year 2025–2026. This group was selected because they were both practicing mathematics educators and graduate students who actively engaged in reflective pedagogical inquiry. Their dual perspectives—as classroom practitioners and postgraduate learners—provided rich insights into the strategies used in assessing and grading students' affective learning.

A total of forty-six (46) mathematics teachers were initially invited to participate in the study. However, one (1) declined to participate in the survey, and two (2) were excluded because they were teaching at the college level, which was not the focus of the research. Consequently, the final number of participants included in the study was forty-three (43) mathematics teachers. This number was sufficient to capture a broad range of perspectives and experiences while remaining feasible for qualitative analysis. Although qualitative research often involved smaller samples, this study employed a qualitative survey design, which prioritized variation and depth of responses rather than statistical representativeness (Jansen, 2010). This design enabled the researcher to explore emerging patterns, similarities, and differences among teachers' strategies for grading affective learning in mathematics.

The study utilized a purposive sampling technique, a non-probability method appropriate for exploratory qualitative research. Participants were deliberately selected based on the following inclusion criteria: (1) they were enrolled in the Master of Arts in Teaching

major in Mathematics Teaching program at MPC, and (2) they were actively teaching mathematics at the basic education level during the conduct of the study.

Table 1.
Participants of the Study

Teaching Level	Institution		Year of teaching Mathematics			
	Public	Private	1-3	4-6	7-10	More than 10 years
Junior High School	27	5	2	7	10	13
Senior High School	8	3	3	1	5	2
Total	43					

Data Collection

The data for this study were gathered exclusively through an online qualitative survey questionnaire administered via Google Forms. This method was utilized to ensure accessibility, efficiency, and convenience for the participants, who were mathematics teachers enrolled in the Master of Arts in Teaching major in Mathematics Teaching program at Marikina Polytechnic College. The online format allowed participants to provide reflective and descriptive responses at their own pace while maintaining data accuracy and confidentiality. The survey instrument consisted of open-ended questions designed to elicit detailed narratives about teachers' strategies, considerations, and challenges in grading students' affective learning. The qualitative nature of the questionnaire enabled the collection of rich textual data suitable for thematic analysis, supporting the exploratory purpose of the study.

Ethical Consideration

Prior to data collection, the researcher secured ethical clearance from the Marikina Polytechnic College Research Ethics Committee (REC) to ensure compliance with institutional and national standards. Participation was voluntary, and no form of coercion occurred, as the researcher held no supervisory or evaluative authority over the participants. To minimize professional vulnerability, participants were informed that the study aimed to explore grading strategies for professional and pedagogical development, not to assess or judge teacher performance. An informed consent form, embedded in the Google Form survey, described the study's purpose, procedures, potential risks, and participants' rights, including the option to withdraw at any time without consequence. The study posed minimal risk, focusing only on reflective responses about teaching practices.

Strict measures were implemented to ensure confidentiality, data anonymization, and security. No personally identifying information was collected, and each participant was assigned a pseudonym and numerical code to ensure anonymity. All data were stored in an encrypted, password-protected Google Drive folder accessible only to the researcher, with an

encrypted offline backup as a safeguard. After publication of this study, all files will be permanently deleted using secure erasure methods. In reporting, only anonymized and pseudonymized quotations were used to preserve authenticity while protecting identities. The discussion also reflected on whether the identified grading strategies reinforced or mitigated equity gaps in mathematics classrooms.

Data Analysis

The qualitative data gathered from the Google Forms survey were analyzed using a three-tiered analysis procedure adapted from Edaño et al. (2025) to ensure analytical rigor and thematic coherence. Prior to analysis, all responses were screened to remove identifying information such as names or institutional affiliations to preserve participant anonymity. To strengthen the trustworthiness of the study, the analysis followed the criteria of credibility, dependability, confirmability, and transferability proposed by Lincoln and Guba (1985). Credibility was supported through repeated reading of the responses to ensure familiarity with the data and through peer checking with an experienced qualitative researcher who reviewed the coding structure and thematic interpretations. Feedback from this review helped refine the coding scheme and ensured that emerging interpretations remained grounded in participants' responses.

The analysis proceeded through three stages. In the first tier, anonymized responses were exported to a spreadsheet and subjected to open coding, where key words, phrases, and statements related to teachers' strategies, criteria, and challenges in grading affective learning were identified and labeled. In the second tier, related codes were grouped into subthemes to consolidate recurring ideas while filtering repetitive or marginally relevant responses. In the third tier, the subthemes were synthesized into broader themes representing patterns in mathematics teachers' beliefs and practices regarding affective assessment. The systematic documentation of coding decisions served as an audit trail supporting dependability, while the use of verbatim excerpts in the results strengthened confirmability by linking interpretations directly to participants' responses. Transferability was supported through detailed descriptions of the research context, participant characteristics, and sampling procedures, allowing readers to assess the applicability of the findings to similar educational contexts.

Result and Discussion

The results of this study are presented thematically to capture the perspectives of mathematics teachers regarding the assessment and grading of students' affective learning. The analysis focuses on the meanings teachers assign to affective learning, the approaches and tools they employ in assessing it, and the challenges they encounter in ensuring fairness and consistency in grading. The themes are supported by representative statements. This section aims to provide a nuanced understanding of how affective learning is perceived and operationalized in mathematics classrooms.

Theme 1. Teachers' Understanding of Affective Learning

Participants expressed diverse perspectives on what constitutes affective learning in mathematics, revealing both shared beliefs and varying levels of conceptual depth. Their responses suggested that while most teachers acknowledged the affective domain as an important part of student development, their understanding was shaped largely by personal teaching experiences and intuitive interpretations. Generally, they viewed affective learning as interconnected with students' motivation, values, and attitudes toward mathematics, reflecting how emotions and dispositions influence engagement and persistence in the subject. The following discussion presents how teachers articulated their understanding of affective learning and the underlying themes that emerged from their responses.

Table 2.

Subthemes, Excerpts, and Memo on Teachers' Understanding of Affective Learning

Subthemes	Excerpts	Memo
Emotional and Motivational Engagement	<i>"Emotional and motivational aspects of learning"; "Appreciating Math in real-life context"; "Interest and enjoyment in solving problems"</i>	Teachers associate affective learning primarily with students' <i>interest, confidence, and motivation</i> to engage with mathematics. This reflects a perception of affective learning as emotional readiness to learn rather than structured attitude development.
Values and Dispositions in Mathematics	<i>"Perseverance in solving problems"; "Positive attitude and teamwork"; "Respect for others' ideas"</i>	Affective learning is viewed as a <i>reflection of values</i> demonstrated through collaboration and perseverance—showing moral and social dimensions embedded in classroom interaction.
Holistic Learning Perspective	<i>"Not only skills but also values"; "Developing the heart and mind together"</i>	Several responses highlight a holistic conception of learning, aligning with the MATATAG goal of "nurturing the mind, heart, and hands." Teachers implicitly connect affective outcomes to character formation and lifelong learning.

Emotional and Motivational Engagement

Teachers in this study frequently described affective learning as the emotional and motivational dimension of students' engagement with mathematics. Their responses revealed that they equated affective growth with observable enthusiasm, confidence, and perseverance in classroom activities. Statements such as *"the emotional and motivational aspects of learning"* and *"appreciating Math in real-life context"* illustrate that teachers recognized emotions as central to sustaining students' interest and willingness to participate in mathematical problem-solving. This view resonates with Krathwohl, Bloom, and Masia's (1964) taxonomy of the affective domain, particularly the stages of receiving and responding, where learners actively attend to and participate in learning experiences.

Teachers' emphasis on enjoyment and curiosity in mathematics also reflects an understanding that positive emotions can foster a more productive learning environment. When students experience confidence and satisfaction in solving problems, they are more

likely to persist through difficulties—an affective quality closely associated with mathematical resilience (Panaoura et al., 2024). However, this perception of affective learning as emotional readiness to learn rather than as a structured developmental process suggests that teachers may conceptualize affective learning in broad, experiential terms. This mirrors findings by Potgieter et al. (2025), who noted that teachers often view affective assessment as intuitive and incidental rather than intentional and measurable.

Values and Dispositions in Mathematics

Teachers also articulated affective learning as the development of values and dispositions that influence students' behavior and interactions within the mathematics classroom. Their responses, which included statements such as “*perseverance in solving problems*,” “*positive attitude and teamwork*,” and “*respect for others' ideas*,” suggest that they viewed affective learning as a reflection of students' moral and social growth alongside academic progress. These values—perseverance, cooperation, and respect—are not only personal traits but also relational competencies that shape how learners engage with mathematical tasks and collaborate with peers. This interpretation aligns with Krathwohl et al.'s (1964) higher levels of the affective taxonomy, particularly valuing and organization, where learners internalize attitudes and integrate them into consistent behavioral patterns.

The teachers' emphasis on perseverance and teamwork highlights the moral dimension of mathematics education, echoing the view that mathematics is not merely a technical discipline but a context for cultivating discipline, patience, and collective problem-solving (Lee & Kim, 2022; IEA, 2024). In collaborative settings, students learn to respect diverse approaches to problem-solving, reinforcing empathy and open-mindedness—attributes that support the social purpose of education envisioned in the MATATAG Curriculum. However, while teachers clearly recognized the significance of these dispositions, their descriptions indicated that such values are often observed informally rather than systematically assessed. This reliance on observation rather than explicit evaluation tools mirrors broader challenges in affective assessment, where moral and social behaviors are acknowledged but remain loosely documented (Fortus et al., 2022).

Holistic Learning Perspective

Several teachers expressed a holistic view of learning, emphasizing that mathematics education should develop “*not only skills but also values*” and aim at “*developing the heart and mind together*.” These statements reflect an understanding that affective learning is not separate from academic achievement but is an integral component of a well-rounded educational experience. Teachers recognized that nurturing students' values, attitudes, and emotional growth alongside their cognitive abilities contributes to the formation of balanced, empathetic, and resilient learners. This perspective aligns closely with the MATATAG

Curriculum’s vision of “nurturing the mind, heart, and hands,” which promotes education that fosters both intellectual competence and ethical responsibility (Acosta Castellanos et al., 2021).

In this context, teachers viewed affective learning as central to character formation and lifelong learning. They acknowledged that mathematics lessons can serve as a platform for developing perseverance, discipline, and moral reasoning—qualities that extend beyond the classroom and contribute to students’ personal and civic growth. Such a holistic conception resonates with Krathwohl et al.’s (1964) assertion that the affective domain evolves from simple awareness to the internalization of values that shape one’s worldview and behavior. However, while teachers strongly articulated the need to balance emotional and intellectual development, their responses also implied that institutional support and structured assessment practices remain limited in translating these ideals into measurable outcomes.

Theme 2. Assessment Tools and Grading Practices

Participants described varied ways of assessing students’ affective learning in mathematics, reflecting both creativity and inconsistency in practice. Their responses showed that teachers rely on a combination of structured and informal methods to capture students’ attitudes, motivation, and collaborative behaviors. While many acknowledged the importance of evaluating affective learning, their chosen tools and strategies differed widely depending on classroom context and personal judgment. The following discussion presents the emerging subthemes that illustrate how teachers design, adapt, and implement their assessment and grading practices related to the affective domain.

Table 3.

Subthemes, Excerpts, and Memo on Assessment Tools and Grading Practices

Subthemes	Excerpts	Memo
Use of Rubrics and Observation	<i>“I use rubrics to assess affective learning”; “Observation checklist”; “Participation marks”</i>	Rubrics are the most frequently mentioned tool, but teachers admit these are often adapted informally rather than standardized. Observation is used intuitively, suggesting a need for clearer criteria.
Peer and Self-Assessment Practices	<i>“Peer assessment”; “Group collaboration scores”; “Self-reflection activities”</i>	Peer-based grading provides shared accountability but may risk subjectivity. Teachers recognize its motivational benefits but seldom document the process systematically.
Integration with Cognitive Assessment	<i>“Combine affective with quizzes and performance tasks”; “Real-life applications to measure engagement”</i>	Effective assessment is often embedded within cognitive tasks rather than treated independently, indicating limited structural recognition of the affective domain in grading policies.

Use of Rubrics and Observation

Teachers identified rubrics and observation checklists as their primary tools for assessing students' affective learning in mathematics. Many shared that they use "rubrics to assess affective learning" and rely on "observation checklists" or "participation marks" to capture students' attitudes, cooperation, and engagement during class activities. These practices show that teachers make deliberate efforts to document behavioral indicators of affective growth, such as perseverance, teamwork, and classroom participation. However, most of these tools were teacher-developed and adapted informally, without reference to a standardized institutional framework. This flexible approach allows teachers to respond to their unique classroom contexts, yet it also raises concerns about the consistency, validity, and objectivity of affective grading.

The use of rubrics reflects teachers' awareness of the need to operationalize affective indicators, aligning with the principle that assessment should provide clear criteria for both students and teachers (DepEd Order No. 8, s. 2015). However, as teachers admitted, these rubrics are often designed intuitively rather than systematically validated, which may lead to variation in interpretation and application. Similarly, observation, though valuable for capturing real-time behaviors and attitudes, is often conducted informally, guided more by teachers' professional judgment than by structured procedures. This reliance on subjective observation mirrors findings from Potgieter et al. (2025), who noted that teachers frequently evaluate affective learning through implicit impressions rather than explicit measurement tools.

Peer and Self-Assessment Practices

Teachers also reported incorporating peer and self-assessment strategies to evaluate students' affective learning, particularly in relation to collaboration, participation, and reflection. Responses such as "*peer assessment*," "*group collaboration scores*," and "*self-reflection activities*" indicate that teachers encourage students to take an active role in assessing their own and their classmates' attitudes and behaviors. These practices promote shared accountability and learner agency, allowing students to reflect on their interpersonal skills, perseverance, and contributions to group tasks. This approach aligns with learner-centered assessment principles that emphasize participation and self-awareness as essential to holistic education (Mahlambi, 2023).

However, while teachers recognized the motivational value of peer and self-assessment, they also admitted that such practices are seldom documented systematically and often lack clear criteria for scoring or interpretation. Without structured rubrics or moderation, peer evaluations can become subjective or biased, influenced by social dynamics rather than performance evidence. Similarly, self-assessment responses may reflect students' self-

perceptions rather than observable behaviors, limiting their reliability as formal measures of affective learning. These limitations echo the concerns of Adhikari et al. (2023), who noted that teachers frequently struggle to maintain consistency and objectivity when integrating reflective and participatory forms of assessment.

Integration with Cognitive Assessment

Teachers revealed that affective learning is often integrated with cognitive assessment rather than treated as an independent component of evaluation. Several participants shared that they “*combine affective with quizzes and performance tasks*” and use “*real-life applications to measure engagement*,” showing that affective indicators such as motivation, perseverance, and collaboration are typically assessed alongside academic performance. This blending reflects teachers’ efforts to create authentic assessment contexts where both knowledge and attitudes are demonstrated through real-world tasks. Such integration aligns with holistic assessment principles that encourage evaluating learners’ cognitive, psychomotor, and affective competencies within meaningful learning experiences (DepEd Order No. 8, s. 2015).

However, while this integrated approach promotes a more comprehensive view of student learning, it also reveals a limited structural recognition of the affective domain within grading policies. Because affective behaviors are embedded in cognitive assessments, their measurement often becomes implicit—inferred from students’ performance or participation rather than directly observed or scored using clear indicators. This makes it difficult to distinguish affective outcomes from cognitive achievement, resulting in reduced visibility of affective growth in formal grading. Similar findings were reported by Panaoura et al. (2024), who observed that teachers tend to emphasize cognitive success due to the lack of standardized affective criteria in curriculum frameworks.

Theme 3. Challenges in Ensuring Fairness and Consistency

Although teachers valued the assessment of affective learning, their responses revealed several obstacles that hinder its consistent and equitable implementation. Participants identified various factors that complicate the fair evaluation of students’ attitudes and values, highlighting both personal and systemic challenges. These include issues related to time, assessment tools, and institutional support, which collectively shape how affective learning is observed and graded in practice. The following discussion presents the main challenges reported by teachers and examines how these factors affect the reliability and integrity of affective assessment in mathematics classrooms.

Table 4.

Subthemes, Excerpts, and Memo on Challenges in Ensuring Fairness and Consistency

Subthemes	Excerpts	Memo
Lack of Standardized Criteria and Tools Time Constraints and Workload	<i>“No particular tool used”; “Lack of criteria making grading inconsistent” “Time constraint in 45-minute class”; “Too many students to observe”</i>	The absence of clear rubrics and institutional guidance leads to inconsistency in how affective grades are assigned. Teachers rely heavily on personal judgment. Teachers express difficulty in monitoring affective indicators regularly, reflecting systemic constraints rather than unwillingness.
Subjectivity and Bias in Grading	<i>“Personal judgment on participation”; “Hard to be fair with different personalities”</i>	Fairness is compromised by the subjective nature of observation-based grading. Some teachers equate participation with affective performance, which may bias results toward outspoken students.
Limited Training and Institutional Support	<i>“Need training and policy guidelines”; “Workshops on affective assessment will help”</i>	Teachers are aware of their limitations and explicitly request capacity-building programs and clear institutional frameworks to guide affective grading.

Lack of Standardized Criteria and Tools

A major challenge identified by teachers was the absence of standardized criteria and assessment tools for evaluating affective learning in mathematics. Several participants admitted that there was *“no particular tool used”* or that there was a *“lack of criteria making grading inconsistent,”* indicating that affective assessment is often guided by individual judgment rather than institutionalized frameworks. Without formal rubrics or validated instruments, teachers develop their own methods, sometimes drawing from cognitive assessment tools, to evaluate affective behaviors such as participation, motivation, and collaboration. While this flexibility allows teachers to adapt to their classroom contexts, it also introduces variation and inconsistency in how affective performance is interpreted and graded.

This finding supports prior studies (Potgieter et al., 2025) which observed that teachers frequently rely on intuitive and informal evaluation when assessing non-cognitive learning outcomes, leading to difficulties in maintaining fairness and reliability. The lack of standardized reference points results in assessments that are highly subjective, depending on the teacher’s perception, classroom culture, or personal expectations of student behavior. Consequently, affective learning, though valued in theory, remains marginalized in practice, as teachers often struggle to justify grades or provide evidence-based feedback for this domain.

Time Constraints and Workload

Teachers consistently cited time constraints and heavy workload as significant barriers to effectively assessing students’ affective learning. Many expressed that *“in a 45-minute class, there’s no time to observe all students properly”* and that *managing “too many students to observe”* made it difficult to systematically monitor affective indicators such as motivation,

participation, and perseverance. These responses reflect not a lack of willingness but rather systemic and structural limitations that prevent teachers from implementing comprehensive affective assessment practices. In large classes and short instructional periods—common in many public schools—teachers are compelled to prioritize measurable academic outputs such as tests and performance tasks over qualitative observations of attitudes and values.

This finding aligns with the observations of Mahlambi (2023), who noted that when faced with limited time and administrative demands, teachers tend to focus on cognitive outcomes that are easier to quantify and record. The high student-teacher ratio and overloaded curriculum further restrict opportunities for individualized attention, reflection, or consistent observation of affective growth. Consequently, affective assessment often becomes incidental—based on fleeting impressions rather than sustained monitoring—reducing its reliability as an evaluative component.

Subjectivity and Bias in Grading

Teachers acknowledged that subjectivity and personal bias inevitably influence their grading of students' affective learning. Several participants admitted that affective evaluation often relies on *“personal judgment on participation”* and that it is *“hard to be fair with different personalities.”* These statements illustrate a central dilemma in affective assessment—the difficulty of maintaining fairness when evaluation depends largely on teachers' perceptions and classroom observations. Because affective indicators such as enthusiasm, cooperation, and engagement are behaviorally expressed and context-dependent, teachers may unintentionally favor students who are more vocal, expressive, or visibly active, while overlooking those who demonstrate learning quietly or internally.

This issue reflects the broader challenge of observation-based grading, which, although valuable for capturing real-time behaviors, is vulnerable to implicit bias and inconsistency (Panaoura et al., 2024). The tendency to equate participation or compliance with positive affective performance can disadvantage introverted or less assertive learners, thereby reinforcing inequities in classroom evaluation. Similarly, without standardized rubrics or inter-rater calibration, teachers' interpretations of affective traits remain idiosyncratic, shaped by personal expectations, teaching style, or classroom culture.

Limited Training and Institutional Support

Teachers consistently expressed the need for training, policy guidance, and institutional support to strengthen their ability to assess affective learning effectively. Many participants openly stated, *“Need training and policy guidelines”* and *“Workshops on affective assessment will help,”* highlighting their awareness of personal limitations and their willingness to improve. This acknowledgment suggests that while teachers value the affective

domain, they often lack the theoretical grounding, practical tools, and administrative frameworks necessary to implement fair and systematic affective assessment. The absence of institutional support leaves teachers to rely on intuition and experience, resulting in inconsistent practices that vary widely across classrooms and schools.

This finding echoes the observations of Fortus et al. (2022) and Potgieter et al. (2025), who emphasized that the absence of professional development opportunities and clear institutional policies often hinders teachers' capacity to evaluate affective learning systematically. In the Philippine context, while DepEd Order No. 8, s. 2015 mandates the inclusion of the affective domain in classroom assessment, the operational guidelines for its implementation remain vague. As a result, teachers receive little direction on designing rubrics, selecting indicators, or integrating affective outcomes into grading systems.

Conclusion

The findings of this study reveal that while mathematics teachers strongly value the affective domain as an essential component of holistic education, objectively and independently grading affective learning remains an elusive goal in current educational practice. Teachers clearly recognize the importance of attitudes, motivation, and values in promoting meaningful engagement and perseverance in mathematics. However, their methods of assessment—most often through informal observation, participation marks, and teacher-constructed rubrics—are largely subjective, intuitive, and inconsistent. The absence of standardized frameworks, validated assessment instruments, and clear institutional criteria has resulted in the affective domain being implicitly embedded within or overshadowed by cognitive and psychomotor evaluations rather than addressed as a distinct area of learning.

Moreover, systemic constraints such as limited instructional time, large class sizes, and extensive workloads further prevent teachers from conducting continuous and evidence-based observation of affective behaviors. Even when attempts are made to quantify affective learning, the process is frequently guided by personal judgment and contextual interpretation, which compromises objectivity and reliability. The findings also underscore a widespread lack of professional training and institutional support, leaving teachers without the necessary tools or policy guidance to transform affective assessment into a structured and measurable practice.

Implications

The findings of this study underscore the need to reconsider how affective learning is assessed and valued within classroom evaluation systems. The results indicate that while teachers recognize the importance of students' attitudes, motivation, and values, grading the affective domain objectively and independently from cognitive and psychomotor learning outcomes remains unclear in current practice. This situation highlights the need for more

coherent and research-informed approaches to affective assessment. Teachers may benefit from support that moves assessment beyond intuitive observation toward more structured and evidence-informed strategies for evaluating students' motivation, engagement, and collaborative behaviors. The development of validated rubrics, observable behavioral indicators, and systematic documentation procedures may help strengthen the consistency and transparency of affective grading practices.

It is important to note that the participants of this study were mathematics teachers enrolled in a Master of Arts in Teaching program. This group may demonstrate relatively higher levels of pedagogical awareness, reflective practice, and familiarity with educational discourse compared with the broader population of mathematics teachers. Consequently, the perspectives presented in this study may not fully represent the assessment practices of all teachers in basic education contexts. In addition, the study relied exclusively on an online qualitative survey administered through Google Forms. While this approach allowed participants to provide written reflections in a convenient and accessible format, the asynchronous nature of text-based responses limited opportunities for follow-up questions, clarification of meanings, and deeper probing of participants' experiences that are typically possible in interviews or focus group discussions.

As a result, the insights generated in this study should be interpreted within the scope of the data collection method and participant profile. Future research may expand the participant pool to include teachers from diverse professional backgrounds and school contexts and may also incorporate interactive qualitative methods such as semi-structured interviews or focus group discussions to capture richer and more nuanced accounts of teachers' affective assessment practices.

For practical improvement of classroom assessment practices, collaboration between basic education institutions and higher education institutions (HEIs) may be beneficial. HEIs can serve as research partners and professional development providers, supporting the design and pilot implementation of affective assessment frameworks that are both theoretically grounded and feasible in classroom contexts. Such collaborations may promote joint research initiatives, teacher training programs, and the development of practical guidelines that connect theoretical perspectives on affective learning with the realities of classroom assessment.

At the institutional level, the findings also suggest the need to strengthen guidance related to affective assessment within existing educational policies. While DepEd Order No. 8, s. 2015 emphasizes balanced assessment across cognitive, psychomotor, and affective domains, clearer operational guidelines may help teachers translate these expectations into practical classroom grading strategies. Schools and higher education institutions may also

integrate affective learning indicators into their assessment frameworks to support the broader objectives of the MATATAG Curriculum and the goals of inclusive and holistic education.

Declaration of Generative AI in Scientific Writing

The author acknowledges the use of Generative Artificial Intelligence (AI), specifically ChatGPT (GPT-5, OpenAI), as a writing and language enhancement tool in the preparation of the manuscript. The AI was used solely to improve clarity, coherence, and academic tone, and to assist in organizing sections based on the author's own ideas, data, and interpretations. All data collection, analysis, memoing, and thematic interpretation were conducted entirely by the researcher, and the AI did not contribute to the generation of research data or analytical insights. The author exercised full control over the content, critically reviewed all AI-assisted outputs, and verified all references and factual information to ensure accuracy. The research content, findings, and conclusions are the sole responsibility of the author.

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REFERENCES

- Acosta Castellanos, P. M., Queiruga-Dios, A., & Álvarez, L. G. (2021). Inclusion of education for sustainable development in environmental engineering. A systematic review. *Sustainability*, 13(18), 10180. <https://doi.org/10.3390/su131810180>
- Adhikari, K., Joshi, D. R., Balbase, S., & Khanal, B. (2024). Mathematics teachers' self-reported practices of formative assessments in teaching mathematics online. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4886371>
- Adipat, S., & Chotikapanich, R. (2022). Sustainable development goal 4: An education goal to achieve equitable quality education. *Academic Journal of Interdisciplinary Studies*, 11(6), 174. <https://doi.org/10.36941/ajis-2022-0159>
- Alcántara-Rubio, L., Valderrama-Hernández, R., Solís-Espallargas, C., & Ruiz-Morales, J. (2022). The implementation of the SDGs in universities: A systematic review. *Environmental Education Research*, 28(11), 1585-1615. <https://doi.org/10.1080/13504622.2022.2063798>
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. SAGE Publications.

- DepEd Order No. 10 series of 2024. Policy Guidelines on the Implementation of the MATATAG Curriculum
- DepEd Order 8 series of 2015. Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Program.
- Edaño, G., Estranza, M., Abines, S. L., Sarian, M., Plantig, G., & Diokno, J. (2025). Thru her lens: Female experiences and narrative on male-dominated industry. *Diversitas Journal*, 10(1). <https://doi.org/10.48017/dj.v10i1.3341>
- Fortus, D., Lin, J., Neumann, K., & Sadler, T. D. (2022). The role of affect in science literacy for all. *International Journal of Science Education*, 44(4), 535-555. <https://doi.org/10.1080/09500693.2022.2036384>
- Gamage, K. A., Dehideniya, D. M., & Ekanayake, S. Y. (2021). The role of personal values in learning approaches and student achievements. *Behavioral Sciences*, 11(7), 102. <https://doi.org/10.3390/bs11070102>
- Hayuningrat, S., Retnawati, H., & Arliani, E. (2024). Assessment of mathematics: A review of literature large-scale assessment and classroom assessment on its outcomes and implementation issues. *AIP Conference Proceedings*, 3081, 080016. <https://doi.org/10.1063/5.0133842>
- Ignacio, M. (2026). From Assistance to Autonomy: The Influence of AI Virtual Assistants on Student Learning Behavior in Higher Education. *Diversitas Journal*, 11(1), 214–228. <https://doi.org/10.48017/dj.v11i1.3544>
- International Association for the Evaluation of Educational Achievement. (2024). *TIMSS 2023: Japan country report*. TIMSS & PIRLS International Study Center. <https://timss2023.org/wp-content/uploads/2024/10/Japan.pdf>
- Jansen, H. (2010). The logic of qualitative survey research and its position in the field of social research methods. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 11(2), Article 11. <https://www.qualitative-research.net/index.php/fqs/article/view/1450>
- Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1964). *Taxonomy of educational objectives: Handbook II: Affective domain*. David McKay. <https://files.eric.ed.gov/fulltext/ED069663.pdf>
- Lee, B., & Kim, J. (2022). Prospective mathematics teachers' perceptions of collaborative problem-posing. *Journal of the Korean Society of Mathematical Education: Series A, The Mathematical Education*, 61(2), 233–256. <https://koreascience.kr/article/JAKO202229261420104.pdf>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE. https://books.google.com.ph/books/about/Qualitative_Inquiry_and_Research_Design.html?id=DLbBDQAAQBAJ&redir_esc=y

- Magcalen, E. M. (2025). Mathematics teachers' perception of formative e-assessment for sustainable education. *Diversitas Journal*, 10(3).
<https://doi.org/10.48017/dj.v10i3.3512>
- Mahlambi, S. B. (2023). Mathematics teachers' use of assessment for learning to promote classroom diversity of learners. *Pythagoras*, 44(1). <https://doi.org/10.4102/pythagoras.v44i1.708>
- Ministry of Education Singapore. (2020). *Mathematics syllabus (Express/Normal [Academic]) 2020*. https://www.moe.gov.sg/-/media/files/secondary/syllabuses/maths/2020-express_na-maths_syllabuses.pdf
- Panaoura, A., Charalambides, M., Tsolaki, E., & Pericleous, S. (2024). First-year engineering students' affective behavior about mathematics in relation to their performance. *European Journal of Science and Mathematics Education*, 12(1), 128-138. <https://doi.org/10.30935/scimath/13884>
- Potgieter, M. L., Filmalter, C., & Maree, C. (2025). Teaching, learning and assessment of the affective domain of undergraduate students: A scoping review. *Nurse Education in Practice*, 86, 104417. <https://doi.org/10.1016/j.nepr.2025.104417>