



Exploring Teachers' Lived Experiences in Assessing Authentic Student Learning in AI-influenced Classrooms: A Phenomenological Study

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Abstract

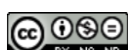
Background and Aim: The increasing integration of artificial intelligence (AI) in education has transformed students' approaches to academic tasks and challenged traditional assessment practices. While AI tools can support learning and productivity, they also raise concerns regarding the authenticity of student outputs and the validity of assessment outcomes. Grounded in Constructivist Learning Theory and authentic assessment perspectives, this study aimed to explore the lived experiences of senior high school science teachers in assessing authentic student learning in AI-influenced classrooms.

Materials and Methods: This study employed a qualitative phenomenological research design to examine teachers' experiences in evaluating student outputs that may have been assisted by AI tools. Ten senior high school science teachers from selected public secondary schools in Misamis Occidental and Lanao del Norte, Philippines, participated in semi-structured interviews. Data were analyzed using Braun and Clarke's six-step thematic analysis framework to identify recurring patterns, meanings, and themes related to assessment practices in AI-rich learning environments.

Results: The findings revealed five major themes: authenticity concerns, challenges in determining genuine understanding, assessment adaptation, professional judgment, and the redefinition of authentic learning. Teachers reported difficulty verifying whether polished and technically sound outputs genuinely reflected students' understanding. Many participants observed inconsistencies between students' written outputs and their oral explanations or classroom performance. In response, teachers adapted their assessment practices by incorporating oral questioning, in-class activities, performance-based tasks, and explanation-focused evaluations to make student thinking more visible. The findings also emphasized the importance of teachers' professional judgment and ethical responsibility in maintaining fairness, academic integrity, and meaningful assessment practices in AI-influenced classrooms.

Conclusion: The study concludes that authentic learning in AI-rich educational environments can no longer be measured solely through written outputs. Instead, authentic learning is better demonstrated through students' ability to explain, apply, and reflect on their understanding in meaningful contexts. The findings suggest the need for schools and educators to redesign assessment approaches, strengthen authentic and process-based evaluation, and establish clear guidelines for the responsible use of AI in education to ensure that technology supports rather than replaces genuine student learning.

Keywords: Artificial Intelligence in Education, Authentic Assessment, Teacher Professional Judgment, Academic Integrity, Phenomenological Research





Introduction

Most of the students today are learning in a fast-changing world where technology highly influences how they access information, complete tasks, and demonstrate learning. The use of artificial intelligence (AI) technologies in the educational context has transformed classroom practices, letting students use written outputs, solve problems, and complete assignments with the guidance of AI-powered tools. These technologies provide positive opportunities for improving productivity, enhancing access to knowledge, and supporting personalized learning experiences. However, the fast emergence of generative AI tools has also elevated concerns regarding the authenticity and veracity of student outputs and the reliability of traditional assessment practices. Recent studies indicate that the widespread use of generative AI is reshaping how knowledge is produced, accessed, and evaluated within educational environments (Peters & Angelov, 2025).

Academic performance refers to the level of achievement students' show in their educational activities, commonly measured through examinations, written outputs, projects, and other academic tasks. Traditionally, teachers assess academic performance by evaluating students' original work, critical thinking abilities, and demonstrated understanding of course concepts. However, the use of AI-assisted tools capable of producing human-like responses has made it increasingly difficult to assess whether student outputs genuinely reflect their own knowledge and skills. Research indicates that traditional written assessments such as essays and take-home assignments are particularly vulnerable to AI-assisted content generation, which raises concerns about academic integrity and the credibility of assessment practices (Peters & Angelov, 2025).

Artificial intelligence continues to modify the educational context by influencing how students learn, conduct research, and complete academic tasks. While AI technologies offer advantages such as increased efficiency, effectiveness and improved access to information, they also establish new adversities for educators who must assess student learning explicitly. As AI systems become more advanced, distinguishing between student-generated work and AI-assisted outputs becomes highly difficult. Subsequently, educators are highly encouraged to reconsider assessment approaches and adopt strategies that highlight authentic demonstration of knowledge and critical thinking skills.

In the Philippine educational context, various studies have also underscored the increasing influence of AI technologies in academic environments. Research has shown that AI tools can support students in completing academic tasks more efficiently; however, excessive or unguided use may affect originality, critical thinking, and academic integrity (Fabro et al., 2024). Likewise, studies involving Filipino students stipulate that generative AI tools are commonly used for writing assistance and research tasks, which may produce challenges for teachers who must determine whether submitted outputs reflect authentic learning or technological assistance (Plecerda, 2024). These developments focus the increasing demand for educators to reshape assessment strategies that guarantee genuine student learning.

Although the researchers are not science teachers themselves, the decision to focus on Senior High School science teachers was intentional and grounded in the nature of science education. Science subjects often require students to engage in data analysis, laboratory reporting, hypothesis formation and explanation of complex concepts, which are commonly expressed through structured written outputs. These types of academic tasks are particularly susceptible to AI-assisted generation, where tools can produce well-organized explanations and technically sound responses (Peters & Angelov, 2025; Mollick, 2023).

At the same time, science learning is more than what students submit in written form. It becomes evident in how they reason through ideas, engage in experimentation, and show their understanding of concepts in meaningful ways. This aligns with constructivist perspectives which emphasize that learning becomes meaningful when students actively construct and apply knowledge (Dewey, 1938; Vygotsky, 1978). However, in AI-influenced classrooms, this process becomes less visible, as outputs may appear correct and polished without necessarily reflecting genuine understanding. This creates a meaningful tension in classroom assessment. While AI can support learning, it also challenges the reliability of traditional written outputs as indicators of authentic learning (Cotton et al., 2024;





Vlachopoulos & Makri, 2024). For this reason, science teachers provide a valuable lens for examining how educators navigate the challenge of verifying authentic learning in the presence of AI.

Moreover, studies examining teachers' views reveal that educators acknowledge both the advantages and limitations of artificial intelligence in teaching and assessment. Teachers recognize that AI tools can amplify research instruction and support student learning, yet they also report difficulties in confirming the authenticity of student outputs and maintaining fairness in evaluation (Mangubat & Paglinawan, 2025). Other studies emphasize that teachers face ethical considerations when assessing AI-assisted student work, particularly in ensuring that assessments reflect students' true understanding rather than AI-generated responses (Tabuena, 2025).

Given these challenges, scholars highlight the importance of authentic assessment approaches that center on higher-order thinking, creativity, and the application of knowledge. Strategies such as oral explanations, performance-based assessments, and reflective learning tasks allow teachers to better evaluate students' actual understanding and reduce dependence on outputs that may be influenced by AI technologies. These approaches are considered beneficial in maintaining academic integrity in AI-supported learning environments.

Despite the growing body of literature on artificial intelligence in education, much of the existing research focuses on technical capabilities, instructional efficiency or student use of AI tools. Comparatively fewer studies explore the lived, day-to-day experiences of teachers who must make real-time decisions about fairness, authenticity and learning. This gap is significant because assessment is not merely technical; it is deeply human, relational, and interpretive.

This study explores how senior high school science teachers make meaning of their lived experiences in assessing authentic student learning beyond AI-generated outputs in AI-influenced classrooms. By examining teachers' experiences, challenges, and strategies, this research aims to contribute to the growing discussion on artificial intelligence in education and provide insights into how educators can maintain meaningful and authentic assessment practices in the presence of fast-changing, advancing technological tools.

Objectives

The study aims to explore the lived experiences of senior high school science teachers in assessing authentic student learning in AI-influenced classrooms. Specifically, the study aimed to understand how teachers interpret and respond to the increasing presence of artificial intelligence tools in students' academic outputs. More specifically, the study sought to:

Describe teachers' experiences when evaluating student outputs that may have been assisted by artificial intelligence tools.

Identify the challenges teachers encounter in determining authentic student learning in AI-influenced classrooms.

Examine the assessment strategies teachers employ to verify genuine student understanding beyond AI-generated outputs.

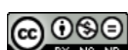
Explore how teachers exercise professional judgment when evaluating student work that may be AI-assisted.

Analyze how ethical considerations influence teachers' assessment practices in AI-rich learning environments.

Determine how the presence of artificial intelligence reshapes teachers' perspectives on authentic learning and classroom assessment

Literature review

The increasing integration of artificial intelligence (AI) in education is reshaping how teaching, learning, and assessment are understood and practiced. Recent developments in generative AI have enabled tools that can produce coherent, structured, and contextually appropriate responses, often resembling student-generated work (Mollick, 2023; Sharples, 2023). While these technologies offer opportunities for enhancing access to information and supporting learning, they also introduce significant challenges in determining whether student outputs genuinely reflect understanding. As a





result, traditional approaches to assessment—particularly those relying on written outputs—are being re-examined in light of these emerging realities.

Current literature suggests that AI is not merely an instructional tool but a transformative force that affects how knowledge is produced and evaluated. Studies by Peters and Angelov (2025) and Cotton et al. (2024) collectively highlight that AI-assisted outputs can appear academically sound even when the learner's cognitive engagement is limited. This raises concerns about academic integrity and the reliability of conventional assessment methods. In AI-influenced classrooms, the distinction between independently produced work and AI-assisted outputs becomes increasingly difficult to establish, challenging long-standing assumptions about authorship, originality, and evidence of learning.

These challenges can be better understood through the lens of Constructivist Learning Theory, which views learning as an active and meaning-making process (Dewey, 1938; Vygotsky, 1978). From this perspective, knowledge is constructed through interaction, reflection, and engagement with tasks and experiences. Learning becomes visible when students are able to articulate ideas, explain reasoning, and apply concepts in meaningful contexts. However, the presence of AI introduces complexity into this process. When outputs can be generated externally, the connection between a learner's internal thinking and external performance becomes less transparent. This situation raises important questions about how teachers can continue to support and assess meaningful learning in environments where the traditional indicators of understanding may no longer be fully reliable.

In response to these challenges, the concept of authentic assessment provides a relevant and practical framework. Authentic assessment emphasizes evaluating students through tasks that require the application of knowledge, critical thinking, and real-world relevance (Herrington & Herrington, 1998). Rather than focusing solely on final products, it prioritizes the process of learning and the demonstration of understanding in context. Vlachopoulos and Makri (2024) further emphasize that authentic assessment supports the development of higher-order thinking skills and prepares learners for complex, real-world situations. In AI-rich learning environments, these approaches become increasingly important, as they allow teachers to observe how students think, reason, and engage with content beyond what is reflected in written outputs alone.

The growing presence of AI also calls for a re-examination of the teacher's role in assessment. Rather than relying solely on standardized outputs, teachers are increasingly expected to design assessment practices that capture student thinking in more direct and meaningful ways. Holmes et al. (2019) and Luckin (2022) suggest that educators must adapt by integrating strategies that emphasize interaction, explanation, and active engagement. At the same time, ethical considerations have become central to discussions of AI in education. Nguyen et al. (2023) highlight the importance of fairness, transparency, and accountability in the use of AI tools, emphasizing that responsible integration requires both clear guidelines and informed professional judgment. These perspectives underscore the need for assessment practices that are not only effective but also ethically grounded.

In the Philippine context, emerging studies reflect similar concerns and adaptations regarding the use of AI in education. Research by Plecerda (2024) indicates that students are increasingly using AI tools in academic writing and research tasks, often producing outputs that are well-structured but may not fully represent their own understanding. At the same time, Mangubat and Paglinawan (2025) report that teachers recognize both the potential benefits and the challenges of integrating AI, particularly in assessing the authenticity of student work. Tabuena (2025) further emphasizes the ethical and pedagogical implications of AI in education, noting the need to balance technological advancement with the preservation of meaningful learning experiences. These local studies highlight that the challenges associated with AI are not limited to global contexts but are also being experienced in Philippine classrooms, where teachers must navigate similar concerns about authenticity, fairness, and assessment.

Despite the growing body of literature on artificial intelligence in education, much of the existing research focuses on the capabilities of AI tools, student usage patterns, or institutional responses to technological change. Comparatively fewer studies examine how teachers themselves experience and interpret these changes in their day-to-day practice, particularly in relation to assessing authentic





learning. This gap is significant because assessment is not only a technical process but also a reflective and interpretive practice shaped by teachers' professional judgment. Understanding how teachers navigate the challenges of AI-influenced classrooms can provide valuable insights into how assessment practices are evolving and how authentic learning can be sustained in rapidly changing educational environments.

Conceptual Framework

The present study is anchored on Constructivist Learning Theory and Authentic Assessment Theory, which together provide a meaningful lens for understanding how teachers assess student learning in classrooms where artificial intelligence (AI) is increasingly present. As teacher-researchers, we recognize that these theories remain relevant, but they are now being challenged and reshaped by the realities of AI-influenced learning environments.

Constructivist Learning Theory explains that learning occurs when students actively construct knowledge through experience, reflection, and interaction (Dewey, 1938; Vygotsky, 1978). In a typical classroom, this process follows a natural cycle: students engage with a task, make sense of it through thinking and interaction, and then demonstrate their understanding through outputs that reflect their own ideas. From this perspective, student outputs are generally assumed to represent the learner's internal thinking and meaning-making process.

However, in AI-influenced classrooms, this assumption is no longer always certain. The presence of artificial intelligence introduces a new layer into the learning process. AI tools are now capable of generating well-structured, grammatically correct, and conceptually sound responses, even when the student may not have fully engaged in the thinking process behind the output. In this sense, AI acts not only as a support tool but also as a disruptor of the traditional constructivist learning cycle. It interrupts the visible connection between student thinking and student output, making it more difficult for teachers to determine whether learning has genuinely taken place.

Because of this disruption, teachers are faced with the challenge of verifying authentic student learning in ways that go beyond written outputs. The difficulty is not only in identifying whether AI was used, but in understanding whether the student has truly developed conceptual understanding. This situation calls into question the reliability of traditional assessment practices that rely heavily on written work as evidence of learning.

In response to these challenges, teachers begin to adapt their assessment practices in ways that remain aligned with constructivist principles. Rather than relying solely on submitted outputs, they employ strategies that make student thinking more visible. These include oral questioning, classroom discussions, performance-based tasks, in-class activities, and requiring students to explain their answers in their own words. Through these approaches, teachers attempt to re-establish the connection between thinking and performance, ensuring that assessment reflects genuine understanding.

At the same time, Authentic Assessment Theory supports this shift by emphasizing the importance of evaluating students through meaningful tasks that require application, reasoning, and real-world relevance (Herrington & Herrington, 1998; Vlachopoulos & Makri, 2024). In AI-influenced classrooms, authentic assessment becomes even more important, as it allows teachers to move beyond polished outputs and focus on how students demonstrate learning in real and observable ways.

Overall, this study views the classroom as an AI-rich environment where traditional assumptions about learning and assessment are being challenged. Within this environment, AI acts as a disruptor of the constructivist learning process, while teachers respond through adaptive, constructivist-aligned assessment practices. These responses ultimately lead to a redefinition of authentic learning—one that prioritizes explanation, application, and visible thinking over written output alone.



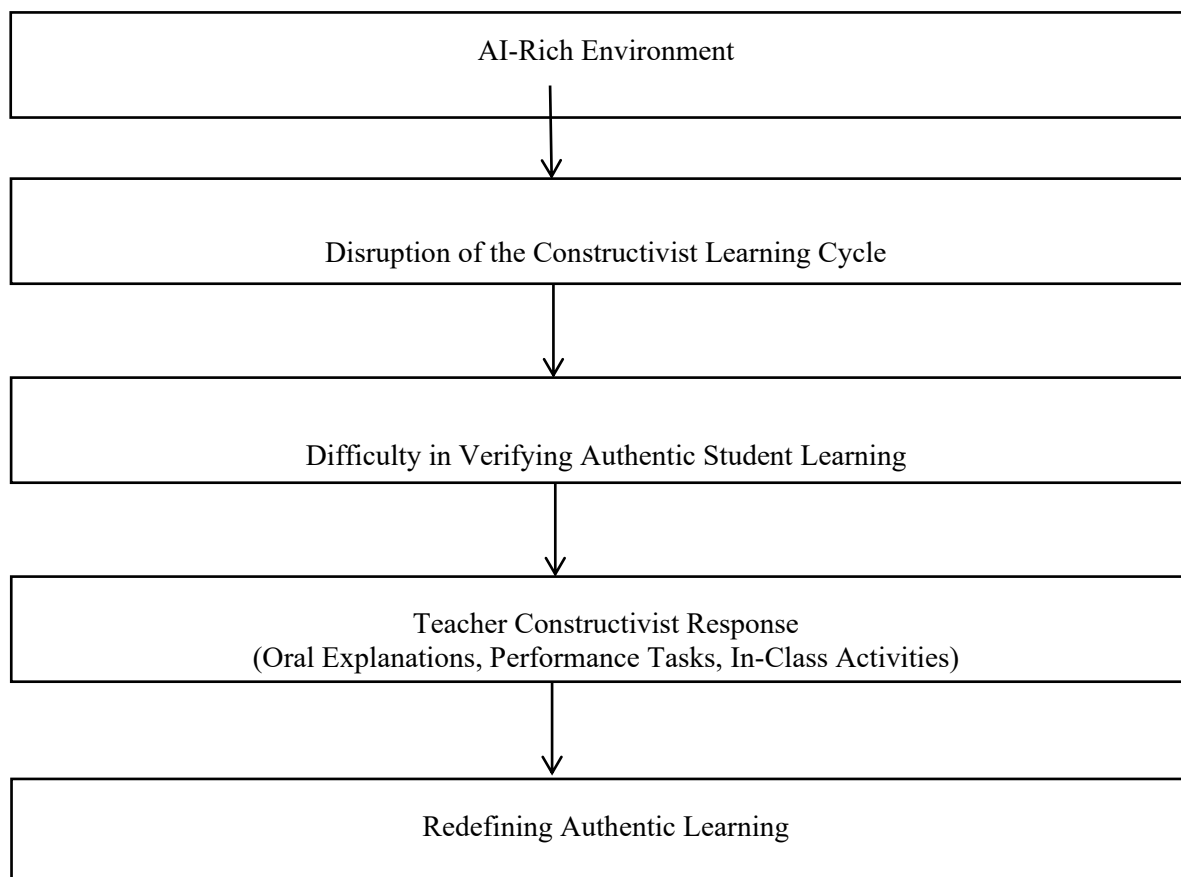


Figure 1. Conceptual framework showing how AI acts as a disruptor in the constructivist learning process and how teachers respond through adaptive assessment practices to ensure authentic student learning

Methodology

Research Design. This study employed a qualitative phenomenological research design to explore the lived experiences of senior high school science teachers in assessing authentic student learning in AI-influenced classrooms. In this study, the phenomenon being explored is the experience of teachers in evaluating student outputs that may have been influenced by artificial intelligence tools. Through this approach, the researchers aimed to capture teachers' perspectives, reflections, and interpretations regarding the challenges and their strategies involved in ensuring authentic student learning beyond AI-generated outputs. By examining these lived experiences, the study sought to uncover common patterns of meaning that describe how teachers navigate assessment practices in AI-influenced learning environments.

Sampling Design. The study utilized purposive sampling, a type of non-probability sampling commonly used in qualitative research. Purposive sampling allows the researchers to intentionally select participants who possess relevant experiences related to the phenomenon being investigated.

Participants were chosen based on the following criteria: (1) currently teaching science subjects in the Senior High School level, (2) actively involved in assessing student outputs, and (3) having



encountered situations where students may have used artificial intelligence tools in completing academic tasks.

This sampling strategy ensured that the participants could provide meaningful insights into the challenges and realities of assessing student learning in AI-influenced classrooms.

Research Locale. The study was conducted in selected public secondary schools offering senior high school programs in Misamis Occidental and Lanao del Norte, Philippines. These schools provide academic strands (STEM) where students frequently complete written outputs, research tasks, and performance-based activities that may involve the use of digital technologies and artificial intelligence tools. The selected schools include: (1) Tudela National Comprehensive High School, (2) Pulot National High School, (3) Kapatagan National High School. These schools were chosen because teachers in these institutions regularly evaluate student outputs and therefore have relevant experiences related to the phenomenon being studied.

Research Participants. The participants of the study consisted of Senior High School Science teachers from the selected schools who have experience assessing student outputs in AI-influenced learning environments. The participants are: (1) 3 from Tudela National Comprehensive High School, (2) 3 from Pulot National High School, (3) 4 from Kapatagan National High School. To maintain confidentiality and protect the identity of the participants, participant codes (e.g. Teacher A, Teacher B, Teacher C) were used in presenting the interview responses.

The number of participants in this study was determined based on the principle of data saturation. As the interviews progressed, recurring ideas, patterns and shared experiences began to emerge consistently among the participants. By the tenth interview, no new significant themes or insights were identified, indicating that data saturation had been reached. In phenomenological research, smaller sample sizes are considered sufficient when they provide rich, in-depth descriptions of lived experiences (Creswell & Poth, 2018). Thus, the inclusion of ten participants was deemed appropriate to capture the essence of teachers' experiences in assessing student learning in AI-influenced classrooms.

Research Instrument. The study utilized a researcher-developed semi-structured interview guide as the primary data collection instrument. The interview guide consisted of open-ended questions designed to explore teachers' experiences, perceptions, and strategies in assessing authentic student learning beyond AI-generated outputs.

The interview questions focused on the following areas: (1) teachers' experiences in evaluating student outputs suspected to be AI-assisted, (2) challenges encountered in verifying authentic student learning, (3) strategies used to confirm genuine understanding, (4) teachers' professional judgment in assessing student work, (5) perspectives on the role of artificial intelligence in education. The semi-structured format allowed the researchers to ask follow-up questions to further clarify and deepen participants' responses.

Data Gathering Procedure. Prior to conducting the study, the researchers sought permission from the school administrators of the selected institutions. After securing approval, the researchers invited teachers who met the selection criteria to participate in the study. Participants were informed about the purpose of the study, the voluntary nature of their participation, and the confidentiality of their responses. Informed consent was obtained before the interviews were conducted.

The interviews were conducted individually using a semi-structured format to allow participants to freely share their experiences and insights. Each interview was documented through note-taking and audio recording with the permission of the participants.

After the interviews, the recorded responses were transcribed and carefully reviewed to ensure accuracy. The transcriptions served as the primary data for thematic analysis.

Data Analysis. The collected data were analyzed using thematic analysis following the six-step framework of Braun and Clarke (2006). This method allowed the researchers to identify patterns and themes that describe the shared experiences of the participants.

The data analysis process involved the following steps:

1. Familiarization with the data through repeated reading of interview transcripts.
2. Generating initial codes from significant statements.
3. Grouping related codes to form preliminary categories.





4. Reviewing and refining the emerging themes.
5. Defining and naming the themes.
6. Writing the final narrative to describe the findings.

Through this systematic process, the study identified key themes that represent how teachers interpret their experiences in assessing student learning in AI-influenced classrooms.

Trustworthiness of the Study

To ensure the rigor and credibility of the study, the researchers carefully established trustworthiness using the criteria of credibility, transferability, dependability, and conformability. As teacher-researchers, we recognized that the value of this study lies not only in the findings but also in how faithfully the participants' experiences were represented.

Credibility was established through prolonged engagement with the data and careful validation of participants' responses. After the interviews were transcribed, selected participants were given the opportunity to review their responses to ensure that their statements were accurately captured. This process, commonly known as member checking, allowed participants to clarify, confirm or refine their responses, ensuring that their voices were represented truthfully.

Transferability was achieved by providing clear and detailed descriptions of the research context, participants, and procedures. By describing the setting of public senior high schools in Misamis Occidental and Lanao del Norte, as well as the experiences of science teachers within these contexts, readers are able to determine the relevance of the findings to other educational settings.

Dependability was ensured by maintaining a systematic and transparent research process. The researchers followed a structured procedure in data gathering and analysis, particularly through the use of Braun and Clarke's (2006) thematic analysis framework. An audit trail was maintained through recorded interviews, transcriptions, coding processes, and theme development, allowing the research process to be clearly traced and examined.

Confirmability was established by ensuring that the findings were grounded in the actual responses of the participants rather than the researchers' personal assumptions. Direct quotations were used to support the themes, and interpretations were carefully linked to participants' statements. As teacher-researchers, we remained mindful of our own perspectives and made deliberate efforts to present the data in a balanced and objective manner.

Ethical Considerations

Ethical principles were carefully observed in this study to ensure that the rights, dignity, and welfare of all participants were fully protected. As teacher-researchers, we recognized our responsibility to conduct the study with honesty, respect, and sensitivity, especially since the inquiry involved the lived experiences and professional reflections of fellow teachers. The study adhered to the accepted standards of ethical research and upheld academic integrity throughout the entire research process.

Informed Consent and Voluntary Participation. This study was anchored on the principles of informed consent and voluntary participation. Before the conduct of the interviews, the participants were clearly informed about the purpose of the study, the nature of their involvement, the procedures to be followed, and their rights as research participants. They were made aware that their participation was entirely voluntary and that they had the freedom to decline or withdraw from the study at any point without any penalty, pressure, or negative consequence.

As researchers, we ensured that the participants fully understood that the study was intended solely for academic purposes and that their participation was based on their own willingness to share their experiences. Consent was secured prior to the conduct of the interview, and no participant was forced or coerced to take part in the study.

Data Protection and Confidentiality. Confidentiality was strictly observed throughout the research process. To protect the identity of the participants, pseudonyms or participant codes such as Teacher 1, Teacher 2, Teacher 3, and so on were used instead of real names in the transcripts, analysis, and final manuscript. The names of the schools were presented only in relation to the approved research locale and were treated with proper care in the presentation of the findings.

All interview recordings, written notes, and transcribed responses were handled with confidentiality and stored securely by the research team. Only the researchers had access to the collected





data. Electronic files were kept in password-protected devices, while printed materials, if any, were stored in a secure place. No identifying personal information beyond what was necessary for the study was disclosed in the research report.

Data Honesty, Accuracy, and Research Integrity. We, as teacher-researchers, remained committed to honest and accurate reporting of data. The responses of the participants were recorded, transcribed, and analyzed faithfully without fabrication, alteration, or selective omission. The findings of the study were grounded on the actual statements and experiences shared by the participants. Direct quotations used in the results section were carefully checked against the original interview transcripts to ensure that the meanings, emotions, and perspectives of the participants were represented truthfully. In this way, the integrity of the data and the credibility of the study were preserved.

Respect for Participants' Welfare and Professional Dignity. The welfare and professional dignity of the participants were given careful consideration throughout the conduct of the study. Since the research dealt with teachers' personal and professional experiences in assessing student learning in AI-influenced classrooms, we made sure that the interview process was conducted in a respectful, non-threatening, and supportive manner.

Participants were allowed to answer questions at their own pace and were not forced to respond to any question that made them uncomfortable. They were also given the opportunity to clarify or elaborate on their responses whenever necessary. As fellow educators, we remained mindful of the possible power dynamics and professional sensitivities involved in the researcher-participant relationship, and we took deliberate steps to make the participants feel safe, respected, and valued throughout the study.

Permission to Conduct the Study. Prior to the conduct of the research, permission was secured from the appropriate school authorities in the selected public secondary schools. Only after the necessary approval was granted did the researchers proceed with the invitation of qualified participants. This ensured that the study was conducted in a proper, respectful, and officially recognized manner within the participating institutions.

Ethical Use of Interview Data. Because this study utilized semi-structured interviews as its primary data collection method, special care was taken in handling participants' responses. Audio recordings were made only with the participants' permission, and these recordings were used solely for transcription and analysis purposes. After transcription and verification, the data were used only within the scope of this study.

The participants also had the right to review, clarify, or withdraw their statements before the final analysis whenever necessary. This was done to ensure that their voices were represented accurately and respectfully in the study.

Overall Ethical Commitment. Overall, this study was guided by the ethical principles of respect for persons, voluntary participation, confidentiality, honesty, fairness, and academic integrity. As teacher-researchers, we believed that protecting our participants was just as important as producing credible findings. Thus, every step of the research process was undertaken with sensitivity, professionalism, and ethical responsibility.

Results

This section presents the findings of the study based on the semi-structured interviews with senior high school science teachers. Through the interviews, the participants shared their actual experiences in assessing student learning in AI-influenced classrooms. Their responses helped show how teachers identify possible AI-assisted outputs, the difficulties they face in checking if learning is real, and the strategies they use to make assessment more authentic.

The interviews were audio-recorded, transcribed, and analyzed using thematic analysis. From the participants' responses, several key themes emerged. These themes focus on teachers' experiences, challenges, strategies, professional judgment, and views on authentic learning in the presence of AI. The findings are presented below with supporting statements from the participants.

Authenticity Concerns



One of the most immediate experiences shared by the participants relates to their growing concern about the authenticity of student outputs. As teacher-researchers, we observed that teachers no longer take written work at face value. Instead, they begin to question whether the output truly reflects the learner's own understanding, especially when it appears inconsistent with the student's usual performance.

Output-Capability Mismatch

Teachers described that one of the strongest indicators of AI-assisted work is the mismatch between the sophistication of the output and the student's usual ability. The answers of the participants are presented below:

"Sometimes the work appears very polished and advanced compared to the student's usual writing style. This makes me question whether the output reflects the student's actual understanding."
– Teacher 2

"So, if they are presenting an unexpected performance that is way too far from their expected output, is what made the authenticity of their performance or output questionable?" – Teacher 3

"The output sounded too good to be true and the formatting and the tone was so AI-generated."
– Teacher 4

"There are times when the answers look too perfect or very different from the student's usual way of writing." – Teacher 9

These statements show that teachers heavily depend on their daily knowledge of students' strengths and weaknesses. When a submission appears too polished, too formal, or too perfect for a particular learner, it immediately raises doubts about authenticity.

Robotic, Generic, and Unfamiliar Language

Some teachers also emphasized that AI-generated work often sounds generic, robotic, or linguistically unfamiliar to the student. The answers of the participants are presented below:

"Their output is somewhat generic; it does not explain what is intended and it sounds robotic."
– Teacher 3

"It is easy to know if students are using AI if they are using words that are not familiar to them."
– Teacher 7

"Most of their essays are well structured... but they can no longer explain their thoughts." – Teacher 1

These reflections suggest that teachers are beginning to recognize patterns in AI-generated writing, especially when the language feels detached from the student's usual voice or level of expression.

Challenges in Determining Genuine Student Understanding

The participants emphasized that the central challenge is not simply identifying whether AI was used, but determining whether genuine student learning actually took place. For many of them, AI complicated the teacher's task of knowing whether the learner truly understood the lesson or simply submitted a refined answer generated by a tool.

Difficulty Gauging Comprehension Behind the Output

Teachers shared that written outputs can no longer be treated as automatic proof of understanding. The answers of the participants are presented below:

"One of the main challenges is identifying whether the work is genuinely produced by the student or heavily assisted by AI tools." – Teacher 2

"The difficulties I have encountered... is how to gauge their understanding of the lesson. Especially with written work, I find it very difficult because AI can do it for you." – Teacher 3

"The main challenge for me... is the students' comprehension. If they are actually using AI in their learning, how well can they comprehend a certain lesson if AI is not available?" – Teacher 6

"It is difficult to determine how much of the student's output reflects his own personal understanding and how much is assisted by AI." – Teacher 5



These statements suggest that AI has weakened the reliability of written work as a stand-alone indicator of mastery. Teachers are now compelled to look beyond the final output and search for signs of true understanding.

Weak Oral Performance Despite Strong Written Work

Several teachers noticed that students who submitted excellent written outputs often struggled when asked to explain them. The answers of the participants are presented below:

"During the defense, they cannot answer well; they cannot elaborate further. They just plainly read what is stated there." – Teacher 4

"His written works are well-structured, but during class tasks where they could not use AI, the performance is very low." – Teacher 8

"They can no longer explain their thoughts... they can no longer have the opportunity to use their brain, their raw knowledge." – Teacher 1

These responses indicate that oral explanation remains one of the clearest tests of authentic learning. A strong written output that cannot be defended orally becomes questionable in the eyes of the teacher.

Overdependence on AI and Reduced Thinking

Another challenge raised by the teachers was the increasing dependence of students on AI tools. The answers of the participants are presented below:

"They are now passive learners because they are just writing the answers. They don't have now the avenue to think." – Teacher 1

"Students' dependency on AI could be alarming to the point that they are not using their God-given gifts anymore." – Teacher 6

"It hinders learners' critical thinking skills in analyzing problems and their creativity decreases as well." – Teacher 8

These reflections show that teachers are worried not only about dishonest outputs but also about the long-term effect of AI on student thinking, originality, and independence.

Assessment Adaptation

In response to these concerns, teachers described how they adapt their assessment practices to better capture authentic student learning. Rather than relying solely on written outputs, they intentionally shift toward approaches that allow them to observe students' thinking more directly. This reflects a movement from product-based assessment toward process-based evaluation.

Oral Questioning and Student Explanation

Many teachers said that oral questioning is one of their most reliable strategies in verifying authentic learning. The answers of the participants are presented below:

"I also ask follow-up questions to determine if the student truly understands the ideas presented in their output." – Teacher 2

"After their submission, what I did is I asked several questions to probe whether they know what they're writing." – Teacher 3

"I would ask the student to explain in his or her own words what the output is all about." – Teacher 6

"One strategy is to ask students to explain or defend their answers orally, which allows teachers to assess how well students truly understand the concept." – Teacher 5

These statements suggest that teachers now see explanation, not just submission, as an important part of assessment. Asking students to speak for their work gives teachers a clearer picture of their real understanding.

In-Class, No-Phone, and Low-Tech Assessment Conditions

Some participants deliberately changed the assessment setting itself in order to reduce AI dependence. The answers of the participants are presented below:

"I did not allow them to use their cell phones... and I want them to use their own thinking skills." – Teacher 1





"Sometimes I require students to complete activities in class so I can observe their thinking process." – Teacher 2

"No cellphone policy during class and no homework. Every task should be done in school in a specified class time." – Teacher 8

"Teachers may use oral presentation... asking questions to students without them bringing their phones." – Teacher 10

These responses indicate that teachers are redesigning the conditions of assessment so that students are more likely to depend on their own thinking rather than outside tools.

Performance-Based, Interactive, and Authentic Tasks

Teachers also shared that they are shifting toward performance tasks, discussions, and activities that reveal students' reasoning. The answers of the participants are presented below:

"I use different strategies such as oral questioning, class discussions, and performance-based assessments." – Teacher 2

"I do not depend solely on pen and paper... I let them talk or present through role play, rather through creative performances." – Teacher 3

"I do oral quizzes and performance tasks where they talk without any tool to read. They compose their own words." – Teacher 8

"Teachers now incorporate discussions, projects, and real-life applications." – Teacher 2

These findings show that teachers are increasingly drawn toward more authentic forms of assessment where students demonstrate knowledge through doing, explaining, and applying.

Professional Judgment

Beyond strategies and tools, the findings also highlight the important role of teachers' professional judgment. As teacher-researchers, we recognize that assessment is not purely mechanical. Participants shared that they rely heavily on their familiarity with students; their abilities, participation and previous performance, when evaluating whether an output is authentic.

Baseline Comparison as Professional Judgment

Teachers commonly described comparing the present output with the student's known performance. The answers of the participants are presented below:

"I usually compare the student's current output with their previous performance, writing style, and participation in class discussions." – Teacher 2

"I have a baseline knowledge of the students' performance... that would be my biggest factor." – Teacher 4

"If the output seems too advanced... I try to ask questions or request them to explain their answers." – Teacher 9

"One of the factors that I consider in giving assessments is, of course, my student's capacity." – Teacher 7

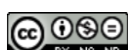
These statements indicate that teachers' judgment is rooted in their lived familiarity with the learner. Their long-term observation of students becomes their strongest assessment tool.

Ethical Considerations

The participants also demonstrated a strong awareness of the ethical dimensions of assessment in AI-influenced classrooms. Teachers expressed the need to remain fair, respectful, and cautious when dealing with suspected AI-assisted work. Rather than immediately accusing students, they emphasized the importance of maintaining dignity while still upholding academic integrity. Participants also stressed that ethical assessment should remain fair and non-punitive. The answers of the participants are presented below:

"Teachers must promote academic integrity and encourage students to use AI tools responsibly." – Teacher 2

"Teachers should consider fairness, honesty and transparency in evaluating student work." – Teacher 5



"I make sure not to quickly accuse a student of using AI without clear reasons." – Teacher 9

"Teachers exercise professional judgment... by practicing fairness, open-mindedness, honesty and calmness." – Teacher 6

These responses show that teachers are trying to strike a balance between protecting academic integrity and respecting the dignity of learners. They do not want to accuse students carelessly, but they also do not want AI misuse to go unchecked.

Redefining Authentic Learning

Perhaps the most meaningful insight that emerged from the study is how teachers are beginning to redefine what authentic learning means. As teacher-researchers, we see this as a shift not only in practice but in perspective. Participants shared that authentic learning is no longer judged solely by polished outputs, but by how students explain, apply and make sense of what they have learned.

Authentic Learning as Explanation, Application, and Real Understanding

Teachers increasingly defined authentic learning in terms of reasoning, participation, and application. The answers of the participants are presented below:

"Authentic learning isn't just about how students explain their ideas, written or verbal, but rather on how they apply concepts in real-life contexts." – Teacher 5

"AI has changed the way teachers view assessment and authentic learning... the goal of assessment is not just to produce answers but to ensure that students truly understand and can apply what they have learned." – Teacher 2

"Focusing only on written outputs is no longer enough." – Teacher 9

"Teachers should place greater value on oral explanations, discussions, problem-solving, and real-life application of concepts learned." – Teacher 5

These reflections suggest that teachers are reconstructing the meaning of authentic learning. For them, authentic learning is no longer merely a well-written answer but visible understanding demonstrated through explanation and application.

AI as Tool, Not Replacement

Most participants did not completely reject AI. Rather, they viewed it as something that can be helpful if used with proper limitations and guidance. The answers of the participants are presented below:

"For me, the AI is not the enemy but the learner and the teacher's biggest ally... But freedom is not absolute. Restrictions and limitations." – Teacher 1

"It's okay to use the AI as long as it is for assistance only to your learning." – Teacher 4

"AI integration in learning is acceptable. But of course, with the proper guidance." – Teacher 6

"Everything in AI is good but should be utilized in moderation." – Teacher 8

These responses indicate that teachers are not simply resisting AI. Instead, they are beginning to accept it as part of contemporary learning, but only if it remains a support tool and not a substitute for human thinking, effort, and integrity.

AI-Influenced Classrooms

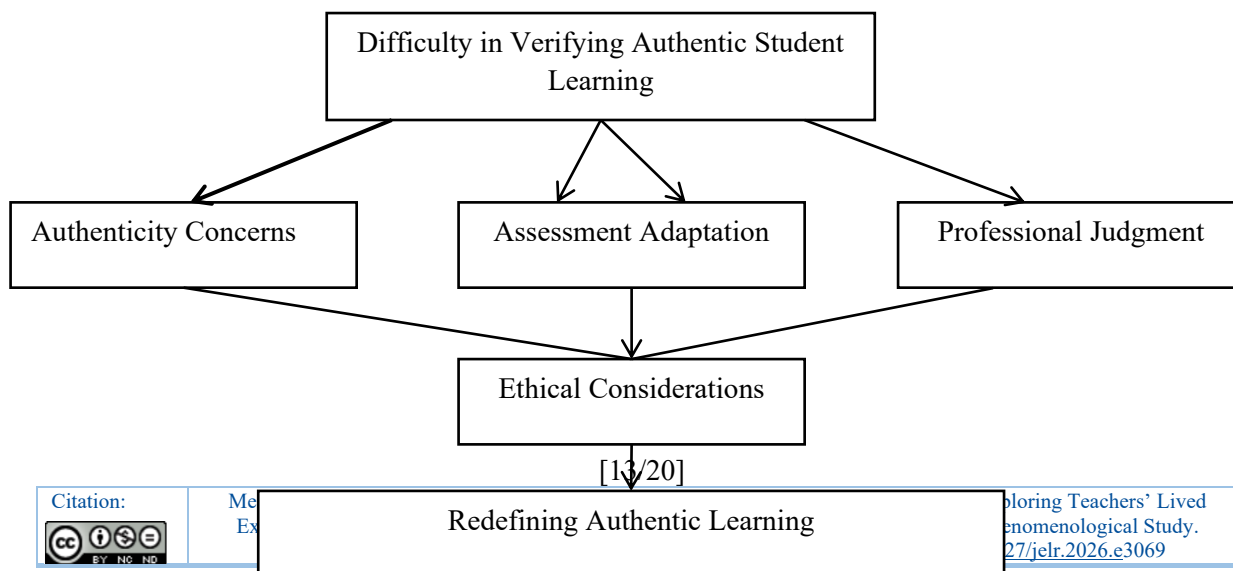




Figure 2. Thematic map

Table 1. Thematic Matrix of the Study

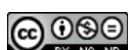
Theme	Subthemes	Sample Codes	Sample Participant Statements
Authenticity Concerns	Questioning outputs	Output inconsistent with ability	"The work is too polished compared to their usual writing."
	AI dependency	Overreliance on AI	"Students are becoming overly dependent on AI."
Assessment Adaptation	New strategies	Oral defense, presentations	"I ask them to explain their answers."
	Real-time evaluation	In-class tasks	"Activities are done in school so they cannot use AI."
Professional Judgment	Teacher expertise	Comparing performance	"I compare their current work with previous outputs."
	Fair assessment	Use of rubrics	"Rubrics help ensure fairness."
Ethical Considerations	Academic integrity	Responsible AI use	"Students must use AI responsibly."
	Fairness concerns	Shortcut learning	"Others work hard, while some just use prompts."
Redefining Authentic Learning	Process-based learning	Focus on thinking	"Authentic learning is how students explain ideas."
	Real-life application	Problem-solving	"Students must apply concepts in real-life contexts."

Discussion

The findings of this study suggest that assessing authentic student learning in AI-influenced classrooms has become increasingly challenging for senior high school teachers. Participants described how the presence of artificial intelligence tools has altered the way students approach academic tasks. Rather than simply focusing on whether outputs are correct or complete, teachers now find themselves questioning whether the work submitted truly reflects the students' own understanding.

The study showed that assessing authentic student learning in AI-influenced classrooms has become more difficult for senior high school science teachers. Before, teachers usually checked if students' work was correct, complete, and well-presented. But now, they are also asking a deeper question: Does this output really show the student's own understanding? This has become a serious concern because AI tools can now produce answers that are organized, polished, and impressive even when students may not fully understand the content. This result is similar to the ideas of Cotton et al. (2024), who explained that AI tools like ChatGPT have created new problems in maintaining academic integrity. In the same way, Dzvapatsva et al. (2026) pointed out that teachers now need to rethink how assessment is done because written outputs alone may no longer be enough basis for judging real learning.

This finding can also be understood through Constructivist Learning Theory. According to Dewey (1938) and Vygotsky (1978), learning becomes meaningful when students actively build understanding through experience, reflection, and interaction. In the present study, teachers shared that AI has made this process harder to see because some student outputs may look good on paper but may not truly reflect what the learner knows. Because of this, teachers are starting to move away from simply checking the final product and are becoming more focused on the learning process itself. This supports





the idea of Holmes et al. (2019) that AI in education may be useful, but it also pushes teachers to design learning tasks that still promote real thinking and understanding.

Authenticity Doubts in Student Outputs

The findings revealed that teachers begin to doubt the authenticity of student outputs when they notice that the submitted work does not match the student's usual ability. For example, if a student who normally struggles in writing suddenly submits an output that is very formal, highly organized, and almost error-free, teachers start to question whether the work is really the student's own. This same concern can be seen in recent studies. Plecerda (2024) found that generative AI is already affecting the writing practices of senior high school students in the Philippines. In the same way, Fabro et al. (2024) found that AI tools are increasingly influencing how Filipino students engage in academic writing tasks, particularly in grammar checking, content generation, and text organization.

This means that teachers' knowledge of their students has now become very important. Because teachers interact with students regularly, they become familiar with the students' speaking style, writing level, and usual classroom performance. This helps them notice when the "voice" of the student seems missing in an output. This finding supports the idea of Herrington and Herrington (1998) that authentic assessment should not only focus on the final product but also on whether the task reflects real understanding. It is also supported by Vlachopoulos and Makri (2024), who explained that authentic assessment should allow students to show higher-order thinking and real-life application, not just submit polished work.

Challenges in Determining Genuine Student Understanding

Another important finding of the study is that the hardest part for teachers is not only detecting AI use, but knowing whether real learning has taken place. Many teachers shared that some students submit good written outputs, but when they are asked to explain their answers orally, they cannot answer clearly. This creates a problem in grading because the output looks correct, but the student may not truly understand what was submitted. This supports the study of Peters and Angelov (2025), who said that in the age of generative AI, assessment tasks must be redesigned to encourage originality, creativity, and honesty. Cotton et al. (2024) also explained that AI can make students appear more capable on paper even when they did not go through the full thinking process themselves.

From the point of view of constructivist learning, this is a very important issue. Learning is not only about giving the correct answer. It is also about being able to explain ideas, connect them to experience, and use them in meaningful ways. Dewey (1938) and Vygotsky (1978) both remind us that real learning happens when students actively make sense of what they are learning. That is why teachers in this study felt frustrated and uncertain. They want to be fair to students, but they also want to make sure that grades still reflect genuine understanding. This concern is also related to the ethical ideas of Nguyen et al. (2023), who emphasized that AI in education should be guided by fairness, accountability, and responsible use.

Adaptive Assessment Practices

One of the strongest findings of the study is that teachers are not simply giving up in the face of these challenges. Instead, they are adjusting their assessment practices. The participants shared that they now use oral questioning, in-class activities, performance tasks, oral defense, and explanation-based checking to confirm whether learning is real. This shows that teachers are trying to respond to AI in practical and thoughtful ways.

These strategies reflect the idea of authentic assessment. Instead of depending only on what students submit, teachers now want to see how students explain, reason, apply knowledge, and respond in real time. This supports the work of Herrington and Herrington (1998), who explained that authentic assessment becomes more meaningful when students are asked to apply what they know in realistic situations. In the same way, Vlachopoulos and Makri (2024) said that authentic assessment helps develop important skills such as critical thinking, problem-solving, and application. Dzvapatsva et al. (2026) also found that because of AI-related concerns, many teachers are now moving toward performance-based and process-based forms of assessment. These changes match Constructivist Learning Theory because they focus more on how students build and express understanding than on simply producing written answers.





In line with these perspectives, teachers in this study reported giving greater emphasis to activities that allow students to demonstrate their reasoning processes, such as oral explanations, reflective tasks, and classroom discussions.

Professional Judgment and Ethical Considerations

The findings also showed that teachers use professional judgment when they compare a student's current work with that student's previous performance, participation, and known ability. This means that teachers do not base their decisions only on suspicion. Instead, they use their own classroom experience and long-term knowledge of the learner. This is an important point because it highlights the value of teacher judgment in today's AI-influenced classrooms. Mangubat and Paglinawan (2025) also found that teachers are becoming more aware of both the benefits and risks of AI, and that they often rely on their own professional understanding when dealing with these issues.

At the same time, the teachers in this study showed strong ethical awareness. They said they do not want to accuse students right away or embarrass them unfairly. Instead, they try to remain calm, fair, and honest when dealing with possible AI-assisted outputs. This is a very meaningful finding because it shows that teachers are trying to balance two important responsibilities: protecting academic integrity and respecting the dignity of students. This supports the work of Nguyen et al. (2023), who explained that ethical use of AI in education should always include fairness, transparency, and respect for learners. It may also be connected to the ideas of Deci and Ryan (1985), who emphasized that students are more likely to respond positively when they are treated in supportive and respectful ways.

Redefining Authentic Learning in AI-Influenced Classrooms

Perhaps the deepest insight from the study is that AI is changing how teachers define authentic learning. For the participants, authentic learning is no longer seen only in clean presentation, correct grammar, or attractive outputs. Instead, it is now seen in the student's ability to explain ideas clearly, defend answers, connect lessons to real life, and show personal understanding. This means that teachers are slowly changing their own view of what it means for a student to truly learn.

This finding is supported by recent literature. Peters and Angelov (2025) explained that because of generative AI, assessment tasks now need to focus more on originality, creativity, and honesty. Vlachopoulos and Makri (2024) also stressed that authentic assessment should measure meaningful performance and not just finished outputs. In the same way, Holmes et al. (2019) noted that AI should not replace human thinking, but should instead push educators to design better learning experiences that encourage reflection and deeper understanding. In this study, AI was not seen as purely negative. While it has created many challenges, it has also pushed teachers to become more reflective and intentional in the way they assess student learning.

As teacher-researchers, this shift invites us to reflect on a deeper question: *If written outputs can no longer be consistently relied upon as evidence of learning, what then becomes the basis of grading?* Traditionally, grading systems have placed significant weight on written work—essays, reports, and take-home tasks—as primary indicators of student understanding. However, in AI-influenced classrooms, these outputs can now be generated, refined, or heavily assisted by external tools, making it increasingly difficult to determine the extent of the learner's actual engagement with the task. This situation suggests that grading practices, not only in the Philippines but also in educational systems globally, may need to shift toward more process-oriented and performance-based approaches. Rather than focusing solely on what students submit, greater emphasis may be placed on how they think, explain, apply, and respond in real time. Assessment may increasingly involve oral explanations, in-class demonstrations, collaborative problem-solving, and reflective tasks that make learning visible and traceable.

At the same time, this shift does not necessarily mean abandoning written outputs altogether. Instead, it calls for a more balanced approach where written work is complemented by opportunities for students to demonstrate ownership of their ideas. In this way, grading becomes less about evaluating a finished product and more about understanding the learner behind the output.

This study is situated within the rapidly evolving context of artificial intelligence in education, where generative AI tools are increasingly influencing how students learn and complete academic tasks. As schools worldwide grapple with the implications of AI on academic integrity and assessment, this





research provides timely insights into how teachers respond to these emerging challenges in real classroom settings. The study highlights that the issue of authentic learning is no longer theoretical, but a present and pressing concern that requires immediate attention from educators, school leaders, and policymakers.

Ultimately, the findings of this study suggest that the presence of AI is not only challenging existing assessment practices but also pushing educators to rethink the very foundations of grading and authentic learning. In this changing landscape, the role of the teacher becomes even more critical—not as a checker of outputs, but as a professional who interprets, validates, and makes sense of student learning in more nuanced and meaningful ways.

Overall, the findings show that the experiences of Senior High School teachers in AI-influenced classrooms are closely connected with both learning theory and current studies about AI in education. The study suggests that authentic learning in the age of AI should no longer be judged by written output alone. Instead, it should be seen in the learner's ability to explain, apply, reflect, and demonstrate true understanding. In this changing educational environment, teachers remain very important in making sure that assessment still reflects real and meaningful learning. The findings highlight the evolving nature of assessment practices in technology-supported classrooms.

Limitations of the Study

Although this study provides valuable insights into teachers' lived experiences in assessing authentic student learning in AI-influenced classrooms, it also has certain limitations. The study involved a limited number of senior high school science teachers from selected public secondary schools in Misamis Occidental and Lanao del Norte. Since the inquiry was limited to specific participants and school contexts, the findings may not represent all teachers' experiences in other disciplines or educational settings. In addition, while semi-structured interviews provided meaningful and in-depth data, some participants may still have found it difficult to fully express all of their experiences and reflections during the interview process.

New Knowledge from the Study

This study contributes to the growing body of research on artificial intelligence in education by offering a localized, teacher-centered, and phenomenological understanding of how authentic student learning is being assessed in AI-influenced classrooms. The study adds new knowledge in four important areas: contextual insight, theoretical contribution, practical significance, and empirical relevance.

1. Contextual Insight. This study provides contextual insight into the real assessment experiences of senior high school teachers in Philippine public schools, particularly in relation to AI-assisted student outputs. While many studies discuss AI in education at a general or technological level, this research highlights the actual day-to-day realities faced by teachers who must judge whether student outputs are genuinely their own.

The findings show that teachers' assessment decisions are shaped not only by the output itself but also by their lived familiarity with learners, their classroom observations, and their ethical concerns as educators. In this way, the study gives voice to teachers who are directly confronting the challenge of authentic learning in the age of AI.

2. Theoretical Contribution. The study extends Constructivist Learning Theory by showing that, in AI-influenced classrooms, authentic learning must now be understood as visible thinking, explanation, and application rather than polished output alone. The results affirm that learning remains meaningful only when the student is actively constructing understanding, not simply receiving or reproducing answers generated by tools.

The study also suggests that assessment practices in AI-rich classrooms must move closer to constructivist principles, where the learner's process, reflection, and reasoning are valued as much as the final product.

3. Practical Significance for Schools and Teachers. The study offers practical insights for teachers, school heads, and policymakers. It reveals that teachers are already using adaptive strategies such as oral questioning, in-class assessments, no-phone tasks, and performance-based activities to





protect the authenticity of learning. These findings may guide schools in developing more responsive and humanized assessment practices suited to AI-influenced environments.

The research also highlights the need for clear school policies on AI use, teacher training on AI literacy, and assessment frameworks that support both innovation and integrity.

4. Empirical Relevance. This study is empirically significant because it captures aspects of teaching and assessment that are often missed in quantitative research. Numbers may show how often teachers use AI-related strategies, but they cannot fully explain the emotions, dilemmas, and meaning-making processes behind those practices.

By focusing on teachers' voices, this study reveals that assessment in AI-influenced classrooms is not only an academic issue but also a moral, professional, and relational one. Teachers are not merely checking outputs; they are protecting the value of learning itself.

Recommendations

In light of the findings of this study, the following recommendations are offered to support teachers, school leaders, and future researchers in responding to the challenges of assessing authentic student learning in AI-influenced classrooms. As teacher-researchers, these suggestions are grounded not only in the data but also in the shared realities of classroom practice.

1. Develop clear school policies on the responsible use of AI

Given the increasing presence of artificial intelligence in education, it is essential for schools to establish clear, context-sensitive guidelines on how AI can be appropriately used in academic tasks. These policies should not simply prohibit AI use, but rather define its role as a support tool for learning rather than a substitute for thinking. Clear policies can help reduce confusion among students and teachers, promote academic integrity, and provide a consistent basis for assessment practices.

2. Strengthen authentic and process-based assessment practices

Teachers are encouraged to move beyond reliance on polished written outputs and adopt assessment approaches that make student thinking more visible. These may include oral questioning, in-class written tasks, reflective responses, and performance-based assessments. By focusing on how students explain, apply, and engage with concepts, teachers can better ensure that learning is genuine and meaningful, even in AI-rich environments.

3. Integrate science-specific authentic assessment tasks

Given the nature of science education, teachers may design tasks that require students to demonstrate understanding in real time and in context. These may include live laboratory demonstrations, oral defense of experimental results, real-time hypothesis formulation, data interpretation activities, and problem-solving tasks conducted under supervised conditions. Such approaches allow teachers to directly observe students' reasoning processes and reduce overreliance on AI-generated outputs.

4. Provide continuous teacher training on AI and assessment redesign

School leaders and educational institutions should provide professional development opportunities focused on AI literacy and assessment redesign. Training may include identifying signs of AI-assisted work, design AI-resilient assessments, and integrating ethical AI use into instruction. Supporting teachers in this way can enhance their confidence and effectiveness in navigating AI-related challenges.

5. Promote responsible and ethical student use of AI

Students should be guided to understand that AI is not inherently harmful, but that it must be used with honesty, moderation, and responsibility. Teachers may implement strategies such as disclosure statements, reflective writing, or class agreements that encourage transparency in AI use. This helps cultivate a culture of integrity and accountability in the classroom.

6. Support teachers' professional judgment through clear and fair assessment criteria

Schools should support teachers in developing rubrics and assessment criteria that value reasoning, explanation, and application—not just correctness or presentation. Since teachers often rely on their familiarity with students when making judgments, clear criteria can help ensure that assessment remains fair, transparent, and defensible.





7. Provide opportunities for supervised and low-tech assessment when necessary

In situations where the goal is to measure independent thinking, teachers may incorporate supervised in-class tasks, no-device assessments, and time-bound activities. These approaches should be framed not as restrictions, but as opportunities for students to demonstrate their own understanding without external assistance.

8. Encourage collaboration among teachers in addressing AI-related challenges

Schools should create spaces for teachers to share experiences, strategies, and insights related to AI in education. Professional learning communities, LAC sessions, and collaborative discussions can help teachers learn from one another and develop more effective approaches to maintaining authentic learning.

9. Expand future research on AI and authentic learning

Future studies may include a wider range of participants, subject areas, and school contexts to better understand how AI is reshaping assessment practices. Including students' perspectives may also provide a more comprehensive view of how authentic learning is experienced in AI-influenced classrooms.

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