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KNOWLEDGE, ATTITUDES, PRACTICES, AND CHALLENGES IN USING AI INSTRUCTIONAL TOOLS: BASIS FOR ACTION PLAN

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Abstract

This study examined the knowledge, attitudes, practices, and challenges of Senior High School teachers in using AI instructional tools in selected public secondary schools within the second district of Cagayan as basis for crafting an action plan. Using a descriptive-correlational research design complemented by qualitative thematic analysis, data were gathered from 105 teacher-respondents through survey questionnaires and interviews. Findings revealed that teachers generally possess moderate to high levels of knowledge, familiarity, pedagogical integration skills, and technical proficiency in AI tools, and exhibit positive to very positive attitudes across instructional engagement, interaction, satisfaction, and performance. Despite this readiness, their actual AI practices remain limited, with teachers frequently using AI only for planning and content preparation, while collaboration, support, and professional development were occasionally practiced. Significant challenges emerged, including unstable internet connectivity, lack of devices, technical glitches, insufficient training, absence of school policies, ethical concerns, academic dishonesty, and limited funding. Moreover, no significant differences were found in teachers' knowledge, attitudes, and practices when grouped according to their personal and professional profiles; however, frequency of AI use demonstrated a highly significant effect on both attitudes and practices. The study concludes that effective AI integration is hindered more by systemic and institutional barriers than by teachers' willingness or competence. Thus, a comprehensive action plan was developed to strengthen digital infrastructure, establish clear AI policies, enhance teachers' competencies, and promote responsible and sustainable AI integration in classroom instruction.

Keywords: Artificial Intelligence (AI), Knowledge, Attitude, Practices, Challenges.

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1. Introduction

The Department of Education has been one of the sectors in the Philippines which have drastically change its reforms in the curriculum to be updated on the emerging growth of AI in education which can never be denied. Intrinsically, AI-based solutions are showing the most advantage part of the teaching process as they provide individualized learning involvements for both teachers and learners, streamline teaching workloads for teachers and boost student engagement. With the emerging trends in AI in education, DepEd made an educational shift and steps on how to integrate AI properly in the basic curriculum through constant updates. These steps have led in the establishment of the Education Center for AI Research (E-CAIR) that is a national initiative which seeks to modernize classroom setting by providing responsible and ethical AI literacy for both teachers and students.

Even if there are a lot of efforts made by the national authority, the adoption of AI in education is still inconsistent, especially to the SHS teachers who have different academic strands like STEM, ABM, HUMSS, GAS, TVL, Arts & Design, and Sports. Thus, making it difficult to the SHS teachers to fully implement these AI tools since they have different kinds of demands on how to utilize it properly according to the complexity of their strands and subjects handled. Like for example, STEM teachers used these AI tools in terms of experiments, simulations, and data sense while ABM used it in analyzing business attempts. As for HUMSS teachers, they used it writing tasks while TVL teachers used it for showing demonstration of topics and lessons. This difficulties among teachers are associated with the study of Murdan & Halkhoree (2024) who claimed that the positive mindsets of teachers are not enough to fully use AI but to also have access towards proper resources, training and support coming from the institution. Further, this is also what Ayanwale et al. (2024) recommended that in order for teachers to fully utilize and use AI in education, there should be continuous professional development among them and full support of resources and facilities that they need to fully develop and build their confidence toward incorporating it in their classroom setting.

Despite the fact that AI provide a lot of improvement in the teaching process, there should be rules and regulations on how to use it properly to avoid misuse, cheating, and too much dependence in using AI which is now being explored by the agency. Recently, the Department of Education has partnered with Microsoft and one of its features is the Microsoft 365 Copilot that can help teachers to lessen and ease their work instantly and assist them to provide immediate samples as to how they will deliver their daily lessons by upgrading its productivity tools. However, not all schools experience these benefits equally, especially those in rural areas. According to Nugroho et al. (2024) and Fakhar (2024), many teachers express their positive attitude in improving the student engagement and their learning outcomes towards recognizing their potential in using AI tools. However, Darmawan et al. (2024) and Efriyanti et al. (2024) argued that “educators who lack teaching and resources significantly impacts their ability” of incorporating AI effectively into their teaching space setting during their teaching and learning process.

In the Philippine setting, especially in the Division of Cagayan, the Project ICT on Wheels has been launched by the Division ICT Unit that caters not only to monitor and evaluate how the schools use the DCP packages which have been delivered to them but also to provide training programs among school ICT coordinators and teachers regarding AI literacy as to how will they use it in their classroom teaching and learning process and share it to their colleagues in their respective schools. But despite this effort made by the TWGs of the Division ICTU, there were still a lot of schools who faces challenges regarding its implementation since they have limited resources, and it does not suff8ice both the teachers and students needs in integrating and utilizing AI properly in their classroom instruction.

On the other hand, teachers within the three congressional districts of Cagayan, especially on the second district have begun exploring the different AI tools which can be used in their instruction and somewhat others are utilizing it through self-taught and discovery but have not gone a proper training yet as to how will they utilize it properly and efficiently inside their classroom setting. Given the fact that some teachers are excited to use AI to make their lessons more fun and creative, others are unsure because they don’t know the tools well, feel less confident, or worry about making mistakes in front of their students. This then connotes proper training programs which will be guided accordingly by the division or district to be properly use AI instructional tools by teachers in education with diverse strands and will not be left to wonder or experiment as to how they will use it in their classes.

Given these constraints among teachers based on their experiences, practices, and challenges, it is important to assess how are the teachers ready on how to use AI instructional tools in their teaching and learning process. Although there are existing studies regarding how AI in education is being advocated, local research are still a few regarding the actual experiences, challenges and constraints being faced by the teachers every day in their teaching and learning process inside the classroom. These gaps shows how important it is to look into the real information and actual data that lies within schools and districts in order to create training programs and seminars that fits the plans of DepEd in using AI in education ethically to produce both teachers and student AI literate for the 21st century.

Thus, this study aimed to examine what teachers really know about the AI tools in the teaching and learning process and how they see it whether it is a chance or threat which is related to their practices to identify the challenges they are facing. The study also sought to determine the difference and relationship between the profile of the teachers and their readiness towards the use of AI instructional tools. Through this, an action plan was formulated based on the results of the study to fully utilize and use AI effectively in their teaching and learning process.

1.1 Research Questions

Generally, this study aimed to assess the knowledge, attitudes, and practices of teachers in using AI instructional tools and to determine how these factors influence the integration of AI in classroom instruction as a basis for crafting an action plan that promotes effective and responsible use of AI in education.

Specifically, it sought to answer the following questions:

1. What is the profile of the respondents in terms of:
    1.1. Personal Profile
        1.1.1. Sex
        1.1.2. Age

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1.1.3. Civil Status

1.1.4. Economic Status

1.2. Professional Profile

1.2.1. Highest Educational Attainment

1.2.2. Teaching Position

1.2.3. Years of teaching experience

1.2.4. Field of Specialization

1.2.5. Grade Level Taught

1.2.6. Track and Strand Being Taught

1.2.7. Total number of hours on Trainings attended related to AI

1.3. Profile on AI Engagement

1.3.1. Devices used in Instruction

1.3.2. Frequency of using AI applications

1.3.3. Frequency of using AI according to Purpose

2. What is the level of knowledge of teachers regarding AI instructional tools in terms of:

2.1. Conceptual Understanding of AI

2.2. Familiarity with AI Tools for Instruction

2.3. Pedagogical Integration

2.4. Technical Proficiency

2.5. Professional Development Exposure

3. What is the level of attitude of teachers toward the use of AI instructional tools in terms of:

3.1. Teachers' Instructional Engagement

3.2. Teachers' Interaction with AI Tools

3.3. Behavioral Intentions toward AI Use

3.4. Teachers' Satisfaction

3.5. Teachers' Instructional Performance

4. What are the practices of teachers in using AI instructional tools along:

4.1. Instructional Integration

4.2. Tool Utilization

4.3. Collaboration and Support

4.4. Professional Development

4.5. Success and Impact

5. What challenges do teachers encounter in using AI instructional tools?

6. Is there a significant difference on the respondents' level of knowledge, attitude and practices towards utilization of AI instructional tools when grouped according to profile?

7. Is there a significant relationship among the following variables:

7.1. Teachers' Level of Knowledge and Attitude

7.2. Teachers' Level of Knowledge and Practices

7.3. Teachers' Attitude and Practices

8. What action plan can be proposed to improve the integration of AI in instruction based on the findings of the study?

2. Literature and Hypothesis/es Development

2.1 Teacher Profile and AI Engagement

Teacher profile and AI engagement research highlights that teachers' interaction with AI tools is shaped by personal, professional, and contextual factors, making readiness and beliefs crucial for ethical implementation (Aljabr & Al-Ahdal, 2024). Confidence and institutional support foster creative and purposeful AI use, improving instructional efficiency and student outcomes (Abulibdeh et al., 2023; Hakimi & Shahidzay, 2024; Holmes et al., 2022). This was also captured by the study of Amsal & Sagita (2024) and Zhang & Zhang (2024) that personal variables like age, sex and civil status greatly influence how teachers adopt AI in theirng teaching and learning process and the younger ones are most likely to be inclined and experiment on using it despite issues on sex that narrows the trainings needed for an effective integration. Further, García-López & Trujillo-Liñán (2025) have also argued that specific training on AI is strongly a great influence in the competence of teachers most especially in their professional profiles like their degree of educational attainment, their role in teaching and what strand or learning are they are teaching. Also, Williamson & Eynon (2020) have reasoned that practical and daily use of AI which involves laptops and tablets together with applications like Copilot and Khanmigo minimize the teaching-learning process of teachers and students in delivering lessons and simplifying their workloads.

2.2 Knowledge on the Use of AI Instructional Tools

Based on the study by Microsoft (2025), it was stated on the result of the study that AI in education provide immediate feedback among learners where they immediately adapt and provides new learning applications which can automate the instruction of teachers that offers easy and smooth delivery. Despite the offerings of AI, Zaidy (2024) discovers that these tools solely rely on what the teachers' skill in using the tools have been found out that almost 72 percent of the students respondents in his study that there is a need for the teachers to be trained towards the proper and ethical use of AI in instruction. Garzon et al. (2025) and Ruslim & Khalid (2024) then highlighted that without proper training among teachers will cause relying too much in AI tools and disregard actual data for proper referencing ruining the main goal of AI that helps to improve personalization and motivation. Thus, it is really recommended for teachers to attend continuous professional development trainings and seminars in order to create an environment that is student-centered where AI offers them personalized learning as according to the studies of (García-López & Trujillo-Liñán (2025), Arya & Verma (2024), Joel et al. (2024|) and Nasser (2024).

2.3 Conceptual Understanding of AI

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In order to fully contextualize the integration of AI in education, teachers should understand how it is used and how they will use properly towards their diverse learning areas, especially to teachers in senior high school department wherein it encompasses various strands and tracks. Teachers should attend training and seminars as to how they will fully adapt and use the offerings of AI in making their workload faster and easier since it is customizable and provides unique instruction through the use of simulation. Holmes et al. (2021) and Kwid et al. (2024) suggested that it is not enough that teachers just know what AI in education is, but they need also to become both experts in technological and pedagogical context in teaching such that they utilize AI properly in their instruction in order to achieve and meet learning outcomes written on their curriculum guides. Further, Hollands & Breazeal (2024) have concluded that teachers should also not only attend training programs locally but also internationally, if possible, most especially to AI literacy trainings programs which aims to make everyone AI literate and be on trend since AI tools and applications is changing and upgrading their features every time. Also, the most important thing about using AI in education is as to how teachers used it in proper and in the most ethical way possible such that students will not inculcate in their minds that teachers are replaceable by AI but instead they will see it as a helping hand in increasing engagement in participating in class session and include them tu fully grasp ideas easily through AI (Amsal & Sagita, 2024; Arias & Huanca, 2024; Zhang & Zhang, 2024).

2.4 Familiarity with AI Tools for Instruction

The implementation of artificial intelligence in classrooms offers many benefits among teachers like personalized teaching methods wherein they can utilize different types of techniques with their aid, less time spent accomplishing their grading sheets in which AI provide automatic computing applications, and the ability to streamline administrative tasks easily that will not take time anymore. Some of the AI teaching aids that really provide a great help among teachers in the teaching instructions most especially when it comes to senior high school teachers are the ChatGPT, Cici, Photomath, Grammarly, and QuillBot wherein these tools assist in content creation and editing easily and can analyze immediate data but the ability to use them is reliant on how much the teacher is prepared to use them and how proper their training and understanding regarding the uses and features of the AI tools they are using. According to Duarte et al. (2023) and Kazimova et al. (2025), studies regarding Intelligent Tutoring Systems (ITS) have proved that it helps teachers to make lessons more personalized among learners in which it is seen to improve their motivation and focus during the teaching and learning process which results in having better results in their academic grades. Also, generative AI technologies can also offer more straightforward explanations for difficult subjects and give feedback to students, but their inaccessibility of the needed software and gadgets will create uncomfortableness and fear in learning as stated by Ajani et al. (2024) which may also end up that learners will think teachers are irreplaceable by these AI tools since they teach better than their teachers. That is why Silva et al. (2025) and Börekci & Çelik (2024) have proposed that teachers should create a learning environment for learners that is positive wherein the learners will have an optimistic feeling towards the use of technology together with the effective integration and administration of AI tools by the teacher during their classroom interaction that will increase both the teachers quality of teaching and the quality of the learners education.

2.5 Pedagogical Integration of AI

Through the integration of AI in education, teachers can rest easily to break down complex ideas and topic lessons from diverse types of students because it offers personalized learning to each of them wherein the lesson topics they are struggling with can be adjusted based on what they need and abilities they have. Furthermore with the aid of AI, teachers can implement different types of teaching methods and strategies among learners to meet each individual preferences by doing individual, grouped or paired activities among them. Yoo (2024) and Chan & Tsi (2023) have underscored that teachers have this kind of gut feeling that they are somewhat positive and negative in accepting AI in their teaching instruction because of the fear that AI might replace them while others tend to adopt it since it offers an advocacy to fully utilize and integrate it in their classroom sessions. Further, Arias & Huanca (2024) have emphasized that training is essential among teachers in order to overcome the obstacles from implementing AI in their classroom instruction and motivate students to focus while class discussion is going on. Amsal & Sagita (2024), Zhang & Zhang (2024) and Idroes et al. (2023) have discovered that AI boost the collaboration between and among teachers in which they have found that about 42.9 percent of the teachers perceived virtual aides positively and help them gauge their teaching and learning better. Schools need to make a step in providing support through continuous professional development training among teachers and infrastructure needed in their teaching and learning settings to fully integrate and administer AI in their classroom to affirm both teachers and students as AI literate (Roshan et al., 2024; Cárdenas-Rodríguez & Monzón, 2024; Meylani, 2024; Pujeda, 2023).

2.6 Technical Proficiency in Using AI

Artificial Intelligence (AI) can offer a lot of things to teachers most especially when it come to making their workload easier in order to fully meet the needs of each students like tutoring systems that will guide the students that can be checked immediately without exerting a lot of effort and help teachers to make better decisions towards what kind of teaching strategy they will be utilizing inside the classroom settings. On the other hand, teachers and students can fully use the full potential of the technology if they achieve the necessary level of digital competency in terms of education and trainings needed in order to achieve quality education and be one of the 21st century's goal to make teachers and learners become AI literate as noted by Holmes et al. (2021), Karroum & Elshaiekh (2023) and Cárdenas-Rodríguez & Monzón (2024). According to Hamdan (2024), algorithmic bias create a lot of problems because of the fact that AI often provide unclear and weak rules in generating ideas and data which is used by the user, that is why Canonigo (2024) Celina et al. (2024) Santos et al. (2025) and Chung et al. (2024) have recommended that there should be proper and ethical way of using AI in education and when teachers can trust and use the accumulated data given by AI.

2.7 Exposure to Professional Development on AI

Teachers who are trained will develop a sense of responsibility in using AI and are willing to teach with the aid of it since they fully understand the features of each AI instructional tool that they are using in their classes, especially those teachers in the senior high schools who have diverse learning strands and tracks. Dabingaya (2022) and Folmeg et al. (2024) have underscored that it is very

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important for teachers to receive and participate in professional development trainings which related to AI literacy in order to know and how to use AI properly in the teaching and learning process successfully. Huang (2022) have discovered that providing well designed AI training literacy program among teachers provide a solid understanding to fully develop meaningful instructional strategies while using AI inside the classroom setting. While the fact that AI provide special programs like AIoT training that aims to help teachers hone their skills and confidence in using AI effectively in their classroom, schools also need to their part by offering support through provision of proper equipment and infrastructure needed in the teaching and learning process. Kitcharoen et al. (2023) and Roshan et al. (2024) have found that only about 5 percent of the teachers feel very confident in using AI in their classrooms because they have attended trainings and programs that have help them to fully integrate and use them properly either practical, as an aid, hands-on activities or simulations that will help boost the motivation and focus of the students. Through this, Meylani (2023), Indarti et al. (2023), Alasgarova & Rzayev (2024), and Baule & O'Connell (2024) found that teachers using these instructional tools in their classrooms will provide a more practical and specific context for training students to do tasks in the real-world settings that they can use later on. Ahmed (2024) and Copur-Gencturk et al. (2024) have stressed that challenges still remain because of the fact that there were teachers who do not receive enough training and school resources in implementing and integrating AI in education although the support system of the school is high when there are limited resources and training programs.

2.8 Attitudes Toward AI-Driven Instruction

Robiños et al. (2024) have stressed that teachers who have positive attitude towards the use of AI in their classroom setting are most likely to integrate AI in their teaching effectively especially when they are being supported by their school and provides all the needed tools and infrastructure both the teachers and students needed. Further, DeVos et al. (2024) have found that 84 percent of faculty members have fully understood that AI really provide great help among them in making the students achievement higher despite the fact that some of them were not willing to use it. Thus, Gomez et al. (2023) and Ofosu-Ampong (2024) have recommended that schools should provide support among teachers by sending teachers into training programs to help them gain knowledge and skills as to how to integrate AI in their classroom instructions because if not then these will cause a great challenge and barrier among teachers during their classroom setting and they will not properly integrate AI to its full potential as cited by the studies of Ali & Okon (2024), Ekeh (2024) and Fakhar (2024). Also, Woodruff et al. (2023) and Nikolic et al. (2024) have stated that many teachers believe that AI has a strong potential to help them in building and making their teaching more effective, but they does not know how to utilize it properly that is why they hesitate to use it so Uygun (2024), Mutanga et al. (2024) and Tosun et al. (2024) have proposed that schools should advocate the use of AI in education and inculcate on the teachers mind that it will not replace them but instead help them to reduce their effort in finishing tasks and workloads.

2.9 Teachers' Instructional Engagement

Ali & Okon (2024) and Altinay et al. (2024) have found that teachers are likely to use AI when they see it positively that could help them to improve their lesson topics by aiding them during their classroom interaction with the students and reduces their time in accomplishing their workload that is why Delello et al. (2025) suggested that teachers could fully use the full potential of AI among teachers and students to create better results on the academic performance of the students and teachers competence. Likewise, Wadhwa, et al. (2024) and Singh (2024) have stressed that AI systems can provide automatic feedback in helping teachers to trach the progress of each student more easily and allows them to make better decisions, especially on how to support learner needs. Unfortunately, Kumar (2024) have underscored that teachers who does not receive enough training or any ethical concerns as to how AI is used in the teaching instructions will most likely to have difficulty in fully engaging and performing their very best in integrating AI in their classroom setting and it was suggested by Ravichandran (2024) that trainings should be given to all of the teachers wherein they have the equal opportunities to attend them to become aware as to how and know when to use these AI tools properly in their instruction. Further, Banatao, et al. (2024) have highlighted that when teachers received proper preparation of instruction in their classroom setting then the engagement of their learner increases most especially when it is supported by the use of AI which provide real time feedback among learners performance.

2.10 Teachers' Interaction with AI Tools

When the support system coming from the school is very high then it is expected that teachers who are more open to new ideas will feel more confident in using AI in their teaching and learning process wherein they can effectively integrate AI properly into their classroom instruction as found out by Viberg et al. (2023), Wang & Ellington (2024) and Sibug et al. (2024). Palacios-Rodríguez & de Rivas-Manzano (2024) have underscored that constructivist teachers are more likely to use AI tools because AI support their teaching styles in which they can easily focus on adaptive and personalized learning. Further, Pörn et al. (2024), Sadykova & Kayumova (2024), and Singh & Thakur (2024) have highlighted that many teachers worry that AI systems are very complicated and may misuse data that could lead into making unfair or unreliable decisions which may affect the willingness of teachers to use them according to their likeness that is why Woodruff & Kizilcec (2023) suggested that there should be rules and regulations on how to properly use it and mandate transparency regarding development of algorithms.

2.11 Behavioral Intentions toward AI Use

The behavior of the teachers towards the sue of AI in their teaching pedagogy play a key major role because it affects how willing they are and ready to use these AI tools in their instructions which strongly influences their decisions. Some of the teachers may feel hesitant to use AI because they are afraid to make a mistake during their instruction with the aid of AI while others tend to feel excited to use it since they have enough experience in using these tools. Schools should provide enough space and infrastructure among teachers and learners to learn properly because teaching in large groups already takes a lot of time and effort but if the school does not provide support, then it will create a major challenge among teachers who want to utilize it in their teaching as stated by Ruslim and Khalid (2024). This was also supported by the study of Attach and Colleagues (2024) that the same difficulties identified by the teachers who struggle to adopt AI when resources are limited and support systems are weak have more tendency of having a fallback on the students learning achievement to become low proficient

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because they cannot integrate them very well. Further, Cachapa et al. (2024) and Delello et al. (2025) have identified that teachers who have used AI more often are generally more willing to keep on using them and if they are unsure of using it, they tend to use the internet on how to properly by discovering it through online platforms in order to fully use its full potential. Moreover, Kizilcec (2023) and Lam et al. (2023) have argued that teachers who have limited face-to-face interaction in using AI tools can also make some teachers resist changes in teaching methods that is why training programs should be offered to help teachers become mentally prepared in order to improve their skills by providing them a solid understanding of rights and responsibilities that can increase their willingness to use AI tools in responsible and confident ways.

2.12 Teachers' Satisfaction

Teachers will feel more comfortable when they feel and see to it that AI truly help them in making their workload easier and by improving student learning as stated by the study of Nzoka (2024) and Ali & Okon (2024). Despite this fact, Chisega-Negrilă (2024) have made it clear that concerns about losing important teaching skills among teachers in using AI has been circulating whether student data is kept safe is a challenge that is why there should be the presence of security and privacy while teachers are trying to use AI effectively in their teaching and learning process. Even though AI can provide immediate feedback and help the teachers to make their tasks easier, Jose & Jose (2024) have discovered that there are still teachers who are not willing to use it because they worry that relying too much on it will reduce students creativity and participation that is why Uygun (2024), Aljabr & Al-Ahdal (2024) and Mehdaoui (2024) have concluded that there should be clear school policies which shows transparency about how technology works and proper training in order to help teachers feel more confident and supported. According to Mattozo & Cardozo (2024), when teachers are involved in shaping how AI tools are used in their teaching and learning process, they gain a stronger sense of control by ensuring that AI is used as an aid not only for the delivery their instruction but also to make their students achievement better.

2.13 Teachers' Instructional Performance

Teachers can design their lesson plans through the help of AI and students tend to pay more attention since it provides clear information and differentiated activities that the teacher may use while the lesson is going to fully meet each student's needs. However, Hazzan-Bishara et al (2025) have stated that if the teacher relies too much on these AI tools it will slowly reduce opportunities for deeper thinking and questioning among students which will eventually give the students the belief that teachers are replaceable by AI. Moreover, Nikolic et al. (2024) and Kizilcec (2023) have stated that when schools provide support among teachers and the right technology that they need in the integration of AI in the classroom setting then it will build a motivation for them to effectively and consistently utilize AI in their teaching pedagogy. Also, Mojica (2024) have stressed that in many rural areas there are traditions and limited resources that slow down progress of AI integration in the teaching and learning process because if teachers have enough training and proper guidance then they will be keeping in mind that understanding AI becomes less overwhelming and easier to accept.

2.14 Practices in Using AI Instructional Tools

The integration of AI in the classroom setting is not new to everyone since teachers are now utilizing it starting from motivation to daily routines tasks which lessen the workloads of teachers and help make learners to engage during lesson topics. Despite these positive offerings given by AI, Chen et al. (2020) and Ribeiro (2024) have found out that there are a large number of teachers who does not want to use AI in their teaching and instead still stick to traditional methods because they lack experience and does not receive any support coming to their schools. Further, Javvaji & Raghavulu (2024) and BUȘU (2024) have shown that flexible learning software using AI can adjust to each strength and weaknesses of every student that will make the classroom activities for teachers to be utilize as more dynamic and effective. Yambal & Waykar (2024) have stressed that AI tools can also provide teachers an immediate grade work and track their learning habits easily by giving teachers more time to focus on meaningful classroom activities that will improve the learning outcomes of the students. On the other hand, access to these AI tools and how to properly use them still remains the main problem among schools since they do not have the means to provide the training programs and infrastructure needed in the full implementation and adaptation of teachers in their teaching and learning process. This might be the reason why Jaramillo & Olivera (2024), Buenaventura-Delgado (2024) and Kodir (2025) have recommended that gaps on training should be made a consideration among school leaders and administrators to provide as well as the needed infrastructure and gadgets needed by the students during their class session.

2.15 Instructional Integration

The use of AI can immediately speed up the work and tasks of teachers by providing smarter assessments and automated support which can be given to students immediately but without proper training and reliable technology which can be used among teachers then AI in education will remain uneven. If these gaps will be left among school administrators and leaders, then it will prevent AI from making its full impact in the classroom according to Holmes et al. (2021). Further, some teachers use AI only at a basic level rather than fully integrating it into their daily lesson plans, that is why Walter (2024) have made it clear that teachers showing strong digital skills and clear teaching strategies are very essential in integrating AI in education effectively. Moreover, Santamaría (2025) have highlighted that when schools invest in developing their staff and teachers start using AI in their teaching and learning process in ways that promote fairness and help students understand lessons more deeply could lead to an effective integration of AI in education. AI can create lessons that help the teachers to build their confidence in teaching and provide matching diverse activities which is suited on how each student learns and increase their attention and interest toward learning areas. It also gives teachers clearer information about individual learning needs of students and later on build the confidence of students over time to become more active, especially to subjects where they find it boring.

2.16 Tool Utilization

Today, AI tools such as smart tutoring systems provide help among teachers to work more efficiently to keep their students more engaged but despite these efforts, most of these tools are still limited to suggesting lesson ideas or automatically checking students' work as stated by Chen et al. (2020). That is why it is very important to choose the right AI tools to be used and integrated in the teaching and learning process, that is why Singh & Thakur (2024) and Soni (2025) have made it clear that AI

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chosen for the integration which is very flexible in adapting to what the learner needs. On the other hand, Wulandari (2024) have underscored that not all classrooms have equal access to technology and many teachers are unsure how to use AI tools without feeling like they are losing control of their own teaching methods since they lack the need training to fully utilize these AI instructional tools to its maximum potential. By 2024 and moving into 2025 under the Marcos administration, changes in education still continues but uneven access and limited preparation remain major challenges which should be seen within the national reach of authorities to provide the needed training programs to fully met AI literacy among peoples of the Philippines.

For AI to be used effectively in schools, Farooqi et al. (2024) and Soni (2025) have suggested that there should be the presence of clear policies that will be established and inclusion of proper training for teachers to look into the transparency about how algorithms work and strong foundations through AI literacy programs to oversight to protect data. When these elements are in place, Marcos (2025) have concluded that fairness will be improved among teachers to gain more confidence and trust in using AI in their roles and will erase the notion of learners that AI will replace them in their teaching profession.

2.17 Collaboration and Support

Kong et al. (2021) have made it clear that schools who are supporting their teachers in all the way possible to fully integrate AI in their classroom instruction will result to a positive integration of AI in education and will also help teachers improve how they use AI in their teaching. Zhang & Dafoe (2022) have recommended that having a strong support and collaboration coming from the school will greatly help the teachers to become more confident and skilled in exploring AI tools that they could utilize in their classroom instruction. This has been found by the study of Narayan and Jauhari (2025) that those schools who lack support among their teachers and uneven distribution of training opportunities results to low AI literacy and make their teachers think that AI is not useful but instead a threat in their classroom instruction. Consequently, having limited training programs offered to teachers will create a great fallback of negative attitude towards the use of AI in education and will lead teachers to be afraid of using it since they does not have the right knowledge and guide as to how will they utilize it properly and effectively during their classroom instruction. This shows how important well-structured, government-supported training programs are as recommended by Wulandari et al. (2024) and Perse (2025) to be given an action and not just merely planning since it will not create solution to the problem if it will not be executed. Further, Adigun & Ojomo (2025) and Baranidharan et al. (2025) have stressed that when schools serve students with different needs, results to have more challenges and will create a bigger hindrance especially when access to technology are limited and teachers have low familiarity with AI that will eventually lead to uneven use widening gaps that already exist. Perse (2025) have made it sure that these growing gaps highlight an urgent need for coordinated policies that bring together real collaboration which needed an immediate online system that is strong enough to provide fair access to AI for everyone.

2.18 Professional Development

School administrators and leaders should design training programs among teachers given the fact that AI supported teaching is changing and keeps on updating, for not only honing their knowledge as to know and how to use AI in their delivery of instruction but also to improve both their practical skills and confidence in using these AI instructional tools effectively. The study of Holmes et al. (2022) have shown that providing training programs and workshops among teachers works best when they are focusing on specific software which is paired according to their teaching strategies and field of expertise. However, Li et al. (2021) have argued that these current training programs being discussed among teachers are too generic and short which only focuses on the main frame of the applications but not as to how it will be fully integrate and use its maximum capacity towards certain learning areas so as a result, Brown (2023) have stressed that real world classroom situations are often overlooked leading to neglecting student deeper understanding and engagement towards the teaching and learning process. Thus, Robinette (2024) have made it clear that supporting the mental health of every teacher should be the top priority because they are as important in building their technical skills, especially when training programs are given to them and when left them distressed it will eventually cause them less engaged and challenge them to fully integrate AI in their teaching pedagogy effectively. Farabi et al. (2025) emphasized that these issues are even more visible in far-flung areas where training is limited and they do not have the means of connecting to internet connection which is needed in integrating AI properly during class sessions. Further, Sarwar & Hussain (2021) and Juma (2024) have also said that teachers who have weak preparation of classroom instruction slows the innovation and limits how AI help them to improve the learning of every learner even though it offers a lot of opportunities that the teacher could do in making the students fully engaged and motivated in learning.

2.19 Success and Impact

Teachers who are using AI in their teaching and learning process efficiently can increase the students engagement during class sessions and often lead to better results and achievement. With the help of AI, Reyes & Corre (2025) and Novita (2025) emphasized that teachers' paperwork become easier because it lessen the time and effort exerted by the teacher from an hour of finishing it into just minutes. AlQahtani (2025) have made it clear that teachers who are utilizing AI to prepare their lesson schedules and using AI in classroom gradually organize classroom engagement properly and makes the learner focus in learning. Further, Brady (2025) have found that one in every seven students performs slightly better when AI is used in their teaching and learning process which shows that if these AI tools will be continued to be used in instruction, then it will provide more opportunities in shaping lessons more efficiently. However, Maine (2024) have argued that 15 percent of the teachers who are using AI in their instruction only focus on having good technology rather than changing their actual; teaching styles that is why they do not really fully use the maximum potential of every AI tool since it does not jive with their teaching pedagogies. Given the fact that AI could provide and offer a lot of things, there were still barriers in the utilization of AI in education most especially when it comes to concerns about data privacy and uneven preparation among teachers to attend training programs regarding AI literacy in order for them fully integrate it into their teaching delivery of instruction.

2.20 Challenges of Teachers in using AI instructional Tools

Classrooms will remain difficult to integrate AI in education when the available resources are outdated and there is no way of

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connecting into strong internet connection even with the growing presence of integrating AI in education. Farooqi et al. (2024) have stressed out that many teachers still lack knowledge on how to use AI effectively due to limited training programs given to schools most especially to those schools who belong to the rural areas where there is no means of connecting into internet. Moreover, Jose (2024) added that some districts have basic technological infrastructure but cannot run the AI powered systems really well since they are outdated and they belong to remote areas unlike urban areas who can easily access strong internet connectivity and have enough funding for purchasing resources. Further, Holmes et al. (2022) have then highlighted that through these unequal opportunities given to urban and rural areas in integrating AI properly in education leads to uneven learning experiences among regions wherein it was found out that some teachers were not even introduced to AI trainings yet and have no means of using any tool in exploring certain AI instructional tools that they can use in their classroom instruction. Additionally, ethical concerns and data privacy have been also one of the major challenges that have been raised by Salameh (2024) wherein he have highlighted that it is very important to have clear guidelines as to how to use AI properly in the most responsible way to safeguard usage and limit students from over relying into it during classroom sessions and tasks given to them. Teachers who have been using their teaching strategies and techniques for years which they have seen very effective are most likely to resist using AI in their classroom instructions since they will see it as a threat instead of aid. This is the reason why Cachapa et. al (2024) have stressed that overreliance in these automated systems may reduce deeper understanding of students toward a certain learning area and weaken the fairness in the classroom since it offers an immediate answer into every query that is being thrown by it by the students.

Moreover, Atkinson-Toal & Guo (2024) have made a note that organizational challenges make it harder to accept AI since there are no mandates and defined guidelines and rules which clear enough in order to fully integrate AI in education properly. Ghimire & Edwards (2024) have also shown that the cost of technology is one of the hindrances among schools since they have limited funding in order to buy these software features and stock of resources to use this AI tools. Another barrier is what Sayari (2024) and Xu (2024) found in their study that widening gaps are still increasing and existing since their inequalities going on despite the potential of AI that it could offer in supporting a better instructional decision among teachers. One of the solutions in order to address these challenges is to provide training programs that will provide ways for teachers to effectively use and integrate AI in their teaching instruction like AI tools that can be run through low bandwidth while supporting learners to become better in engaging and focusing during classroom instruction as cited by Alali et al. (2024). Moreover, Hakimi & Shahidzay (2024) have suggested that collaborative designs should be planned according to certain assessment collected through the trainees in order to provide the specific trainings and workshops that they need in using AI in their instruction. Also, Abdurohman (2025) have mentioned that providing clear guidelines and policies within the proper and ethical use of AI should be the top priority in order to address the gaps among teachers as to how they will use it in their classroom teaching sessions and how will their students be limited as to how will they also use it during their self-paced learning.

2.21 Interconnections Between Knowledge, Attitude, Practices, and Challenges

Studies have made it clear the younger teachers have more sense of developing greater digital skills, making integration in their teaching more effective since they are open to accepting new ideas and technologies into their teaching instruction such as AI in education. The fact that they have been exposed into technology early has been one of their advantages in accepting the early trends in AI education in which they have the confidence to use and explore its features and experiment on it. However for those teachers who have been teaching for many years resist new changes and ideas because they dop not want to go out from their comfort zones because they are afraid to make mistake in integrating AI in their classroom instructions, that's why they don't want to use AI in their classroom setting. Cayak (2024) have mentioned that AI integration in education will not be fully met even when teachers are technically skilled when they have still hesitated to adopt new technologies into their teaching instruction. The findings of Viberg et. al (2023) have made it clear that its not only the teachers who lack the trainings that slows down the integration of AI in education but also true to the lack of infrastructure and support given by the schools which hinders the efficient and effective utilization inside the classroom setting even though how ready the teachers are when they lack those there will be no improvement going to happen.

Further, Woodruff et al. (2023) have concluded that if teachers lack training and infrastructure needed how much more those schools who does not meet these because they reside in far flung and remote areas where internet connection is not available how much more is their training and integration when these means are not even present and existing through limited funding. Zhai (2024) have highlighted that strong belief among teachers is one of the major factors on how AI tools function as an aid will or treat among them in their classroom instruction because it emphasizes how much knowledgeable are they in terms of what could AI offer and provide. Palacios-Rodríguez & de Rivas-Manzano (2024) have also stressed that having a clear and trusted understanding of how AI could be is utilized and used in classroom instruction among teachers will likely achieve its purpose to make every student and teachers to become ASI literate and use its features into maximum potential.

However, Hazzan-Bishara et al. (2025) and Ayanwale et al. (2022) recommended that even though how teachers see the positive effect of using AI in their instructions, there are still a lot of setbacks and uncertainties that circulating around as to what is right or fair that can stop or slow the progress of students while utilizing AI in the classroom setting especially when students will become dependent and relies too much in the power of AI. Hazzan-Bishara et al. (2025) have identified that behind of what the teachers are already practicing in their daily routine is somewhat a factor of how will they accept the use of AI in their instruction most especially when they resist change and stays on traditional since they fear that students will think that they are irreplaceable and they do not have the confidence to use this AI tools in their classroom settings. Simply, Ma and Lei (2024) have made a conclusion that training programs regarding the proper use of AI in classroom instruction through actual hands-on workshops and experiencing will change their mind in order to address these challenges and major setback among teachers.

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When combining these findings, it can be seen that school leaders and administrators should design a training program on AI literacy training and workshops that is based on assessments of what should be the teachers are needing by meeting their individual needs and not just by providing a generic training but instead an specific training that could provide hands-on practice in utilizing AI in their classroom instruction. Yue et. al (2024) have discovered that providing such training and workshops among teachers will greatly help them to efficiently and properly use AI into its maximum potential and will improve learners engagement and focus towards achieving better results in their academic achievements. Also, Viberg et. al (2023) have made it clear that AI is changing every time so instead of using it in small routine tasks why not use it into a more meaningful and accessible part of everyday teaching instructions of teachers which will result to not only make teachers but also students to become AI literate for the goal of the 21st century education.

3. Methodology

This chapter discusses the study's methodologies, such as research design, participants, instrumentation, and data analysis.

3.1 Research Design

This study employed a descriptive-correlational design which followed by a qualitative approach to examine the teachers' knowledge, attitudes, practices, and challenges in using AI instructional tools in their teaching and learning process during classroom interaction between teachers and students. The descriptive section was used to present the respondents' demographic profile and to summarize their knowledge, attitudes, practices, and challenges through frequencies, percentages, means, and standard deviations. Alongside this, the correlational part investigated how these variables relate to one another and whether significant differences exist when they are grouped according to profile factors. In order to achieve this, the study employed statistical techniques such as chi-square tests, ANOVA, Pearson correlation, and thematic analysis.

3.2 Participants

The respondents of the study were the public secondary senior high school teachers from the following institutions: Libertad National High School in Abulug; Matucay National High School, Alig Valley National High School, and Allacapan Vocational High School in Allacapan; Ballesteros National High School in Ballesteros; and the Western Cagayan School of Arts and Trades in Lasam. A stratified random sampling using the Lynch formula was employed involving all permanent teachers with at least one year of service, who are officially and currently teaching during the School Year 2025–2026. With this, 105 respondents are selected regardless of their subject area, they were included to ensure a comprehensive assessment of their knowledge, attitudes, and practices in using AI instructional tools in education. Below is the figure of the distribution.

3.3 Instrumentation

There were five parts in collecting data from the respondents, which include the basic demographic profile of the respondents, their engagement with AI tools, and a researcher-survey questionnaire made that was used to determine the knowledge, attitude, practices, and challenges encountered by teachers in using AI driven instruction. The first part of the instrument gathered the profile of the respondents which included their personal information such as their age, sex, economic status, followed by their professional background such as educational attainment, teaching position, years of experience, field of specialization, grade level taught, and AI-related trainings attended, and their engagement with AI such frequency of use, devices used, applications utilized, and instructional purposes. Moreover, the second part was a survey questionnaire consisting of 25 statements designed to determine the practices of teachers in integrating AI-driven instruction using four-point Likert Scale which is subdivided into five parts particularly on instructional integration, tool utilization, collaboration and support, professional development, and success and impact.

Further, the third part measured the level of attitude of teachers toward AI-driven instruction using a four-point Likert scale. It included 25 statements grouped into five categories: Perceived Usefulness, Openness to Innovation, Confidence and Comfort, Concerns and Reservations, and Motivation to Learn and Improve and each category containing five items that captured the respondents' perceptions, readiness, and reservations regarding the use of AI in teaching. Also, the fourth part involved 50 items multiple choice items to assess the level of knowledge of teachers regarding AI instructional tools. These questions were divided into five learning competencies: Conceptual Understanding of AI, Familiarity with AI Tools for Instruction, Pedagogical Integration, Technical Proficiency, and Professional Development Exposure and each category containing five items will be rated on a four-point Likert scale based on their level of agreement. Additionally, there were 16 items checklist and 4 interview guide questions to determine the challenges of teachers in integrating AI instructional tools in their teaching and learning process. Through the use of these instruments, the knowledge, attitudes, practices, and challenges faced by the teachers towards AI instructional tools provided a clear understanding as to how an action plan was created to provide basis for integrating AI in education in promoting effective and responsible use of AI in classroom setting.

3.4 Data Analysis

Frequencies, percentage distribution, mean, and standard deviation were used to analyze the data on the respondents' profile, including their personal, professional, and AI engagement characteristics. These descriptive statistics were also applied to summarize the types of AI tools used in instruction and their frequency of use. In assessing the teachers' level of knowledge, attitude, and practices toward AI instructional tools, the weighted mean and 4-point Likert scale were utilized using Figure 5.

Teachers' Level of Knowledge in using AI Instructional Tools		
Range	**Proficiency Level**	**Interpretation**
38 – 50	Distinguished Proficient	Highly Knowledgeable
26 – 37	Highly Proficient	Knowledgeable

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14 – 25		Proficient	Moderate Knowledgeable
0 – 13		Beginning Proficient	Least Knowledgeable
Teachers' Level of Attitude in using AI Instructional Tools			
Scale	**Range**	**Response**	**Interpretation**
4	3.25 – 4.00	Strongly Agree	Very Positive Attitude
3	2.50 – 3.24	Agree	Positive Attitude
2	1.75 – 2.49	Disagree	Negative Attitude
1	1.00 – 1.74	Strongly Disagree	Very Negative Attitude
Teachers' Level of Practices in using AI Instructional Tools			
Scale	**Range**	**Response**	**Interpretation**
4	3.25 – 4.00	Always	Highly Practiced
3	2.50 – 3.24	Often	Frequently Practiced
2	1.75 – 2.49	Sometimes	Occasionally Practiced
1	1.00 – 1.74	Seldom	Minimally Practiced
Figure 5. Interpretation of the Level of Knowledge			

Further, in evaluating the challenges of teachers toward the use of AI instructional tools, a thematic analysis was used to code and transcribe the identified key themes and patterns through triangulation and focus group discussion. Moreover, to determine whether there is a significant difference on the respondents' level of knowledge, level of attitude and practices towards AI instructional tools when grouped according to profile variables, chi-square tests and ANOVA was employed. Additionally, Pearson correlation was used to examine the relationship between the respondents level of knowledge, attitude, and practices towards AI instructional tools. All hypotheses will be tested at 0.05 level of significance. Also, based on the result of the study, a contextualized action plan was crafted and proposed to enhance the effective and responsible integration of AI instructional tools in classroom.

4. Results and Discussion

This chapter presents the discussion and results of analysis and interpretation of data regarding the knowledge, attitude, practices, and challenges of SHS teachers in using AI instructional tools.

4.1 Teachers' Personal Profile

Table 1.1 Teachers' Personal Profile

I. Personal Profile	**Frequency (n=105)**	**Percentage**
A. Sex		
Male	13	12.38
Female	92	87.62
B. Age (Years)		
52 and above	4	3.81
43 - 51	17	16.19
34 - 42	27	25.71
25 - 33	56	53.33
24 and below	1	0.95
Mean = 35.32	SD = 7.54	
C. Civil Status		
Single	35	33.33
Married	67	63.81
Widowed	3	2.86
D. Economic Status (in Peso)		

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39,001 and above	2	1.90
36,001 – 39,000	45	42.86
33,001 – 36,000	33	31.43
30,001 – 33,000	25	23.81
Mean = 34,764.89	SD = 3215.42	

Table 1.1 presents the personal profile of the senior high school teacher respondents. Results shows that there are more female respondents (n=92) which is higher than male respondents (n=13) in terms of sex. In terms of age, the highest proportion of respondents belong to the 25-33 age group (n=56) with a mean of 35.32 and standard deviation of 7.54 showing that most of the ages of teachers are not that far from average and mostly dominated by young teachers. Further, the table illustrated that the majority of the respondents are married (n=67) while some of them widowed (n=3) indicating that most of the respondents consists of individuals with family responsibilities. Moreover, the highest proportion of teachers salary fall within the ₱36,001–₱39,000 income range (n=45) while there are only few teachers (n=2) who earn a salary range of ₱39,001 and above with a mean of ₱34,764.89 and standard deviation of ₱3,215.42 indicating that most of the teachers are clustered within mid-range salary grades.

Table 1.2 Teachers' Professional Profile

II. Professional Profile	**Frequency (n=105)**	**Percentage**
E. Highest Educational Attainment		
Graduate in PHD	3	2.9
With PHD Unit	14	13.3
Graduate in Masters	38	36.2
With Master's Unit	43	41.0
College Graduate	7	6.7
F. Teaching Position		
Master Teacher I	2	1.9
Teacher III	45	42.9
Teacher II	31	29.5
Teacher I	27	25.7
G. Years of teaching experience		
31 and above	2	1.9
21 - 30	4	3.81
11 - 20	7	6.67
1 - 10	92	87.62
Mean= 7.5	SD=5.92	
H. Field of Specialization		
Filipino	10	9.52
Science	18	17.14
Araling Panlipunan	24	22.86
Technology and Livelihood Education	10	9.52
English	16	15.24
Math	16	15.24
Mapeh	6	5.71
Business Management	2	1.91
Accountancy	1	0.95

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Information Technology	2	1.91
I. Grade Level Taught		**Rank**
Both 11 & 12	61	1
12 only	17	3
11 only	27	2
J. Track and Strand Being Taught		
Academic Track Strand		
ABM	53	3
STEM	58	2
HUMSS	71	1
Tech-Voc-Live Strand		
ICT	35	1
Agri-Fishery	8	4
Home Economics	25	2
Industrial Arts	11	3
K. Total number of hours on Trainings attended related to AI		**Percentage**
0	76	72.4
8	4	3.8
12	3	2.9
24	19	18.1
36	3	2.9
Mean=6.02		SD=10.61

4.2 Teachers' Professional Profile

Table 1.2 shows the professional profile of the respondents. The data illustrates that the highest proportion of teachers hold a master's unit (n=43) or have graduated with a master's degree (n=38) while only few teachers (n=3) have graduated in PhD illustrating that most of them have possess graduate level qualifications. In terms of teaching position, the highest number of teachers occupy the Teacher III position (n=45) while the lowest proportion are Master Teacher I (n=2). Majority of the teachers have rendered 1-10 years (n=92) of teaching experience in public secondary senior high school already while there were only few teachers (n=2) who rendered their services for 31 years and above with a mean of 7.5 years and standard deviation of 5.92 showing that they are mostly dominated by young teachers in service.

Moreover, the table indicates that the highest number of SHS teachers specialized in Araling Panlipunan (n=24) while the lowest proportion of SHS teachers are specializing in Business Management (n=2), Information Technology (n=2), and Accountancy (n=1). Further, most of the SHS teachers are teaching both grade 11 and 12 (n=61) ranking number 1 while only few SHS teachers handle grade 12 only (n=17) indicating that the teachers are commonly assigned into multiple grade assignments. The table also shows that most of the teachers are assigned in teaching academic track particularly HUMSS strand (n=71) while on the technical-vocational-livelihood track only a small ratio of SHS teachers are assigned to Agri-Fishery strand (n=8) indicating that teachers are assigned according to enrollment counts. Also, the majority of the teachers have never attended any AI related training programs and workshops (n=76) while only few teachers have completed a 12-hour or 36-hour training program (n=3) revealing that AI training exposure among SHS teachers are limited.

4.3 Teachers' Profile on AI Engagement

Table 1.3 Teachers' Profile on AI Engagement

III. Profile on AI Engagement		
L. Devices used in Instruction		**Rank**
Laptop	101	1
Smartphone	77	2
Tablet	12	3

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Smart TV	1	4
M. Frequency of using AI applications	**Weighted Mean**	**Descriptive Value**
1. Canva	2.57	Often
2. ChatGPT	2.87	Often
3. Cici	1.39	Never
4. Copilot	1.92	Sometimes
5. Classpoint	1.53	Never
6. Gamma AI	1.38	Never
7. Geogebra	1.27	Never
8. Grammarly	1.64	Never
9. MathGPT	1.12	Never
10. Mathway	1.14	Never
11. Perplexity	1.36	Never
12. Photomath	1.15	Never
13. Quillbot	1.76	Sometimes
14. GEMINI	1.03	Never
General Weighted Mean	**1.58**	**Never**
N. Frequency of using AI according to Purpose		
Lesson Planning	2.6	Often
Student Assessment	2.34	Sometimes
Student Engagement	2.44	Sometimes
Content Creation	2.24	Sometimes
Classroom Management	1.97	Sometimes
Research and Data Analysis	2.1	Sometimes
Personalized Learning	2.43	Sometimes
Providing Feedback	1.97	Sometimes
General Weighted Mean	**2.26**	**Sometimes**

Legend:	
3.50 - 4.00	Always
2.50 - 3.24	Often
1.75 - 2.49	Sometimes
1.00 - 1.74	Never

Table 1.3 presents the teachers' profile on AI engagement towards the use of AI instructional tools in their instruction. It can be observed that in terms of the devices used by the teachers in their instruction, the majority of the respondents (n=101) use laptops. Additionally, the table shows that the respondents are often using the AI applications such as ChatGPT and Canva with a weighted mean of 2.87 and 2.57 respectively while they never used the rest of the AI applications having weighted means of 1.03 – 1.64. Further, the computed general weighted mean of 1.58 indicates that majority of the teachers never uses AI application and only a few teachers uses it in their classroom instruction. Moreover, the main purpose while most of the teachers are often using AI tools is in making their lesson planning with a computed weighted mean of 2.60 while the least applied purpose of using AI applications is on

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their classroom management and providing feedback among their students having a computed weighted mean of 1.97 each. The general weighted mean of the teachers frequently using AI according to its purpose is 2.26 indicating that the respondents are only using AI sometimes according to its purpose needing further institutional support and training to be given among teachers to maximize its use and properly integrate AI in education.

4.4 Teachers' Level of Knowledge towards the Use of AI Instructional Tools

Table 2 illustrate the level of knowledge to which the senior high school teachers are proficient on the use of AI instructional tools and integrate it across various instructional dimensions.

4.5 Conceptual Understanding of AI

Table 2.1A Conceptual Understanding of AI

Conceptual Understanding of AI	**Frequency (n=105)**	**Percentage**
9 - 10	41	39.05
6 - 8	45	42.86
3 – 5	17	16.19
0 - 2	2	1.9
Mean=7.36	SD=2.01	

Table 2.1A presents the teachers' level of knowledge in using AI instructional tools based on their scores in conceptual understanding. The results show that the majority of teachers fall within the 6–8 score range comprising 45 teachers or 42.86 percent, while only 2 teachers or 1.90 percent have obtained scores within the 0–2 range indicating minimal knowledge of AI. Further, the computed mean score of 7.36 and standard deviation of 2.01 which indicates that most teachers possess a moderate to high level of conceptual understanding of AI. These findings tells that teachers' knowledge levels lean toward the higher end of the scale with slight variations among respondents. Thus, this implies that school administrators should provide more training, suggesting a generally solid grasp of basic AI concepts and their instructional applications. This is connected to what Holmes et al. (2021) and Kwid et al. (2024) suggested that it is not enough that teachers just know what AI in education is, but they need also to become both experts in technological and pedagogical context in teaching such that they utilize AI properly in their instruction in order to achieve and meet learning outcomes written on their curriculum guides.

4.6 Familiarity with AI Tools for Instruction

Table 2.1B Familiarity with AI Tools for Instruction

Familiarity with AI Tools for Instruction	**Frequency (n=105)**	**Percentage**
9 - 10	59	56.19
6 - 8	35	33.33
3 – 5	10	9.53
0 - 2	1	0.95
Mean=8.25	SD=1.87	

Table 2.1B presents the teachers' level of knowledge in using AI instructional tools based on their familiarity with various AI platforms. The results show that a majority of the teachers fall within the 9–10 score range with 59 teachers or 56.19 percent indicating a high level of familiarity with AI tools used for instruction while only 1 teacher or 0.95 percent fell within the 0–2 range reflecting very minimal familiarity with AI instructional tools. The computed mean score of 8.25 and standard deviation of 1.87 further suggest that teachers' familiarity with AI leans toward the higher end of the scale, with most scores clustered around strong familiarity. These findings reflects that teachers generally possess a solid understanding of AI tools which then implies capacity building although a small segment still requires targeted support in order to ensure equitable technological competence across the teaching workforce. That is why Silva et al. (2025) and Börekci & Çelik (2024) have proposed that teachers should create a learning environment for learners that is positive wherein the learners will have an optimistic feeling towards the use of technology together with the effective integration and administration of AI tools by the teacher during their classroom interaction that will increase both the teachers quality of teaching and the quality of the learners education.

4.7 Pedagogical Integration

Table 2.1C Pedagogical Integration

Pedagogical Integration	**Frequency (n=105)**	**Percentage**
9 - 10	50	47.62
6 - 8	40	38.10
3 – 5	13	12.38
0 - 2	2	1.90
Mean=8.03	SD=2.03	

Table 2.1C presents the teachers' level of knowledge in using AI instructional tools based on their ability to integrate AI into pedagogical practices. The results show that nearly half of the respondents in which 50 teachers or 47.62 percent scored within the 9–10 range indicating a high level of pedagogical integration while there are 2 teachers or 1.90 percent who exhibit a minimal ability ranging from scores 0–2. The mean score of 8.03 and SD of 2.03 indicate that most teachers are generally capable of integrating AI into instruction, though a small group still requires additional support. This implies that schools must provide targeted training and guided practice to ensure all teachers can confidently and consistently integrate AI into pedagogical processes. Yoo (2024) and Chan & Tsi (2023) have underscored that teachers have this kind of gut feeling that they are somewhat positive and negative in accepting AI in their teaching instruction because of the fear that AI might replace them while others tend to adopt it since it offers an advocacy to fully utilize and integrate it in their classroom sessions.

4.8 Technical Proficiency

Table 2.1D Technical Proficiency

Technical Proficiency	**Frequency (n=105)**	**Percentage**
9 - 10	73	69.52
6 - 8	21	20

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3 – 5	10	9.53
0 - 2	1	0.95
Mean=8.6	SD=1.91	

Table 2.1D presents the teachers' level of knowledge in using AI instructional tools based on their technical proficiency, or their ability to operate AI platforms and navigate their features. Most teachers in which 73 out of 105 or 69.52 percent have scored along the range of 9–10 indicating a high level of technical proficiency in using AI tools, while only 1 teacher or 0.95 percent have demonstrated a very limited skill along AI. The mean score of 8.6 and SD of 1.91 confirm that overall technical proficiency is strong, with only a few notable gaps which tells that schools should maintain ongoing support while providing targeted assistance to those with lower proficiency to ensure all teachers can operate AI tools effectively. These findings highlight that teachers are generally well-prepared in the technical aspects of AI use although targeted support may still be needed for those with lower proficiency levels to ensure equitable and effective AI integration in classroom instruction. These results imply that while most teachers possess strong technical proficiency in using AI tools but targeted support is still needed for the few with lower proficiency levels to ensure equitable and effective AI integration across the teaching workforce. Gomez et al. (2023) and Ofosu-Ampong (2024) have recommended that schools should provide support among teachers by sending teachers into training programs to help them gain knowledge and skills as to how to integrate AI in their classroom instructions.

4.9 Professional Development Exposure

Table 2.1E Professional Development Exposure

Professional Development Exposure	**Frequency (n=105)**	**Percentage**
9 - 10	54	51.43
6 - 8	34	32.38
3 – 5	13	12.38
0 - 2	4	3.81
Mean=7.79	SD=2.32	

Table 2.1E presents the teachers' level of knowledge in using AI instructional tools based on their Professional Development Exposure. More than half of the teachers which is 54 or 51.43 percent have scored 9–10 indicating high exposure to AI-related professional development, while a small group of 4 or 3.81 percent of the teachers have demonstrated limited training experience towards AI exposure. The mean score of 7.79 and SD of 2.32 reveal generally high exposure but with noticeable variation among teachers. These findings tells that although many teachers have had meaningful professional development engagements on AI, a notable minority still lacks sufficient access to training highlighting the need for more inclusive, sustained, and school-supported capacity-building initiatives to ensure equitable AI readiness across all teachers. This suggests that although many teachers have engaged in AI-related professional development, schools must address gaps in training access to ensure all teachers receive equitable opportunities to build competence in AI integration. Woodruff et al. (2023) and Nikolic et al. (2024) have stated that many teachers believe that AI has a strong potential to help them in building and making their teaching more effective, but they does not know how to utilize it properly that is why they hesitate to use it so Uygun (2024), Mutanga et al. (2024) and Tosun et al. (2024) have proposed that schools should advocate the use of AI in education and inculcate on the teachers mind that it will not replace them but instead help them to reduce their effort in finishing tasks and workloads.

4.10 Summary

Table 2.2 Summary of Level of Knowledge in Using AI Instructional Tools

Teachers' Level of Knowledge	**Frequency (n=105)**	**Percentage**
38-50 (Proficient)	69	65.71
26-37 (Highly Proficient)	31	29.52
14-25 (Proficient)	5	4.76
0-13 (Beginning towards Proficient)	-	-
Mean = 40.03	SD=7.65	

Table 2.2 presents the overall summary of teachers' level of knowledge in using AI instructional tools across proficiency categories. The largest proportion of teachers falls under the score range of 48–50 in which 69 out of 105 or 65.71 percent of the teachers are seen to have demonstrated a strong knowledge and mastery of AI tools for instruction. On the other hand, only 5 or 4.76 percent of the teachers were classified as Proficient, suggesting that minimal gaps exist within the group. The computed mean score of 40.03 and standard deviation of 7.65 indicate that teachers' overall knowledge level trends toward the upper proficiency ranges, with moderate variability among respondents. These results imply that Senior High School teachers generally possess strong foundational and applied knowledge of AI tools, enabling them to integrate AI confidently into instructional practices. However, the presence of a small number of teachers in the lower proficiency range suggests the need for targeted support and professional development to ensure equitable AI readiness across all members of the teaching workforce. Thus, it is really recommended for teachers to attend continuous professional development trainings and seminars in order to create an environment that is student-centered where AI offers them personalized learning as according to the studies of (García-López & Trujillo-Liñán (2025), Arya & Verma (2024), Joel et al. (2024|).

4.11 Teachers' Level of Attitude towards the Use of AI Instructional Tools

Table 3 illustrate the level of attitude to which the senior high school teachers behave on the use of AI instructional tools and integrate it across various instructional dimensions.

4.12 Teachers' Instructional Engagement

Table 3.1A Teachers' Instructional Engagement

A. Teachers' Instructional Engagement	**Weighted Mean**	**Descriptive Value**
1. Using AI tools enhances my engagement in planning and	3.11	Positive Attitude

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delivering instruction.		
2. AI tools help me create meaningful and innovative learning experiences for my students.	3.21	Positive Attitude
3. Using AI tools increases my active involvement in instructional improvement.	3.09	Positive Attitude
4. AI tools encourage greater participation and interaction in my classroom activities.	3.13	Positive Attitude
5. Teachers' Instructional Engagement	3.09	Positive Attitude
General Weighted Mean	**3.13**	**Positive Attitude**

Table 3.1A presents the teachers' level of attitude towards the use of AI in instruction across five dimensions. The first dimension is on Teacher's Instructional Engagement wherein an overall weighted mean of 3.13 tells that teachers have positive attitude towards instructional tools in which they believe that it support them in planning and delivering lessons faster and easier. Statements under AI enhancing meaningful experience and encouraging participation with a mean of 3.21 and 3.13 respectively further affirm that the senior high school teachers view AI as beneficial in improving classroom interaction. This finding suggest that senior high school teachers recognize the main role of AI in creating a learner-centered and providing engaging activities among learners that aid the classroom delivery of teachers. This implies that teachers have positive attitude towards AI instructional tools in which they are found to be ready to adopt AI enhanced instructional practices if and only if schools can strengthen access to resources needed and training for the integration of AI in their instruction. Kumar (2024) have underscored that teachers who does not receive enough training or any ethical concerns as to how AI is used in the teaching instructions will most likely to have difficulty in fully engaging and performing their very best in integrating AI in their classroom setting and it was suggested by Ravichandran (2024) that trainings should be given to all of the teachers wherein they have the equal opportunities to attend them to become aware as to how and know when to use these AI tools properly in their instruction.

4.13 Teachers' Interaction with AI Tools

Table 3.1B Teachers' Interaction with AI Tools

B. Teachers' Interaction with AI Tools	**Weighted Mean**	**Descriptive Value**
1. I agree that AI tools can effectively support answering and clarifying instructional content.	3.17	Positive Attitude
2. I am willing to interact with AI tools in the future to stay updated on current teaching trends.	3.29	Very Positive Attitude
3. I am willing to devote time and effort to exploring the instructional benefits of AI tools.	3.16	Positive Attitude
4. I feel comfortable obtaining teaching-related information using AI tools. I feel free to ask questions or request assistance from AI tools.	3.19	Positive Attitude
5. Teachers' Interaction	3.80	Very Positive Attitude
General Weighted Mean	3.32	**Very Positive Attitude**

Table 3.1B reflects the second dimension of the teachers' level of attitude towards the use of AI instructional tools in which it obtained the highest rating which is 3.32 particularly on Teachers' Interaction with AI Tools that means the senior high school teachers have very positive attitude towards the use of AI instructional tools. It can be seen that the teachers expressed their string willingness to interact with AI in the future (3.29) and demonstrated comfort in obtaining information through AI (3.19). The findings say that the teachers are very interested in exploring the emerging trends and applications regarding AI in education which motivates and reinforces them to open for continuous professional training programs and constant engagement during classroom sessions. This implies that teachers' very positive attitude toward interacting with AI tools with strong willingness to use them and comfort in accessing information positions them to readily adopt emerging AI applications when schools provide continuous training and structured support. When the support system coming from the school is very high then it is expected that teachers who are more open to new ideas will feel more confident in using AI in their teaching and learning process wherein, they can effectively integrate AI properly into their classroom instruction as found out by Viberg et al. (2023).

4.14 Behavioral Intentions toward AI Use

Table 3.1C Behavioral Intentions Toward AI Use

C. Behavioral Intentions Toward AI Use	**Weighted Mean**	**Descriptive Value**
1. I will use AI tools to support lesson planning, instruction, and assessment.	3.19	Positive Attitude
2. I plan to use AI tools regularly in my teaching practice.	3.07	Positive Attitude
3. I will recommend other teachers to use AI tools to enhance teaching and learning.	3.13	Positive Attitude
4. Behavioral Intentions	3.10	Positive Attitude
General Weighted Mean	3.12	Positive Attitude

Table 3.1C also shows the teachers' level of attitude towards the use of AI instructional tools towards Behavioral Intentions toward AI Use which is the third dimension wherein it shows a positive attitude towards teachers with a weighted mean of 3.12 suggesting that teachers wanted to use these AI instructional tools regularly in their instructional planning and during their assessments. Some of the noted statements wherein the teachers indicate an increasing acceptance towards AI as a supportive instructional partner were

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on their willingness to recommend AI to their colleagues (3.13) and their intention to use AI in their teaching practices (3.07). The results show that teachers hold a positive behavioral intention toward AI use, as they plan to use AI tools regularly, intend to integrate them into lesson planning and assessment, and are willing to recommend these tools to colleagues, indicating growing acceptance of AI as a valuable instructional partner. This implies that senior high school teachers see AI as a valuable tool, that is why they are planning to use it more frequently in their classroom applications. Cachapa et al. (2024) and Delello et al. (2025) have identified that teachers who have used AI more often are generally more willing to keep on using them and if they are unsure of using it, they tend to use the internet on how to properly by discovering it through online platforms in order to fully use its full potential.

4.15 Teachers' Satisfaction

Table 3.1D Teachers' Satisfaction

D. Teachers' Satisfaction	Weighted Mean	Descriptive Value
1. Using AI tools positively influences my satisfaction with instructional delivery.	3.11	Positive Attitude
2. I am satisfied with the outcomes of using AI tools in my teaching practices.	3.08	Positive Attitude
3. AI tools are effective for preparing lessons, instructional content, and learning materials.	3.18	Positive Attitude
4. I am satisfied with using AI tools as instructional tools.	3.16	Positive Attitude
5. Teachers' Satisfaction	3.15	Positive Attitude
General Weighted Mean	3.14	Positive Attitude

The fourth dimension on teachers' level of attitude towards the use of AI instructional tools is the Teachers' Satisfaction in which table 3.1D revealed that senior high school teachers have a positive attitude with the use of AI instructional tools garnering a rating of 3.14 which indicates that the teachers generally feel satisfied by using it in their classroom instruction and delivery. The statements in this dimension provided a recognition on the value of AI coming from the teachers such as its effectiveness in preparing lessons, instructional content and learning materials (3.18) and their overall satisfaction with it (3.16). these findings say that AI contributes positively to the teachers conveniency and efficiency, which aligns with the view of technological support in improving the quality of education through effective lesson planning and implementation of teachers. The results indicate that teachers show a positive level of satisfaction toward AI instructional tools, recognizing their effectiveness in lesson preparation and content development, which suggests that AI meaningfully supports teachers' convenience and efficiency in classroom instruction. This implies that those teachers who are experiencing consistent benefits from using AI promote it since it benefits and satisfy their needs especially in their instructional practices. On the other hand, Jose & Jose (2024) have discovered that there are still teachers who are not willing to use it because they worry that relying too much on it will reduce students creativity and participation that is why Uygun (2024), Aljabr & Al-Ahdal (2024) and Mehdaoui (2024) have concluded that there should be clear school policies which shows transparency about how technology works and proper training in order to help teachers feel more confident and supported.

4.16 Teachers' Instructional Performance

Table 3.1E Teachers' Instructional Performance

E. Teachers' Instructional Performance	Weighted Mean	Descriptive Value
1. The use of AI tools contributes to improvement in my instructional productivity.	3.21	Positive Attitude
2. AI tools help me improve my knowledge and instructional strategies.	3.25	Very Positive Attitude
3. AI tools help me enhance my teaching experience and instructional performance.	3.21	Positive Attitude
4. AI tools have a positive influence on my overall teaching effectiveness.	3.24	Positive Attitude
5. Improvement in Teachers' Instructional Performance	3.20	Positive Attitude
General Weighted Mean	3.22	Positive Attitude

Table 3.1E also shows the fifth dimension on teachers' level of attitude towards the use of AI instructional tools towards Teachers' Instructional Performance obtained a weighted mean of 3.22 which means that the senior high school teachers have positive attitude towards the use of AI instructional tools in classroom instruction indicating that teachers perceive AI as a helpful tool in making their teaching strategies and planning productive and effective. This reinforces the notion of teachers that AI can be used to support professional growth and improved classroom performance as shown in the table that teachers agreed that AI tools improve instructional strategies (3.25) and contribute to better teaching experiences (3.21). The results show that teachers hold a positive attitude toward AI instructional tools in enhancing their instructional performance, as evidenced by their agreement that AI improves teaching strategies, strengthens instructional effectiveness, and supports better overall classroom performance. This implies that there is a very high potential of teachers to elevate their instructional quality and strengthen their teaching performance within the senior high school setting though the use of AI instructional tools in their delivery of instruction. Nikolic et al. (2024) and Kizilcec (2023) have stated that when schools provide support among teachers and the right technology that they need in the integration of AI in the classroom setting then it will build a motivation for them to effectively and consistently utilize AI in their teaching pedagogy.

4.17 Summary

Table 3.2 Summary of Teachers' Level of Attitude towards the Use of AI Instructional Tools

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Summary of Teachers' Level of Attitude	Weighted Mean	Descriptive Value
1. Teachers' Instructional Engagement	3.13	Positive Attitude
2. Teachers' Interaction with AI Tools	3.32	Very Positive Attitude
3. Behavioral Intentions Toward AI Use	3.12	Positive Attitude
4. Teachers' Satisfaction	3.14	Positive Attitude
5. Teachers' Instructional Performance	3.22	Positive Attitude
General Weighted Mean	3.19	Positive Attitude

Table 3.2 presents the summary of teachers' level of attitude toward the use of AI instructional tools, showing an overall weighted mean of 3.19 which indicates that teachers generally hold a positive attitude toward AI integration in instruction. Among the five dimensions, Teachers' Interaction with AI Tools obtained the highest mean (3.32) suggesting that teachers feel have a very positive attitude wherein they are most confident and comfortable in engaging with AI to access information and explore emerging digital tools, while Teachers' Behavioral Intentions Toward AI Use yielded the lowest mean (3.12) implying that although teachers recognize AI's usefulness in enhancing engagement they are slightly more reserved when applying it directly in classroom interactions compared to their willingness to explore or interact with the tools themselves. This finding implies that teachers' openness to AI places them in a strong position for deeper AI integration, provided that schools reinforce instructional support, training, and opportunities for hands-on application. This trend aligns with the observations of Yue et al. (2024) and Veliganio et al. (2026), who reported that teachers tend to adopt AI more readily when they feel capable of interacting with AI platforms, though their instructional application strengthens further with sustained professional development and institutional support.

4.18 Teachers' Teachers' Practices in Using AI Instructional Tools

Table 4 illustrate the extent to which the senior high school teachers practice the use of AI instructional tools and integrate it across various instructional dimensions.

4.19 Instructional Integration

Table 4.1A Instructional Integration

A. Instructional Integration	Weighted Mean	Descriptive Value
1. I regularly use AI tools to support lesson planning and delivery.	2.66	Frequently Practiced
2. I integrate AI tools for content creation, assessment, or student engagement.	2.70	Frequently Practiced
3. I align AI tools with curriculum standards and learning competencies.	2.81	Frequently Practiced
4. I use AI tools to enhance instructional strategies across different subjects or grade levels.	2.85	Frequently Practiced
5. I incorporate AI tools in designing differentiated instructions for diverse learners.	2.74	Frequently Practiced
General Weighted Mean	2.75	Frequently Practiced

Table 4.1A illustrates the extent to which teachers practice AI integration across various instructional dimensions. The dimension on Instructional Integration yields a weighted mean of 2.75 in which it is interpreted as Frequently Practiced. This indicates that teachers regularly incorporate AI tools into lesson planning and delivery (2.66), as well as in content creation, assessment, and activities that enhance student engagement (2.70). Teachers likewise report frequent alignment of AI use with curriculum standards (2.81) and instructional strategies across subjects and grade levels (2.85). These results imply that AI is generally integrated into core teaching processes, helping teachers prepare differentiated learning experiences (2.74) and supporting instructional consistency across the classroom. These findings say that the teachers are frequently using AI instructional tools for their lesson planning and supporting their classroom activities. This suggests that while AI is becoming a regular part of teachers' instructional workflows, schools must strengthen collaboration and professional development to expand AI use beyond planning into more advanced and pedagogically complex functions. According to Holmes et al. (2021) some teachers use AI only at a basic level rather than fully integrating it into their daily lesson plans, that is why Walter (2024) have made it clear that teachers showing strong digital skills and clear teaching strategies are very essential in integrating AI in education effectively.

4.20 Tool Utilization

Table 4.1B Tool Utilization

B. Tool Utilization	Weighted Mean	Descriptive Value
1. I use specific AI platforms that I find effective for teaching.	2.98	Frequently Practiced
2. I select AI tools based on their usefulness in improving student engagement and outcomes.	2.91	Frequently Practiced
3. I explore various AI applications to support different instructional needs.	2.81	Frequently Practiced
4. I evaluate the effectiveness of AI tools used in my teaching practice.	2.84	Frequently Practiced
5. I adapt AI tools to suit the learning context and student needs.	2.80	Frequently Practiced
General Weighted Mean	2.87	Frequently Practiced

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In terms of Tool Utilization, the dimension under table 4.1B posts a weighted mean of 2.87 indicating that such practices are Frequently Practiced among senior high school teachers in their classroom delivery. Teachers consistently report selecting effective AI platforms to support instruction (2.98) and choosing tools that improve engagement and student outcomes (2.91). They also explore various AI applications (2.81) and adapt tools to fit learning contexts (2.80), suggesting that teachers demonstrate initiative and flexibility in AI adoption. Their frequent evaluation of tool effectiveness (2.84) further reflects thoughtful, reflective use of technology. The findings shows that teachers frequently utilize AI tools in their classroom delivery by selecting platforms that enhance engagement, improve student outcomes, and support instructional tasks through exploration, adaptation, and regular evaluation of tool effectiveness. This suggests that teachers are becoming confident and flexible AI users, highlighting the need for sustained institutional support to deepen their AI integration skills and ensure consistent, effective use across diverse instructional contexts. On the other hand, Wulandari (2024) have underscored that not all classrooms have equal access to technology and many teachers are unsure how to use AI tools without feeling like they are losing control of their own teaching methods since they lack the need training to fully utilize these AI instructional tools to its maximum potential. That is why in order to effectively use AI in schools, Farooqi et al. (2024) and Soni (2025) have suggested that there should be the presence of clear policies that will be established and inclusion of proper training for teachers to look into the transparency about how algorithms work and strong foundations through AI literacy programs.

4.21 Collaboration and Support

Table 4.1C Collaboration and Support

C. Collaboration and Support	Weighted Mean	Descriptive Value
1. I collaborate with colleagues to explore AI integration in teaching.	2.60	Frequently Practiced
2. I participate in school-wide initiatives related to AI in education.	2.33	Occasionally Practiced
3. I share best practices and experiences in using AI tools with peers.	2.46	Occasionally Practiced
4. I receive support from my school in implementing AI-driven instruction.	2.29	Occasionally Practiced
5. I contribute to discussions or projects involving AI in education.	2.19	Occasionally Practiced
General Weighted Mean	2.37	Occasionally Practiced

Collaboration and Support registers lower engagement as seen in table 4.1C in which the computed general weighted mean of 2.37 is described as Occasionally Practiced. While teachers frequently collaborate with colleagues in exploring AI (2.60), they only occasionally participate in school-wide AI initiatives (2.33) or receive strong institutional support (2.29). Sharing best practices (2.46) and contributing to AI-related discussions (2.19) are also not consistently practiced. This highlights the need for schools to strengthen collaborative cultures and provide structured support systems to encourage wider AI adoption. These findings indicate that teachers only occasionally engage in collaboration and receive institutional support for AI use despite frequently consulting colleagues while less often joining school-wide initiatives and sharing best practices or receiving administrative assistance. This suggests that schools need to strengthen structured support systems and collaborative opportunities to encourage wider and more consistent AI adoption among teachers. Kong et al. (2021) have made it clear that schools who are supporting their teachers in all the way possible to fully integrate AI in their classroom instruction will result to a positive integration of AI in education and will also help teachers improve how they use AI in their teaching. Further, Zhang & Dafoe (2022) have recommended that having strong support and collaboration coming from the school will greatly help the teachers to become more confident and skilled in exploring AI tools that they could utilize in their classroom instruction.

4.22 Professional Development

Table 4.1D Professional Development

D. Professional Development	Weighted Mean	Descriptive Value
1. I have attended training or workshops on AI integration in education.	1.91	Occasionally Practiced
2. I actively seek professional development opportunities related to AI.	2.33	Occasionally Practiced
3. I apply knowledge from AI-related training in my teaching practice.	2.45	Occasionally Practiced
4. I feel that professional development has enhanced my ability to use AI effectively.	2.56	Frequently Practiced
5. I stay updated on trends and innovations in AI for education.	2.65	Frequently Practiced
General Weighted Mean	2.38	Occasionally Practiced

Table 4.1D shows the dimension on Professional Development on the practices of teachers towards the use of AI instructional tools revealing a general weighted mean of 2.38 which is interpreted as Occasionally Practiced. Teachers rarely attend formal AI trainings (1.91) and only occasionally apply knowledge from such programs (2.45). Nonetheless, results show that some teachers seek opportunities to enhance their AI competence (2.33) and stay updated on educational AI trends (2.65). This indicates a developing interest in AI-related professional growth, though opportunities remain limited. Thus this implies that mixed engagement in this dimension suggests the need for more accessible, relevant, and sustained professional development programs. The study of Holmes et al. (2022) have shown that providing training programs and workshops among teachers works best when they are focusing on specific software which is paired according to their teaching strategies and field of expertise. However, Li et al. (2021) have argued that these current training

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programs being discussed among teachers are too generic and short, which only focuses on the main frame of the applications but not as to how it will be fully integrate and use its maximum capacity towards certain learning areas.

4.23 Success and Impact

Table 4.1E Success and Impact

E. Success and Impact	Weighted Mean	Descriptive Value
1. I have successfully implemented AI in lessons or activities.	2.68	Frequently Practiced
2. I have observed positive student outcomes from AI-integrated instruction.	2.61	Frequently Practiced
3. I can provide examples of effective AI use in my teaching.	2.61	Frequently Practiced
4. I believe AI has made a significant impact on my instructional practices.	2.72	Frequently Practiced
5. I plan to continue using AI tools to enhance teaching and learning.	2.80	Frequently Practiced
General Weighted Mean	2.68	Frequently Practiced

Table 4.1E shows the fifth the dimension the teachers' practices towards the use of AI instruction tools particularly on Success and Impact obtains a general weighted mean of 2.68 signifying Frequently Practiced AI-related accomplishments. Teachers report successful AI implementation in lessons (2.68) and observe positive student outcomes from AI integration (2.61). They are able to cite examples of effective AI use (2.61) and believe AI significantly contributes to improved instructional practices (2.72). Their intention to continue integrating AI tools (2.80) suggests growing confidence and perceived value of AI in enhancing teaching and learning. These findings indicates that teachers frequently practice AI integration, but greater institutional support and targeted professional development remain essential to elevate these practices further. This implies that while teachers frequently achieve positive outcomes from AI us such as improved lessons, better student results, and enhanced instructional effectiveness so the schools must still strengthen institutional support and provide targeted professional development to sustain and further elevate these successful AI-integrated practices. AlQahtani (2025) have made it clear that teachers who are utilizing AI to prepare their lesson schedules and using AI in classroom gradually organize classroom engagement properly and makes the learner focus in learning. Further, Brady (2025) have found that one in every seven students performs slightly better when AI is used in their teaching and learning process which shows that if these AI tools will be continued to be used in instruction, then it will provide more opportunities in shaping lessons more efficiently.

4.24 Summary

Table 4.2 Summary of Teachers' Practices in Using AI Instructional Tools

Summary on the practices of teachers in using AI instructional tools	Weighted Mean	Descriptive Value
1. Instructional Integration	2.75	Frequently Practiced
2. Tool Utilization	2.87	Frequently Practiced
3. Collaboration and Support	2.37	Occasionally Practiced
4. Professional Development	2.38	Occasionally Practiced
5. Success and Impact	2.68	Frequently Practiced
General Weighted Mean	2.61	Frequently Practiced

Table 4.2 presents the summary of teachers' practices in using AI instructional tools in their classroom instruction showing that the general weighted mean of 2.61 indicating that teachers frequently engage with AI in their instructional processes. The highest mean is seen in Tool Utilization (2.87) and Instructional Integration (2.75), suggesting that teachers commonly use AI for planning, preparing materials, and applying tools that directly support classroom instruction, likely because these tasks are simpler, familiar, and easy to automate. In contrast, Collaboration and Support (2.37) and Professional Development (2.38) received the lowest means, showing that teachers only sometimes participate in AI-related collaborations or training likely reflecting limited institutional support, insufficient training programs, or uneven access to professional development opportunities. This finding implies that while teachers independently integrate AI in their teaching, schools must enhance support systems, training opportunities, and collegial collaboration to strengthen AI adoption. This might be the reason why Jaramillo & Olivera (2024), Buenaventura-Delgado (2024) and Kodir (2025) have recommended that gaps on training should be made a consideration among school leaders and administrators to provide as well as the needed infrastructure and gadgets needed by the students during their class session.

4.25 Teachers' Challenges towards the Use of AI Instructional Tools

The use of Artificial Intelligence (AI) in teaching is becoming more common as schools look for ways to improve learning and make classroom tasks easier for both teachers and students. Because AI is new to many schools, understanding the challenges that teachers face is important so school leaders can provide the right support, training, and resources. Looking closely at these challenges helps identify what teachers need in order to use AI tools more effectively in their daily teaching tasks. Knowing these challenges will also help schools improve their programs for technological integration. By identifying what makes AI use difficult among senior high school teachers whether technical issues, lack of training, unclear policies, or limited resources then the administrators can plan better solutions to support teachers and

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improve classroom teaching with AI. The following themes and sub-themes show the most common problems that teachers shared in their responses. These themes summarize the difficulties teachers encounter when using AI tools for instruction. Based on their answers, five (5) major themes emerged.

Table 5. Themes, Sub-themes, and Verbatim Responses of Teachers' Challenges in Using AI Instructional Tools

Theme	Sub-themes	Verbatim Responses
1. Technical Challenges	1. Internet Connectivity Issues	*There are limited devices for students and even if they have smartphones there is no internet connection for them* - ***Respondent 33*** *Unstable internet connection during assessments and lesson planning within the school premises is one of the challenges we have in school* - ***Respondent 77*** *There are also times when slow internet connection made it hard for students to use AI based activities effectively.* - ***Respondent 13***
	2. Technical Glitches	*I experience a lot of difficulties whenever I use AI tools and keeps on getting technical glitches* - ***Respondent 15*** *I experience a lot of difficulty when technical glitches occur during lessons causing delays and affecting students engagement* - ***Respondent 13*** *Some of the challenges I encountered wherever I used AI tools are technical glitches* - ***Respondent 34***
	3. Lack of Technical Skills	*I find it difficult to explain how AI is used during classroom activity that required students to analyze and reflect on philosophical concepts* - ***Respondent 88*** *Some of the AI applications are not user-friendly* - ***Respondent 15***
	4. No Access to Devices	*Loack of devices can prevent equitable access for all students making it hard to implement AI tools effectively in classroom where not everyone has a computer or even a tablet* - ***Respondent 52*** *Lack of training and unavailability of tools for students to maximize the use of AI* - ***Respondent 38***
2. Pedagogical Challenges	1. Difficulty integrating AI into lessons	*One of the most frustrating situations is when an AI generates hallucinated facts or fake citations.* - ***Respondent 32*** *When using AI lesson planner for science class, the tool suggested activities that didn't align with our curriculum standards requiring extensive revision* - ***Respondent 30***
	2. Uncertainty in assessing learning with AI	*I experienced difficulty in using AI tools in teaching when the generated content was too general and broad which requires extra time to revise and verify for accuracy.* - ***Respondent 47*** *AI tools usually provide inaccurate and overly generated information that needed careful checking before using* - ***Respondent 7*** *Also, I am concerned about the accuracy of students output since they are relying too much on AI during their assessments* - ***Respondent 21***
	3. Concern about reduced teacher-student interaction	*I experienced difficulty when students became less engaged and rely too much on AI generated answers* - ***Respondent 11*** *I experienced difficulty in using AI tools when students become*

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		less engaged and rely too much on AI generated answers instead of participating in discussions and critical thinking activities. - ***Respondents 46***
	4. Low confidence or fear of mistakes	*Sometimes I am discouraged to use AI due to lack of proper training and the fear of making mistakes whiles using unfamiliar tools* - ***Respondent 13*** *AI eases some burden in my part as a teacher but with the constant change that the system has, using AI tools can be sometimes discouraging and terrifying to use* - ***Respondent 12***
3. Institutional and Policy Constraints	1. Lack of school policies on AI use	*There are no clear guidelines in AI integration plans in schools, that is why some students uses it freely* - ***Respondent 18*** *I used AI since it reduces time and effort in making lesson plans but lack of school policy guidelines on AI makes me resort from restricting my students from using it since they rely too much on it* - ***Respondent 58***
	2. No institutional support	*There is a limited hands-on training and clear institutional guidelines to us teachers in using AI in our classroom and the number of reliable devices and internet connectivity does not suffice the need of students* - ***Respondent 83*** *I am motivated to use AI tools in instruction because they save time, provide creative teaching ideas, and help support different types of learners, however, I feel discouraged due to the lack of training, time constraints and most especially limited institutional support.* - ***Respondent 21***
	3. No training programs	*There are no sufficient training given for AI use so the school administrator must conduct hands-on trainings and workshops* - ***Respondent 34*** *To use AI effectively for instruction, I would benefit from hands-on training and workshops that shows practical classroom applications.* - ***Respondent 21***
4. Ethical and Privacy Concerns	1. No ethical guidelines	*Students are using AI freely instead of using their critical thinking that why they over rely on AI so I think the presence of clear guidelines on using AI among schools should be made* - ***Respondent 19***
	2. Data privacy and ethical concerns (including bias)	*Some of the students resort to cheating while doing assessments in class in which they are using AI for academic dishonesty* - ***Respondent 22*** *AI helps me in saving time, provide opportunities in personalized lessons but I am discouraged since students use it for academic dishonesty* - ***Respondent 101***
5. Resource Limitations	1. Lack of time for AI implementation	*There are a lot of effort which is needed to insert some AI tools especially in math subject so instead of using it, it is easier to use a chalk* - ***Respondent 79*** *I have also faced technical glitches where the platform failed to load due to poor school connectivity, forcing me to pivot back to traditional methods mid-lesson* - ***Respondent 92***
	2. Difficulty funding AI resources	*Beside from giving seminars and trainings among teachers, DepEd should provide technical assistance and enough funding for the needed tools and equipment in school* - ***Respondent 65*** *The department must support*

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		the teachers by providing the needed resources in teaching with AI - ***Respondent 42***

4.26 Technical Challenges

Technical Challenges emerged as one of the most common difficulties teachers encountered when using AI instructional tools. Many of the respondents have shared their problems regarding their issues on their internet connectivity, technical glitches while using AI platforms needing technical assistance, and the availability of devices needed while integrating AI in their instruction.

4.27 Internet Connectivity Issues

The main barrier which have appeared among the technical challenges of the respondents is the unstable and weak internet connectivity during their classroom instruction with the aid of AI. Not only the teachers but also the students have experienced this problem, and it makes it difficult for them to access AI platforms which are needed to use online resulting in interrupted lessons and classroom engagement. This has been revealed by the responses of the respondents that the slow and unstable internet connection prevents the smooth implementation of AI-based activities especially when students only rely on the schools connectivity to complete their given tasks and activities.

"There are limited devices for students and even if they have smartphones there is no internet connection for them." – Respondent 33

"Unstable internet connection during assessments and lesson planning within the school premises is one of the challenges we have in school." – Respondent 77

"There are also times when slow internet connection made it hard for students to use AI-based activities effectively." – Respondent 13

4.28 Technical Glitches

Another technical challenge that surfaced during the integration of AI by the SHS teachers was on the frequent occurrence of technical glitches whenever they used AI platforms. Respondents have shared that system errors are appearing out of nowhere and it keeps from freezing their screens leading them to just abandon the tool to avoid malfunctioning and make it for having disruption and delays during the said engagement with AI platforms that is why some of them resort back to using traditional instruction method.

"I experience a lot of difficulties whenever I use AI tools and keep on getting technical glitches." – Respondent 15

"I experience a lot of difficulty when technical glitches occur during lessons causing delays and affecting students' engagement." – Respondent 13

"Some of the challenges I encountered whenever I used AI tools are technical glitches." – Respondent 34

4.29 Lack of Technical Skills

Many respondents have also noted that one of the main technical challenges that they encounter during their integration is the insufficiency of technical and digital skills among teachers. Some of the AI platforms that they have been using are not user-friendly that makes it difficult to navigate it completely while others are struggling to explain AI-based outputs among their students, especially when it comes to complex topics requiring a deeper interpretation before integrating it in their instructions.

"*I find it difficult to explain how AI is used during classroom activity that required students to analyze and reflect on philosophical concepts." – Respondent 88*

"Some of the AI applications are not user-friendly." – Respondent 15

4.30 No Access to Devices

Some of the respondents have emphasized that the lack of devices available for both teachers and students during the integration of AI in classroom integration is one of the key challenges in terms of technical barriers. The fact that that the limited access among laptops, computers and other tools restricts them from fully integrating AI in their classroom activities and without enough tools the teachers can not maximize the potential of AI in delivering lessons and supporting student learning.

"Lack of devices can prevent equitable access for all students, making it hard to implement AI tools effectively in classrooms where not everyone has a computer or even a tablet." – Respondent 52

"Lack of training and unavailability of tools for students to maximize the use of AI." – Respondent 38

4.31 Pedagogical Challenges

Another major concern which appeared among senior high school teachers in their integration of AI in their classroom instruction is the pedagogical barriers that hinders them to effectively use AI into their lesson delivery, assessment, and student engagement. Teachers explained that having inaccurate AI outputs and misaligned content reduces the interaction of teacher and learner which makes it difficult to use AI during actual teaching.

4.32 Difficulty Integrating AI into Lessons

One of the main challenges of teachers in their pedagogical barriers is their emerging difficulty in integrating AI into their lesson topics. Many of the teachers have explained that some of the Ai generated answers provided by the tools do not align with the curriculum standards of DepEd which require an extensive revision and sometimes misleading content. They have also revealed that these issues make lesson plan preparation more time consuming and it reduces their trust in using these AI platforms.

"One of the most frustrating situations is when an AI generates hallucinated facts or fake citations." — Respondent 32

"When using AI lesson planner for science class, the tool suggested activities that didn't align with our curriculum standards requiring an extensive revision."— Respondent 30

4.33 Uncertainty in Assessing Learning With AI

One more challenge that teachers have identified in using AI tools is their uncertainty in assessing student learning. They have reported that Ai often provide overly general or inaccurate response which makes it inconsistent that requires more effort to verify the accuracy and appropriateness of the AI tools which will be used in classroom instruction. They have also expressed their concerns regarding students who over rely on AI during assessments which may affect the authenticity of their work.

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"I experienced difficulty using AI tools when the generated content was too general and broad, which requires extra time to revise and verify for accuracy." — Respondent 47

"AI tools usually provide inaccurate and overly generated information that needed careful checking before using." — Respondent 7

"I am concerned about the accuracy of students' output since they are relying too much on AI during their assessments." — Respondent 21

4.34 Concern About Reduced Teacher–Student Interaction

Teachers also revealed that concerns about the reduced teacher and student interaction when AI is used excessively is one among their pedagogical challenges. Several of them responded that students become less engaged and depend heavily on these AI platforms which limits their opportunity to use their own efforts in using critical thinking and meaningful participation during discussion in class.

"I experienced difficulty when students became less engaged and rely too much on AI-generated answers." — Respondent 11

"I experienced difficulty in using AI tools when students become less engaged and rely too much on AI-generated answers instead of participating in discussions and critical thinking activities." — Respondent 46

4.35 Low Confidence or Fear of Mistakes

Another barrier was the teachers' lack of confidence and fear of making mistakes whenever using Ai tools in their classroom instruction. They have shared that due to limited training and rapid technological changes towards the modern way of teaching and learning process have make them hesitant to try integrating AI in their instruction because they are unfamiliar with these tools resulting to be discourage and reduce their willingness to explore new AI applications.

"Sometimes I am discouraged to use AI due to lack of proper training and the fear of making mistakes while using unfamiliar tools." — Respondent 13

"AI eases some burden on my part as a teacher, but with the constant change that the system has, using AI tools can be sometimes discouraging and terrifying to use." — Respondent 12

4.36 Institutional and Policy Constraints

Institutional and Policy Constraints surfaced from teachers' concerns about the absence of clear school guidelines, limited training, and insufficient administrative support for AI integration. Respondents emphasized that without structured policies and school-provided resources, integrating AI into instruction becomes inconsistent and challenging.

4.37 Lack of School Policies on AI Use

A major challenge that emerged is the absence of clear school policies regarding AI use. Respondents noted that without proper guidelines, students use AI freely and sometimes irresponsibly. Teachers also shared that vague or missing policies make it difficult for them to set limits on AI use in class.

"There are no clear guidelines in AI integration plans in schools, that is why some students use it freely."— Respondent 18

"I used AI since it reduces time and effort in making lesson plans, but lack of school policy guidelines on AI makes me resort to restricting my students from using it since they rely too much on it."— Respondent 58

4.38 No Institutional Support

Another challenge that emerged relates to the lack of institutional support in implementing AI tools. Respondents explained that limited hands-on training, unclear guidelines, unreliable devices, and inadequate connectivity hinder their ability to integrate AI effectively. This lack of support affects teachers' motivation and creates additional challenges in daily classroom activities.

"There is limited hands-on training and clear institutional guidelines for us teachers in using AI in our classroom, and the number of reliable devices and internet connectivity does not suffice the needs of students."— Respondent 83

"I am motivated to use AI tools in instruction because they save time and provide creative teaching ideas, but I feel discouraged due to the lack of training, time constraints, and most especially limited institutional support coming from the school." — Respondent 21

4.39 No Training Programs

Respondents repeatedly emphasized the absence of sufficient training opportunities as a major challenge. Many teachers expressed the need for structured, practical, and continuous training programs to strengthen their AI literacy and instructional skills.

"There are no sufficient training given for AI use so the school administrator must conduct hands-on trainings and workshops."— Respondent 34

"To use AI effectively for instruction, I would benefit from hands-on training and workshops that show practical classroom applications."— Respondent 21

4.40 Ethical and Privacy Concerns

Ethical and Privacy Concerns emerged as teachers expressed worries about academic dishonesty, data privacy risks, and the lack of ethical guidelines for AI use. These concerns show that AI can create unintended issues in the classroom when rules and safeguards are unclear or unavailable.

4.41 No Ethical Guidelines

A challenge that emerged relates to the lack of ethical guidelines for AI use in schools. Respondents noted that without proper rules, students tend to over-rely on AI instead of developing their critical thinking skills.

"Students are using AI freely instead of using their critical thinking that is why they over-rely on AI, so I think the presence of clear guidelines on using AI among schools should be made." — Respondent 19

4.42 Data Privacy and Ethical Concerns (Including Bias)

Respondents also shared concerns about data privacy, academic dishonesty, and potential AI biases. Teachers observed that some students use AI to cheat during assessments, while others warned about the risks of relying on inaccurate or biased AI outputs.

"Some students resort to cheating while doing assessments in class in which they are using AI for academic dishonesty." — Respondent 22

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"AI helps me save time and provide personalized lessons, but I am discouraged since students use it for academic dishonesty." — Respondent 101

4.43 Resource Limitations

Resource Limitations were identified as another major challenge due to the lack of time, funding, and necessary tools needed for effective AI use. Respondents reported that limited resources force them to rely on traditional methods, making it difficult to maximize AI's potential in teaching.

4.44 Lack of Time for AI Implementation

Another challenge that emerged relates to limited time for integrating AI into lessons. Respondents shared that preparing AI-based tasks often requires extra effort, especially in complex subjects, and technical problems force them to revert to traditional methods.

"There is a lot of effort needed to insert some AI tools, especially in math subject, so instead of using it, it is easier to use chalk." — Respondent 79

"I have also faced technical glitches where the platform failed to load due to poor school connectivity, forcing me to pivot back to traditional methods mid-lesson." — Respondent 92

4.45 Difficulty Funding AI Resources

Respondents also mentioned insufficient funding for AI-related tools and equipment. They expressed that schools need to provide more resources to support AI integration and help teachers maximize its potential.

"Besides giving seminars and trainings among teachers, DepEd should provide technical assistance and enough funding for the needed tools and equipment in school." — Respondent 65

"The department must support the teachers by providing the needed resources in teaching with AI." — Respondent 42

4.46 Creative Synthesis

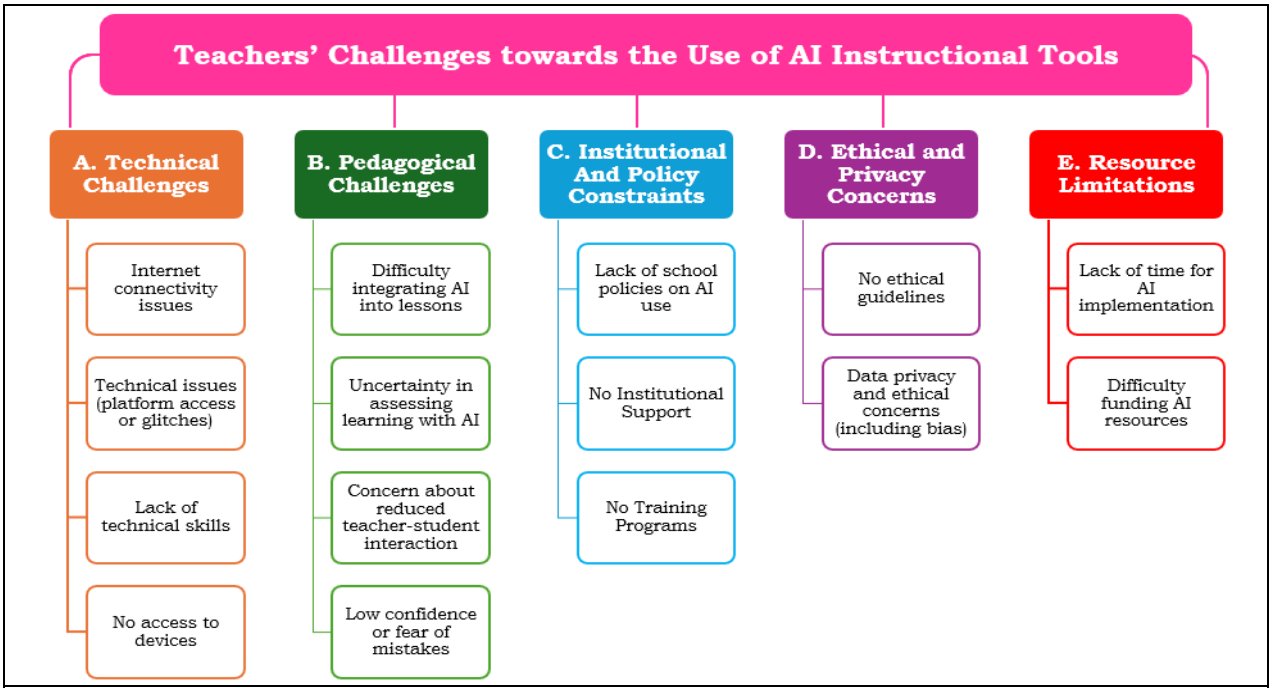

Figure 5. Themes and Sub-themes of Teachers' Challenges in Using AI Instructional Tools

The challenges faced by teachers in using AI tools show that the problem is not just about the technology itself but about the whole school environment needed to support it. Issues like weak internet, lack of devices, and glitches make it hard for teachers to use AI in real lessons, while problems in teaching such as checking accuracy, aligning AI outputs to the curriculum, and keeping students engaged which show that AI use requires guidance and careful planning. These challenges become heavier when schools do not provide clear policies, enough training, or strong support systems, leaving teachers unsure of how to use AI properly and safely. Ethical worries, such as cheating and data privacy, also reveal that AI use needs rules and responsible practices. With limited time, budget, and resources, teachers often end up doing extra work just to use AI in class. Taking together, these challenges suggest that schools must build stronger systems, clearer guidelines, and better training so teachers can use AI confidently, safely, and effectively to improve teaching and learning.

This is true with the study Ghimire & Edwards (2024) who have shown that the cost of technology is one of the hindrances among schools since they have limited funding in order to buy these software features and stock of resources to use this AI tools. Another barrier is what Sayari (2024) and Xu (2024) found in their study that widening gaps are still increasing and existing since their inequalities going on despite the potential of AI that it could offer in supporting a better instructional decision among teachers. Moreover, Hakimi & Shahidzay (2024) have suggested that collaborative designs should be planned according to certain assessment collected through the trainees in order to provide the specific trainings and workshops that they need in using AI in their instruction. Also, Abdurohman (2025) have mentioned that providing clear guidelines and policies within the proper and ethical use of AI should be the top priority in order to address the gaps among teachers as to how they will use it in their classroom teaching sessions and how will their students be limited as to how will they also use it during their self-paced learning.

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4.47 Difference on the Respondents' Level of Knowledge, Attitude and Practices Towards the Use of AI Instructional Tools when Grouped according to Profiles

Table 6 shows the difference on the respondents' level of knowledge, attitude and practices towards utilization of ai instructional tools when grouped according to profile variables along their personal, professional, and engagement on AI.

4.48 Difference on the Respondents' Level of Knowledge, Attitude and Practices Towards Utilization of AI Instructional Tools when Grouped according to Profile Variables

Table 6.1 Difference on the Respondents' Level of Knowledge, Attitude and Practices Towards Utilization of AI Instructional Tools when Grouped according to Profile

Variables	Level of knowledge regarding AI instructional tools			Attitude toward the use of AI instructional tools			Practices towards utilization of AI instructional tools		
	t-value	f/t	S.I.	t-value	f/t	S.I.	t-value	f/t	S.I.
I. Personal Profile									
A. Age (Years)	1.747	.146	NS	.637	.637	NS	2.068	.091	NS
B. Sex	1.240	.268	NS	.491	.485	NS	.385	.536	NS
C. Civil Status	.336	.715	NS	.199	.820	NS	.246	.782	NS
D. Economic Status (in Peso)	.114	.951	NS	2.472	.066	NS	1.696	.173	NS
II. Professional Profile									
E. Highest Educational Attainment	.660	.621	NS	.204	.935	NS	.338	.852	NS
F. Teaching Position	.028	.994	NS	1.777	.156	NS	.868	.461	NS
G. Years of teaching experience	.565	.689	NS	1.512	.204	NS	.735	.570	NS
H. Field of Specialization	.698	.674	NS	1.842	.088	NS	.962	.463	NS
I. Grade Level Taught	.048	.953	NS	.326	.722	NS	.135	.874	NS
J. Track and Strand Being Taught									
1. Academic Track	.943	.423	NS	1.929	.130	NS	1.157	.330	NS
2. TVL Strand	.980	.405	NS	.348	.790	NS	.790	.502	NS
K. Total number of hours on Trainings attended related to AI	1.591	.182	NS	.066	.992	NS	1.517	.203	NS
III. Profile on AI Engagement									
L. Devices used in Instruction	.208	.813	NS	.571	.567	NS	.354	.703	NS
M. Frequency of using AI applications	.577	.563	NS	1.933	.150	NS	**8.659**	**.000**	**H.S**
N. Frequency of using AI according to purpose	.913	.437	NS	**6.006**	**.001**	**HS**	**18.061**	**.000**	**H.S**

tested at 0.05 level of significance using paired t-test

N.S -Not Significant; S-Significant; H.S-Highly Significant; S.I-Statistical Inference

Table 6.1 presents the test of difference in teachers' level of knowledge, attitude, and practices toward the use of AI instructional tools when grouped according to their personal profile, professional profile, and profile on AI engagement. The analysis shows that all personal and professional profile variables in terms of age, sex, civil status, economic status, educational attainment, teaching position, years of experience, specialization, grade level taught, track and strand, and AI training hours have revealed no significant difference across teachers' knowledge, attitude, and practice which indicates that the personal and professional factors do not influence teachers' AI-related competencies. However, under the Profile on AI Engagement, two indicators have shown a highly significant differences particularly

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on the Frequency of using AI applications which has a t value of 8.659 and p value of 0.000 and on the Frequency of using AI according to purpose which has a t value of 18.061 and p value of 0.000 which means that teachers who use AI more frequently demonstrate significantly higher levels of AI practice and they have stronger attitudes toward AI use. These findings suggests that the actual usage of teachers rather than their personal or professional profiles drives meaningful variations in their AI integration.

This implies that increasing teachers' hands-on engagement with AI tools and not simply providing training may be the most effective pathway in strengthening their attitudes and practices toward AI-supported instruction. This finding aligns with Yue et al. (2024), who emphasized that sustained AI use builds confidence and competence, and with Veliganio et al. (2026), who found that frequency of technology engagement predicts higher instructional adoption. Further, Hazzan-Bishara et al. (2025) have identified that behind of what the teachers are already practicing in their daily routine is somewhat a factor of how will they accept the use of AI in their instruction most especially when they resist change and stays on traditional since they fear that students will think that they are irreplaceable and they do not have the confidence to use this AI tools in their classroom settings. Simply, Ma and Lei (2024) have made a conclusion that training programs regarding the proper use of AI in classroom instruction through actual hands-on workshops and experiencing will change their mind in order to address these challenges and major setback among teachers.

4.49 Post-hoc

Table 6.2 Post-hoc

Profile Variables		Dependent Variables	Category	Mean	SD	Mean Difference	Sig.	Statistical Inference
Frequency of using AI according to purpose	***Vs***	Attitude toward the use of AI instructional tools	***Always***	3.4577	.43850	.30246	.011	Sometimes, often and always are significantly higher than never
			Often	3.3586	.46871	.47697	.001	
			Sometimes	3.1841	.49796	.57603	.000	
			Never	2.8817	.38643			
Frequency of using AI applications	***Vs***	Practices towards utilization of AI instructional tools	***Often***	3.1760	.38637	.59724	.000	Sometimes and often are significantly higher than never
			Sometimes	3.0435	.53881	.72977	.022	
			Never	2.4462	.72606			
Frequency of using AI according to purpose	***Vs***	Practices towards utilization of AI instructional tools	***Always***	3.0985	.64717	.74348	.000	Sometimes, often and always are significantly higher than never
			Often	3.0345	.47253	1.13455	.000	
			Sometimes	2.6435	.61018	1.19846	.000	
			Never	1.9000	.63760			

Table 6.2 presents the post-hoc comparison of teachers' attitude and practices toward AI instructional tools based on their frequency of AI use revealing that the group of teachers who use AI always or often consistently score significantly higher than those who Never use AI particularly in their attitude towards the use of AI instructional tools with p value of .011 to .001 and practices of AI utilization with p value of .000. The highest mean scores were recorded among teachers who always use AI is 3.4577 for attitude and 3.0985 for practices indicating that frequent engagement with AI tools strengthens both their confidence and consistency in applying AI in classroom instruction, while the lowest means from 1.9000 to 2.8817 belongs to those who never use AI instructional use showing minimal development of AI-related competencies on them.

These results suggest that frequency of AI use is the primary factor driving meaningful differences in teachers' attitudes and practices, implying that regular exposure leads to greater familiarity, ease of use, and pedagogical integration of AI tools. This implies that increasing hands-on opportunities and guided usage of AI tools may substantially enhance teachers' instructional practices and acceptance of AI. Yue et. al (2024) have discovered that providing such training and workshops among teachers will greatly help them to efficiently and properly use AI into its maximum potential and will improve learners engagement and focus towards achieving better results in their academic achievements. Also, Viberg et. al (2023) have made it clear that AI is changing every time so instead of using it in small routine tasks why not use it into a more meaningful and accessible part of everyday teaching instructions of teachers which will result to not only make teachers but also students to become AI literate for the goal of the 21st century education.

4.50 Relationship between the Level of Knowledge, Attitude and Practices towards the Use of AI Instructional Tools

Table shows the relationship between teachers' level of knowledge, their attitudes, and their practices toward the use of AI instructional tools.

4.51 Relationship between the Level of Knowledge and Attitude towards the Use AI Instructional Tools

Table 7.1A Relationship between the level of knowledge and attitude towards the use of AI instructional tools

Independent Variables	Knowledge		
	r-value	P-value	Statistical Inference

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A. Attitude			
1. Teachers' Instructional Engagement	0.118	0.233	Not Significant
2. Teachers' Interaction with AI Tools	0.158	0.108	Not Significant
3. Behavioral Intentions toward AI Use	0.13	0.185	Not Significant
4. Teachers' Satisfaction	0.012	0.901	Not Significant
5. Teachers' Instructional Performance	0.078	0.431	Not Significant

tested at 0.05 level of significance using Pearson-r.

Table 7.1A shows the relationship between teachers' level of knowledge and their attitude toward the use of AI instructional tools. The table reveals that all p-values across the five attitude dimensions on Instructional Engagement (0.233), Interaction with AI Tools (0.108), Behavioral Intentions (0.185), Teachers' Satisfaction (0.901), and Instructional Performance (0.431) are higher than the 0.05 significance level which means an indication that there is no significant relationship between teachers' knowledge and their attitude toward the use of AI instructional tools.

This means that even when teachers differ in how much they know about AI, their attitudes toward using AI in instruction remain generally similar, suggesting that positive attitudes toward AI do not necessarily depend on high levels of technical or conceptual knowledge. This finding implies that factors other than knowledge such as interest, openness to innovation, institutional support, or personal motivation may play a greater role in shaping teachers' attitudes toward AI integration. This is connected from what Cayak (2024) have mentioned that AI integration in education will not be fully met even when teachers are technically skilled when they have still hesitated to adopt new technologies into their teaching instruction.

4.52 Relationship between the level of knowledge, and practices towards the Use of AI instructional tools

Table 7.1B Relationship between the level of knowledge, and practices towards utilization of AI instructional tools

Independent Variables	**Knowledge**		
B. Practices	**r-value**	**P-value**	**Statistical Inference**
1. Instructional Integration	0.055	0.615	Not Significant
2. Tool Utilization	-0.004	0.969	Not Significant
3. Not Significant Collaboration and Support	0.074	0.498	Not Significant
4. Professional Development	0.173	0.109	Not Significant
5. Success and Impact	0.132	0.224	Not Significant

tested at 0.05 level of significance using Pearson-r.

Table 7.1B presents the relationship between teachers' level of knowledge and their practices toward the utilization of AI instructional tools. The table shows that all practice dimensions along Instructional Integration (0.615), Tool Utilization (0.969), Collaboration and Support (0.498), Professional Development (0.109), and Success and Impact (0.224) have yielded non-significant results indicating that teachers' level of knowledge does not significantly influence how frequently or effectively they practice AI integration. This means that even teachers with higher levels of AI knowledge do not necessarily demonstrate stronger AI utilization practices than those with lower knowledge, suggesting that practice may be shaped more by contextual or experiential factors such as access to tools, institutional support, and frequency of actual AI use rather than knowledge alone. This implies that improving teachers' AI practices requires not only increasing knowledge but also strengthening hands-on engagement, providing supportive school environments, and ensuring accessible AI resources. Yue et. al (2024) have discovered that providing such training and workshops among teachers will greatly help them to efficiently and properly use AI into its maximum potential and will improve learners engagement and focus towards achieving better results in their academic achievements. Also, Viberg et. al (2023) have made it clear that AI is changing every time so instead of using it in small routine tasks why not use it into a more meaningful and accessible part of everyday teaching instructions of teachers which will result to not only make teachers but also students to become AI literate for the goal of the 21st century education.

4.53 Relationship between the Level of Attitude and Practices towards the Use of AI Instructional Tools

Table 7.1C Relationship between the Level of Attitude and Practices towards the Use of AI Instructional Tools

Independent Variables	**Attitude**		
	r-value	**P-value**	**Statistical Inference**
C. Practices			
1. Instructional Integration	0.023	0.835	Not Significant

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2. Tool Utilization	0.546	0.00	Highly Significant
3. Collaboration and Support	0.433	0.00	Highly Significant
4. Professional Development	0.55	0.00	Highly Significant
5. Success and Impact	0.597	0.00	Highly Significant

tested at 0.05 level of significance using Pearson-r.

Table 7.1C presents the relationship between teachers' level of attitude and their practices toward the utilization of AI instructional tools revealing that while Instructional Integration which has computed p value of 0.835 there is no significant relationship but on the other hand all of the other practice dimensions particularly on Tool Utilization with r value of 0.546 and p value of .000, Collaboration and Support with r value of 0.433 ad p value of .000, Professional Development with r value of 0.550 and p value of .000, and Success and Impact with r value of 0.597 and p value of .000 in which it exhibited highly significant relationships which indicates that teachers with more positive attitudes toward AI are more likely to actively use AI tools, collaborate with colleagues, seek professional learning, and experience positive instructional outcomes.

These findings suggests that attitude is a strong predictor of actual AI integration, meaning that teachers who value and believe in AI's usefulness are the ones who apply it more consistently and meaningfully in their teaching practices. This implies that strengthening teachers' attitudes toward AI through awareness campaigns, positive user experiences, and supportive policies can directly enhance their actual utilization of AI instructional tools. This finding aligns with prior studies of Yue et al. (2024) and Veliganio et al. (2026) in which they have emphasized that teachers' positive perceptions and openness to innovation significantly influence the frequency and quality of their technology integration behaviors.

4.54 Proposed Action Plan

Project I AIM READY: ***I****nstitutional* ***A****ction* ***M****odel for* ***R****eadiness,* ***E****thics, and* ***D****eployable* ***AI*** *in* ***E****ducation*

Rationale

The findings of the study revealed that Senior High School teachers possess basic familiarity with Artificial Intelligence (AI) applications and exhibit a positive attitude and willingness to integrate AI into their instructional practices. However, despite this readiness, the actual classroom integration of AI remains limited due to a range of interrelated challenges. These challenges include slow and unstable internet connectivity, frequent technical glitches, lack of access to devices, limited training opportunities, absence of clear school-based policies and ethical guidelines, insufficient institutional support, constraints in time, and inadequate funding for AI resources.

The convergence of these challenges indicates that the primary barrier to effective AI integration is institutional, rather than attitudinal or motivational. Teachers' willingness alone is insufficient without structured capacity-building programs, reliable technological infrastructure, clear policy direction, and sustained organizational support. In response to these findings, the I AIM READY Action Plan (Institutional Action Model for Readiness, Ethics, and Deployable AI in Education) was developed to systematically address these barriers.

I AIM READY provides targeted and coordinated solutions that focus on strengthening teachers' technical skills, pedagogical competence, ethical awareness, and access to institutional support mechanisms. Through a comprehensive and integrated approach, the action plan aims to bridge the gap between teachers' readiness and actual classroom practice, ensuring the responsible, meaningful, and sustainable integration of AI instructional tools in Senior High School instruction.

The rapid use of digital technology in the Philippine education system shows the need to include Artificial Intelligence (AI) in classroom teaching. This is supported by Republic Act No. 10533, which encourages the use of ICT and learner-centered teaching strategies. Republic Act No. 10929 also highlights the importance of reliable internet access in public schools to support digital learning. These laws are supported by Department of Education policies that promote ICT skills and digital literacy among teachers, as well as the creation of the Education Center for AI Research (E-CAIR), which promotes responsible and ethical use of AI. Through this action plan, schools can better integrate AI in teaching in a meaningful, ethical, and sustainable way that supports quality learning.

Objectives

Generally, the action plan aims to enhance the competence, confidence, and consistency of Senior High School teachers in integrating AI instructional tools by providing institutional support, capacity building, ethical guidance, and adequate resources aligned with the identified challenges of the study.

Specifically it seeks to:

1. To address teachers' limited AI practices by providing structured and continuous hands-on training aligned with subject-area instruction.
2. To mitigate technical barriers by improving internet connectivity, device availability, and on-site technical support.
3. To reduce dependence on traditional instruction by equipping teachers with practical strategies for AI-assisted lesson planning, assessment, and classroom implementation.
4. To establish clear school-based AI policies and ethical guidelines to regulate responsible AI use and prevent misuse and academic dishonesty.
5. To strengthen institutional support through leadership involvement, mentoring systems, and collaboration with external experts.
6. To address time and funding constraints by providing centralized resources, shared instructional materials, and school-supported AI infrastructure.

Participants/Person Involved/Responsible

The successful implementation of the action plan will need the active involvement of the different people in charge and groups within the community which are essential in ensuring the smooth

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coordination and monitoring of progress and accomplishment of all planned activities. The shared responsibility among administrators, teachers, and external partners on the program will create a school environment that is ready for integrating AI in education.

In order to fully operate the program, the following people are involved:

Persons Involved	Responsibility
School Head	Responsible in overseeing the overall implementation of AI and the policy alignment while ensuring institutional support for the program.
ICT Coordinators	Responsible in leading the technical assistance of troubleshooting and providing preparation of infrastructure and digital resources needed in the program.
Department Heads and Master Teachers	Accountable in assisting teachers in guiding and mentoring them as to how they will integrate AI in their instruction.
Senior High School Teachers	The main beneficiaries in the training and workshops in implementing AI in their classroom instruction.
External Trainers and Experts	Responsible in providing inputs and ideas during seminar training programs and workshops.
DepEd Personnel and Division ICT Personnel	Serve as consultants in the formation of ethical policy and clear guidelines as well as monitoring the process of the targeted action plan
Students	Participants in the pilot implementation by providing feedback and data on how to improve the plan and teaching strategies through the support of AI instructional tools.

Program and Timeline of Activities

The action plan will be implemented through organized and practical activities aimed at strengthening teachers' ability to integrate AI in instruction. These include teacher training, policy development, infrastructure support, mentoring, and monitoring activities that address the institutional challenges identified in the study. The program will be carried out over one complete school year and supported by school leadership, ICT coordinators, and partner stakeholders to ensure the effective, ethical, and sustainable use of AI in teaching.

The school commits itself to undertaking the following activities:

Strategies	Program	Activities	Task / Solution Provided	Resources	Timeline
Integrating technology in the curriculum and promoting student-centered learning	Project **CREATE** *(Cultivating Responsive Education through Advanced Technology and Engagement)*	• Conduct continuous, hands-on AI training sessions aligned with SHS subjects • Workshop on AI-assisted lesson planning, assessment, and feedback • Demonstrate low-bandwidth and offline-capable AI tools • Develop shared AI-assisted instructional resources	Addresses: Limited AI classroom practice, overreliance on traditional instruction, lack of training time • Train teachers through quarterly, structured workshops • Produce AI-integrated lesson plans and assessment tools • Establish a shared school repository to reduce lesson preparation time	Human: School Head, Curriculum Developers, ICT Trainers, Department Heads, Master Teachers, SHS Teachers Physical: Laptops, Wi-Fi, AI-enabled educational software Financial: ₱30,000.00	June 2026 – March 2027 *(Quarterly sessions)*
Improving infrastructure, access, and ensuring safety	Project **INSPECT** *(Infrastructure Safety and Performance Enhancement through Comprehensive Technology)*	• Conduct internet connectivity and device diagnostics • Deploy shared ICT devices for AI use • Train teachers on equipment handling, troubleshooting, and digital safety • Establish monthly ICT inspection and maintenance system	Addresses: Poor internet connectivity, device shortage, frequent technical glitches, safety concerns • Improve access through shared devices • Reduce downtime via regular diagnostics and on-site technical support	Human: ICT Coordinators, ICT Trainers, Teachers Physical: Laptops, Wi-Fi connectivity tools, maintenance checklist, software applications	June 2026 – March 2027 *(Diagnostics monthly)*

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			• Ensure safe and sustainable use of ICT resources	Financial: ₱15,000.00	
Strengthening institutional policy, ethics, and leadership support	Project **READY-ETHICS** *(Responsible and Ethical AI Deployment Program)*	• Develop and implement school-based AI policy and ethical guidelines aligned with DepEd and E-CAIR • Conduct ethics seminars on responsible AI use, academic integrity, data privacy, and bias • Orient students on ethical AI use during pilot implementation	Addresses: Absence of clear policies, ethical risks, academic dishonesty • Institutionalize clear AI rules and boundaries • Promote responsible and ethical AI use among teachers and learners • Prevent misuse and integrity issues	Human: School Head, DepEd & Division ICT Personnel, Master Teachers, External Experts Physical: Policy manuals, presentation tools Financial: ₱5,000.00	July 2026 – February 2027
Providing continuous technical and instructional support	Project **AIM-SUPPORT** *(AI Instructional Mentoring and Support System)*	• Implement peer mentoring and coaching by master teachers • Assign ICT coordinators for on-call technical assistance • Conduct lesson observations, coaching conferences, and feedback sessions	Addresses: Lack of institutional support, teacher confidence, time constraints • Reduce teacher anxiety and workload through mentoring • Provide continuous classroom-based support • Improve consistency of AI integration	Human: School Head, Master Teachers, ICT Coordinators, SHS Teachers Physical: Observation tools, coaching guides Financial: Integrated in school operations – MOOE or Local Funds	August 2026 – March 2027
Engaging stakeholders and ensuring sustainability	Project **CONNECT** *(Cultivating Opportunities through Networking and Engagement for Community and Technology)*	• Conduct stakeholder and community orientation on AI integration • Establish partnerships with DepEd offices, NGOs, and local agencies • Secure support for funding, training, and sustainability • Include AI integration in AIP and future SIP cycles	Addresses: Funding limitations, sustainability issues, weak external support • Strengthen institutional capacity through partnerships • Ensure long-term implementation via planning and budget integration	Human: School Head, Community Officials, Partner Agencies, Teachers Physical: Laptop, projector, MOA documents Financial: ₱5,000.00	September 2026 – March 2027

Budgetary Requirements

The successful implementation of action plan requires sufficient financial resources to support the planned training activities, infrastructure improvements, policy development, and monitoring processes. The proposed budget outlines the necessary expenditures to ensure that teachers are provided with adequate tools, technical support, and institutional assistance needed for the effective, ethical, and sustainable integration of Artificial Intelligence in instruction throughout one school year.

To support the action plan, the following budgetary allocations shall be provided:

Programs / Activities / Projects	**Materials**	**Quantity**	**Total**	**Source of Fund**

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Organization and Orientation of AI Implementation Team	Snacks	30 pcs	₱1,500.00	School MOOE
	Folders	10 pcs	₱200.00	School MOOE
AI Seminar-Workshop (Project CREATE)	Honorarium for AI Trainer	8 facilitators	₱8,000.00	School MOOE
	Training Handouts / Manuals	50 copies	₱2,000.00	School MOOE
	Bond papers	3 reams	₱690.00	School MOOE
ICT Equipment Procurement and Maintenance (Project INSPECT)	Shared Laptop / Tablet	2 units	₱10,000.00	School / LGU
	Router / Connectivity Tools	1 set	₱3,000.00	School MOOE
	ICT Repair and Maintenance	Lump sum	₱2,000.00	School MOOE
Internet Upgrade and Connectivity Support	Internet Load / Upgrade	Lump sum	₱6,000.00	School MOOE
	Backup Connectivity Support	Lump sum	₱4,000.00	School MOOE
AI Policy Development and Ethics Seminar (Project READY-ETHICS)	Resource Speaker Honorarium	1 speaker	₱3,000.00	School MOOE
	Printed AI Policy and Ethics Guidelines	30 copies	₱2,000.00	School MOOE
Instructional Mentoring and Monitoring (Project AIM-SUPPORT)	Observation and Monitoring Forms	Lump sum	₱1,500.00	School MOOE
	Documentation and Reporting Materials	Lump sum	₱1,500.00	School MOOE
Stakeholder Engagement and Partnership Activities (Project CONNECT)	Community Meeting Supplies	Lump sum	₱3,000.00	School MOOE / Partners
	AV Equipment Support	Lump sum	₱2,000.00	School MOOE
Supplies and Refreshments for Trainings	Training Supplies	Lump sum	₱3,500.00	School MOOE
	Refreshments	Lump sum	₱3,500.00	School MOOE
TOTAL			**₱65,000.00**	

Evaluation Mechanism

The evaluation of action plan is designed to determine the effectiveness of the implemented programs and activities in addressing the identified challenges in AI integration. It focuses on assessing teacher competence, classroom application of AI tools, infrastructure readiness, ethical compliance, and institutional support throughout the one-school-year implementation. The evaluation uses evidence-based indicators and systematic monitoring tools to ensure that each intervention results in measurable improvement rather than mere completion of activities.

Program / Activity	Evaluation Indicators	Evaluation Tools / Means	Timeline	Persons Responsible
Project CREATE (AI Capacity Building and Classroom Integration)	• Improvement in teachers' AI competency • Increased use of AI in lesson planning and assessment • Quality of AI-enhanced instructional outputs	• Pre- and post-training competency assessment tools • Review of AI-enhanced lesson plans and assessment portfolios • Classroom observation checklist	Quarterly (June 2026 – March 2027)	School Head, Department Heads, Master Teachers, ICT Coordinators
Project INSPECT (Infrastructure, Connectivity, and Safety)	• Improved internet connectivity and stability • Increased access to functional ICT devices • Reduced frequency of technical issues	• ICT inspection and diagnostics reports • Equipment inventory and maintenance logs • Teacher feedback forms	Monthly (June 2026 – March 2027)	ICT Coordinators, School Head

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Project READY-ETHICS (Policy and Ethical Integration)	• Compliance with school-based AI policies • Responsible and ethical AI use in instruction • Reduced incidents of AI misuse or academic dishonesty	• Policy compliance checklist • Observation notes and portfolio reviews • Seminar attendance and evaluation forms	July 2026– February 2027	School Head, DepEd/Division ICT Personnel, Master Teachers
Project AIM-SUPPORT (Instructional Mentoring and Technical Assistance)	• Consistent classroom implementation of AI • Improved teacher confidence and competence • Effectiveness of mentoring and coaching	• Coaching and mentoring records • Classroom observation reports • Teacher reflection journals	August 2026 – March 2027	School Head, Master Teachers, ICT Coordinators
Project CONNECT (Stakeholder Engagement and Sustainability)	• Active stakeholder participation and partnerships • Institutional support for AI integration • Inclusion of AI initiatives in AIP/SIP	• Attendance sheets and meeting minutes • Partnership agreements (MOAs) • Review of school plans and budget allocations	September 2026 – March 2027	School Head, Community Officials, Partner Agencies

Impact of the Action Plan

The action plan will enhance the overall quality of instruction by strengthening teachers' pedagogical and technological practices. With access to AI-assisted lesson planning, assessment tools, and instructional resources, teachers will be better supported in designing and delivering engaging, learner-centered lessons. This will promote a culture of innovation, collaboration, and continuous improvement within the academic community.

Academic Community: The action plan helps improve teaching by helping teachers plan and teach lessons better using AI tools.

Students: The action plan helps students learn better by making lessons more engaging and supportive of their thinking skills.

Faculty and Staff: The action plan helps teachers gain confidence and skills in using AI properly through training and support.

Stakeholders: The action plan helps prepare students to become AI-literate and ready for future jobs.

Community: The action plan helps the community become more aware of technology and prepare learners for a digital-driven society.

Post-Activity Documentations

The action plan will include photos and videos of training sessions, mentoring activities, and classroom AI implementation to serve as visual evidence of program execution. Attendance sheets, evaluation forms, and monitoring tools will be collected to track participation and assess implementation effectiveness. AI-enhanced lesson plans, assessment outputs, and teacher portfolios will be compiled to document actual classroom application. Further, narrative reports will be prepared to summarize accomplishments, challenges encountered, lessons learned, and best practices. All completed documentation will be submitted to the DepEd Division Office for monitoring, evaluation, and possible replication of the program.

5. Conclusion

This chapter presents the summary of the major findings of the study, conclusions, and recommendations for possible implementation.

5.1 Synthesis

The results of the study reveal that Senior High School teachers generally possess a moderate to high level of knowledge of AI instructional tools and demonstrate strong conceptual understanding, familiarity, technical proficiency, and pedagogical awareness, yet this knowledge does not consistently translate into advanced classroom integration. Despite teachers showing a positive to very positive attitude toward AI particularly in terms of instructional engagement, interaction with AI tools, satisfaction, and perceived impact on teaching performance in their actual practices remain largely task-oriented and limited to basic functions such as lesson planning, content creation, and tool utilization. The findings further indicate that collaboration, institutional support, and professional development related to AI use are only occasionally practiced, highlighting gaps in school-wide systems that are essential for sustained and effective AI integration. Moreover, teachers face persistent technical, pedagogical, institutional, ethical, and resource-related challenges, including poor internet connectivity, lack of devices, insufficient training, absence of clear policies, concerns on academic dishonesty, and limited time and funding. Taken together, these results affirm that the primary barriers to meaningful AI integration are institutional rather than individual, thereby justifying the development of a structured action plan that focuses on capacity building, infrastructure improvement, ethical policy formation, continuous mentoring, and strengthened institutional support to bridge the gap between teachers' readiness and actual classroom practice.

5.2 Conclusion

The findings of the study revealed that the familiarity of SHS teachers on the AI applications and in frequently using it according to purpose have exhibited a positive attitude towards their common practices in integrating AI instructional tools in their classroom. Nonetheless, this remains limited due to the significant challenges found while using AI instructional tools in their teaching and

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learning sessions on having slow internet connectivity, technical glitches, lack of devices, limited training, no clear policies and ethical concerns, and insufficient support coming from the institutions. These findings indicate that the main barrier is the absence of institutional support from training and resources needed even if the teachers wanted to integrate AI properly and efficiently in their teaching instructions. Thus, this study concludes that providing comprehensive capacity building programs and training workshops among teachers will address these intervening gaps definitely in enhancing their competence and increasing their confidence in using AI regularly while ensuring responsible and ethical use of AI instructional tools in meaningful and sustainable integration in education.

5.3 Limitation

This study was limited to Senior High School teachers from selected public secondary schools, which may restrict the generalizability of the findings to other educational settings. Since the data were gathered from teachers within the same institutional context, the experiences and challenges of educators from private schools, higher education institutions, or different regional settings were not captured and may yield different results. In addition, the study focused on teachers' self-reported knowledge, attitudes, practices, and challenges, which may be influenced by personal perceptions and may not fully reflect actual classroom implementation of AI instructional tools.

5.4 Recommendations

The following are hereby recommended based on the findings and conclusions of the study:

1. The SHS teachers may actively participate into attending trainings regarding AI literacy programs and workshops that will help them to increase their confidence and integration of AI instructional tools in their classroom setting.
2. School Administrators may need to continue providing support and funding among teachers and learners through provision of strong internet connection, pre-assessed training and seminars based on what SHS teacher's needs, and digital devices needed in classroom instruction.
3. DepEd Officials and Policy Makers may create clear guidelines and ethical policies on the proper and responsible use of AI across schools to define an accurate integration, ensure data privacy act, and avoid academic dishonesty among teachers and learners.
4. The Local Government Units may extend their help by providing funding support among schools in improving their infrastructure and resources needed on the integration of AI instructional tools in their institutions.
5. The students may be given orientation and training support from their schools so as to properly and ethically use AI in their learning sessions and avoid cheating and academic dishonesty,
6. Researchers may conduct parallel study in determining the effectiveness of the proposed action plan deeply grounded on the findings of the study.
7. Future Researchers may explore other factors such as curriculum programs, grade level, and hours spent in using AI to expand the understanding and develop new programs and plans that support a sustainable integration of AI in education.

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