

Empowering Educators: Exploring Teachers' Experiences in Integrating Artificial Intelligence Tools in Junior High School Classrooms

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Abstract

August 2025. This qualitative study explores the experiences, readiness, institutional support, and policy needs of junior high school teachers in integrating Artificial Intelligence (AI) tools into classroom instruction. Using semi-structured interviews with 20 participants, the study captures the diverse and grounded perspectives of educators navigating the emerging landscape of AI-enhanced teaching. Findings reveal that while many teachers are eager to utilize AI, they face challenges such as lack of structured training, tool complexity, ethical uncertainties, and limited administrative guidance. Teachers' readiness is often self-developed, shaped by peer collaboration and informal learning, rather than systematic capacity-building. Institutional support varies significantly across schools, with most teachers expressing the need for clear leadership, technical assistance, and dedicated focal persons to help resolve integration issues. Based on participants' insights, the study identifies key components for a sustainable professional development program, including hands-on workshops, mentorship, ethical and legal literacy, and learner-centered approaches. The results underscore the urgent need for policy frameworks that align AI integration with national educational goals, address equity of access, and reinforce ethical and pedagogical coherence. Teachers called for DepEd-issued guidelines, inclusion of AI practices in performance metrics, and budget allocation for tools and training. The study concludes by proposing targeted recommendations to support long-term, inclusive, and effective adoption of AI in junior high school education, emphasizing the importance of leadership-driven, context-sensitive, and collaborative strategies in achieving transformative outcomes.

Keywords: Artificial Intelligence in Education, Teacher Readiness, Institutional Support, Professional Development, And Policy Integration

Introduction

Background of the Study

The integration of Artificial Intelligence Tools (AI) tools has become increasingly vital in junior high school education as schools adapt to the demands of the digital age. The adoption of AI promotes student engagement and provides opportunities to develop 21st-century skills, yet its effective implementation remains a challenge in many educational contexts [1].

Barriers to technology integration are often categorized as external or internal, with external barriers such as inadequate access to equipment, unreliable internet connectivity, and insufficient professional development persisting even in systems with supportive policies [2].

For instance, the Department of Education's Computerization Program (DepEd Order No. 016, s. 2023) was designed to ensure public schools are equipped with appropriate technologies to enhance teaching and learning. However, the mere provision of hardware and connectivity is insufficient if teachers lack the necessary skills and ongoing training to integrate these tools into their instructional practices [3]. Internal barriers, including teachers' attitudes, self-efficacy, and motivation, can also significantly hinder the adoption of Artificial Intelligence approaches [4].

Research reveals that many teachers desire to use technology but are hampered by limited training, lack of technical support, and constraints in time and resources [3]. School leadership plays a critical role in supporting teachers through clear policies, professional development, and the cultivation of a collaborative culture that encourages innovation [1]. Effective policy frameworks should go beyond technology provision and focus on creating sustainable systems that build teacher capacity and ensure equitable access [5].

Given these realities, it is essential to examine the specific challenges and attitudes toward AI implementation in junior high schools. This inquiry must also consider how expanding teacher readiness and institutional support, guided by educational leadership, can address both external and internal barriers for meaningful technology integration.

Conceptual Framework

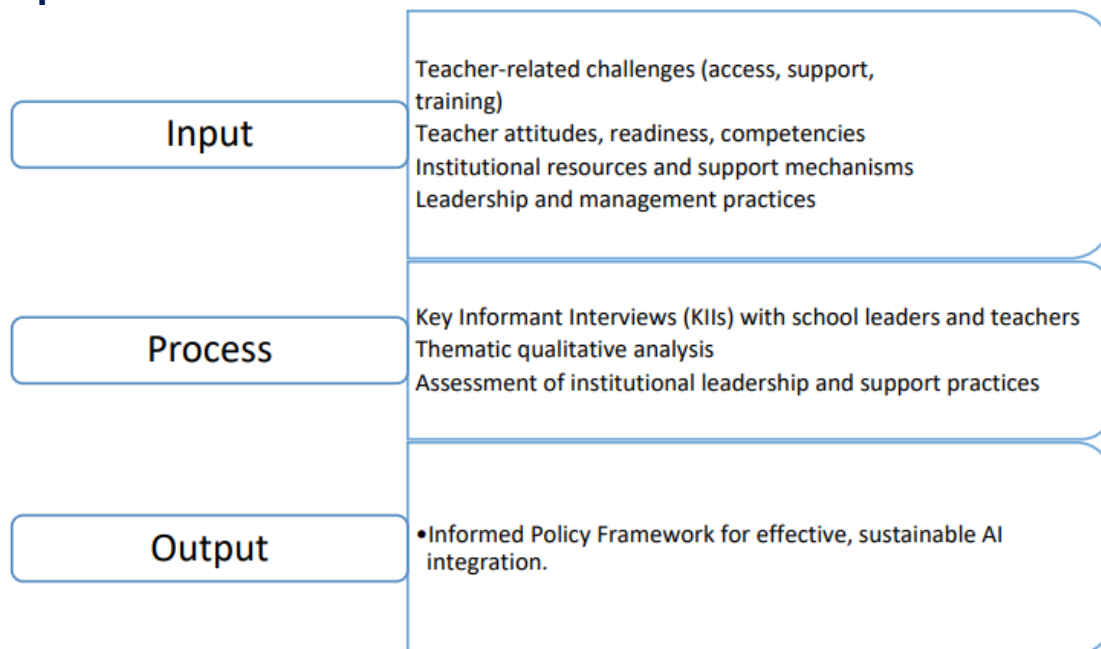


Figure 1: Conceptual Paradigm

The effective integration of Artificial Intelligence Tools (AI) in junior high schools is influenced by a complex interplay of factors that operate at both the individual and institutional levels. Teachers' readiness, encompassing their attitudes, competencies, and access to ongoing training, forms a critical foundation for successful adoption. At the same time, institutional resources such as the availability of up-to-date technology, reliable internet connectivity, and robust technical support play a pivotal role in enabling or constraining meaningful technology use. Leadership and management practices within schools further mediate these factors, shaping the overall culture, professional development opportunities, and the extent to which innovation is encouraged and sustained.

To systematically investigate these dynamics, this study employs an Input-Process-Output (IPO) conceptual framework. The "Input" stage encapsulates the independent variables that shape technology integration, namely the challenges encountered by teachers, their readiness and attitudes towards AI, the level of institutional support, and the effectiveness of school leadership. The "Process" focuses on qualitative inquiry, specifically through Key Informant Interviews (KIIs) with school leaders and teachers. These KIIs are analyzed thematically to surface patterns, perceptions, and contextual realities. This stage also involves examining the alignment between stated policies and actual practices, as well as identifying institutional strengths and gaps.

The ultimate "Output" of this framework is the formulation of an informed policy framework that addresses the unique barriers and enablers identified throughout the research. This output is envisioned as a set of actionable recommendations designed to bridge the gap between technology provision and effective classroom integration, tailored

to the realities of junior high schools. The IPO model, therefore, not only structures the inquiry but also ensures that the resulting policy guidance is rooted in the lived experiences and insights of teachers and school leaders, promoting sustainable and context-sensitive educational transformation.

Statement of the Problem (SOP)

Despite increased investments in digital infrastructure and ongoing educational reforms, the integration of Artificial Intelligence Tools (AI) in junior high schools remains fraught with challenges. Many teachers continue to face barriers such as insufficient access to appropriate hardware and software, inadequate training, and a lack of technical and administrative support. Even where technologies are made available through policy programs, gaps persist in actual classroom integration and pedagogical transformation. Teachers' attitudes, levels of readiness, and motivation are often overlooked or underdeveloped, further impeding effective use of AI. Additionally, leadership and management practices in schools vary widely, with some institutions struggling to foster environments that nurture teacher innovation and professional growth. These challenges highlight the need for a comprehensive understanding of both the obstacles and enablers in AI implementation, as well as the development of informed policy frameworks to guide sustainable change in educational leadership and management.

Research Questions

- What are the lived experiences of junior high school teachers in addressing the challenges of implementing artificial intelligence tools in the classroom?
- How do junior high school teachers describe their readiness and competence in integrating artificial intelligence tools into teaching and learning?
- What insights do teachers share about the forms of institutional support and leadership practices that influence the successful use of artificial intelligence tools in junior high schools?
- What key components can be drawn from teachers' experiences to inform a proposed professional development program that supports the integration of artificial intelligence tools in junior high school education?

Assumptions of the Study

This study operates under several key assumptions aligned to its research questions on the challenges, readiness, institutional support, and policy framework for the implementation of Artificial Intelligence Tools (AI) in junior high schools.

First, it is assumed that teachers and school leaders are capable of accurately identifying and articulating the main challenges they encounter in integrating AI into classroom instruction. This includes both external barriers such as limited resources or technical support and internal factors like their own competencies and attitudes. It is also assumed that teachers possess a sufficient level of self-awareness to evaluate and describe their readiness, confidence, and competence in using Artificial Intelligence tools for teaching and learning, and that they will respond honestly and reflectively during Key Informant Interviews (KIIs).

The study further assumes that institutional support structures and leadership practices significantly influence the effective adoption of AI. School leaders are presumed to play an active role in shaping the technological environment, providing professional development opportunities, and cultivating a culture supportive of innovation. Finally, it is assumed that the data gathered from teachers and school leaders will be rich and comprehensive enough to inform the development of a contextually relevant policy framework that addresses the identified challenges and promotes the sustainable use of Artificial Intelligence learning in junior high schools.

Significance of the Study

This study is significant as it offers a comprehensive understanding of the multifaceted challenges and opportunities involved in integrating Artificial Intelligence Tools (AI) in junior high schools. By examining both teacher readiness and the effectiveness of institutional support and leadership, the research provides valuable insights into the dynamics that shape the successful adoption of educational technologies. The findings will serve as a resource for developing more responsive and sustainable policy frameworks, ultimately aiming to enhance teaching and learning experiences in the context of 21st-century education.

Secondary school students

Students are the primary beneficiaries of improved Artificial Intelligence learning. This study's insights are expected to result in more engaging, student-centered learning environments where technology supports diverse learning styles and boosts digital literacy. Enhanced integration of AI can help students become more self-directed, collaborative, and equipped for future academic and career demands.

Science teachers and educators

For teachers, this study highlights the factors that affect their ability to adopt AI, including challenges, professional development needs, and available support structures. By articulating these concerns, the research encourages the creation of targeted training and resources that empower educators to confidently utilize Artificial Intelligence tools, innovate in their pedagogy, and foster more dynamic science instruction.

School administrators and curriculum developers

The findings offer administrators and curriculum planners a nuanced perspective on the institutional and infrastructural needs necessary for successful AI integration. This evidence can inform the design and implementation of policies, support systems, and professional learning communities, ensuring that investments in technology translate to real improvements in classroom practice.

Educational policymakers

Policymakers will benefit from context-specific recommendations on how to close the gap between technology provision and effective classroom integration. The study provides empirical evidence to guide the formulation or revision of guidelines, such as those related

to the Computerization Program, and promotes policies that support equitable access, continuous capacity building, and long-term sustainability.

Researchers in education and psychology

This research contributes to the growing body of literature on technology integration in education, particularly through its qualitative focus on teacher and leader perspectives. It identifies new areas for further investigation, such as the interplay of motivation, institutional support, and leadership, and provides a basis for comparative studies in different educational systems or subject areas.

Parents and guardians

For parents and guardians, the study underscores the importance of supportive home and school environments in fostering digital competence among students. It encourages stronger school-home collaboration and helps parents understand how institutional practices and teacher readiness can affect their children's educational experiences in an increasingly digital world.

Scope and Limitations

This study focuses on the challenges and attitudes surrounding the implementation of Artificial Intelligence Tools (AI) in junior high schools, with particular emphasis on expanding teacher readiness and institutional support through educational leadership and management. The research will be conducted in selected junior high schools, targeting school leaders such as principals, department heads, and other administrators as primary participants. By centering on school leaders' perspectives, the study aims to gain a comprehensive understanding of institutional challenges, leadership strategies, and support mechanisms that influence the successful adoption of AI.

The inquiry is limited to the qualitative data gathered through Key Informant Interviews (KIIs), which will capture rich, in-depth insights from participants. The focus is on institutional and teacher-related factors affecting AI integration rather than on direct classroom observations or student outcomes. As a result, the findings may not fully reflect the experiences of students or teachers in classrooms where school leaders' perspectives diverge from day-to-day realities.

Moreover, the study is constrained by its purposive sampling of school leaders in selected schools, which may limit the generalizability of the findings to all junior high schools or to different educational contexts. The reliance on self-reported data from participants introduces the possibility of bias or selective recall, and the rapidly evolving nature of educational technology may mean that some challenges or solutions identified could change over time. Despite these limitations, the study provides valuable insights into the institutional and leadership factors that shape the integration of Artificial Intelligence learning in junior high school settings.

Definitions of Terms

Blended Learning. An instructional approach that combines traditional face-to-face teaching with online or digital learning activities to enhance student engagement and accessibility.

Teacher Readiness. The extent to which teachers possess the necessary attitudes, knowledge, skills, and confidence to effectively implement Artificial Intelligence and blended learning strategies in their instruction.

Institutional Support. The policies, resources, leadership, and technical assistance provided by the school or educational system to enable and sustain effective technology integration and teacher innovation.

School Leadership. The actions and decisions of principals, department heads, and other school administrators in setting direction, supporting professional development, and managing resources to promote successful AI implementation.

Key Informant Interview (KII). A qualitative data collection method involving in-depth interviews with individuals (e.g., school leaders or teachers) who have specialized knowledge or experience relevant to the study's focus.

External Barriers. Obstacles to technology integration that exist outside the individual teacher, such as lack of hardware, unreliable internet, inadequate training, or insufficient administrative support.

Internal Barriers. Personal or psychological factors that hinder teachers' adoption of technology, including low self-efficacy, resistance to change, or limited digital skills.

Teacher Competence. The ability of educators to effectively select, use, and integrate Artificial Intelligence tools and digital resources into their teaching practice.

Student Engagement. The level of attention, interest, and participation that students exhibit in learning activities, particularly those involving interactive and digital tools.

Accessibility. The degree to which students and teachers can easily and reliably access digital learning resources, platforms, and technologies, regardless of technical or socio-economic constraints.

Policy Framework. A structured set of guidelines and recommendations developed from the study's findings, aimed at guiding schools and policymakers in the sustainable and effective implementation of AI.

Methodology

This chapter outlines the research design, participants, data collection methods, and analytical procedures employed in this study. The methodology is carefully structured to address the research questions concerning the challenges, readiness, institutional support, and policy frameworks related to the integration of Artificial Intelligence learning in junior high schools.

Research Design

This study adopts a phenomenological qualitative research design to investigate the challenges and attitudes surrounding the implementation of Artificial Intelligence learning in junior high schools. Phenomenology is particularly well-suited for this research as it seeks to explore and interpret the lived experiences, perceptions, and insights of school leaders who play a pivotal role in educational technology integration. By focusing on the essence of participants' experiences, this approach goes beyond surface-level description to uncover the deeper meanings and contextual factors that shape how Artificial Intelligence learning is understood, adopted, and sustained within educational institutions.

Using Key Informant Interviews (KIIs), the phenomenological design allows the researcher to gather rich, first-hand accounts of the realities faced by school leaders including the barriers they encounter, the institutional supports available, and the attitudes and competencies that influence technology adoption. This method emphasizes openness, reflection, and depth, enabling participants to share their perspectives in their own words and from their unique institutional contexts. The insights generated from this approach are invaluable in capturing the complexities and nuances that quantitative methods may miss, ultimately providing a solid foundation for developing informed policy frameworks and recommendations relevant to educational leadership and management. By centering on lived experience and subjective interpretation, the phenomenological qualitative research design ensures that the findings of this study are grounded in the authentic voices of school leaders, offering meaningful guidance for both practitioners and policymakers in the field of educational technology.

Sources of Data

The main sources of data for this study are 20 school teachers drawn from selected junior high schools, each with direct involvement in the implementation of Artificial Intelligence learning within their institutions. These key informants include principals, department heads, and other administrators who are responsible for instructional leadership, educational technology oversight, and policy implementation at the school level. The participants are purposively selected based on their active engagement in technology integration efforts and their capacity to provide informed insights on institutional challenges, teacher readiness, and support systems related to Artificial Intelligence learning. By collecting data from this group of experienced school leaders, the study aims to gather comprehensive and diverse perspectives that reflect the multifaceted realities of Artificial Intelligence learning adoption in junior high school settings.

Instrumentation and Data Collection

Data for this study will be gathered primarily through Key Informant Interviews (KIIs) using a semi-structured interview guide developed in alignment with the study's research questions and the key themes identified in the review of related literature. The interview instrument is designed to elicit in-depth responses on four main areas: (1) challenges faced in implementing Artificial Intelligence learning, (2) perceptions of teacher readiness and competence, (3) the nature of institutional support and leadership practices, and (4) recommendations or perspectives on policy frameworks for sustainable technology integration.

The semi-structured format allows for both consistency and flexibility ensuring that each research question is thoroughly explored across all participants, while also enabling the interviewer to probe further based on unique experiences and emerging insights. Questions are crafted to draw out school teachers' perspectives on technical and infrastructural barriers, professional development and digital competence, school culture and leadership roles, and systemic or policy-level factors that support or hinder the adoption of Artificial Intelligence learning.

The data collection process involves scheduling and conducting one-on-one interviews with 20 purposively selected school teachers from junior high schools. Each interview is audio-recorded, with the participants' consent, to ensure accuracy and facilitate detailed transcription and analysis. Supplementary notes may also be taken during interviews to capture non-verbal cues and contextual observations. The instrument and protocol are reviewed and refined through pilot testing to enhance clarity, relevance, and alignment with the research objectives.

By employing a carefully constructed and literature-aligned interview guide, and by focusing on the lived experiences of educational leaders, the study ensures that the data collected will be rich, reliable, and directly responsive to the central research questions. This approach provides a strong foundation for analyzing the complex interplay of factors influencing the integration of Artificial Intelligence learning in junior high school settings.

Tools for Data Analysis

The qualitative data collected from Key Informant Interviews will be analyzed using thematic analysis, following the principles of phenomenological research. Interview recordings will be transcribed verbatim, after which the researcher will engage in repeated readings to gain a deep familiarity with the data. Microsoft Word will be utilized as the primary tool for data management, coding, and organization. Transcripts will be imported into Microsoft Word, where highlighting, margin comments, and color-coded annotations will be used to systematically identify significant statements, patterns, and emergent themes.

The coding process will be guided by both inductive and deductive approaches, aligning initial codes with themes drawn from the review of related literature and research questions, while remaining open to new patterns that emerge from participants'

narratives. The data will be organized into thematic categories corresponding to the core areas of inquiry: implementation challenges, teacher readiness and competence, institutional support and leadership, and sustainable policy frameworks. The analysis will involve iterative comparison and refinement of codes to ensure depth, consistency, and rigor. Member checking or peer debriefing may be conducted to further validate the findings. This approach ensures that the analysis is systematic, transparent, and closely aligned with the study's objectives, while making practical use of Microsoft Word as an accessible tool for qualitative data analysis.

Results and Discussions

Challenges in Implementing Artificial Intelligence Learning in Junior High School Classrooms

Artificial Intelligence (AI) integration in education offers potential benefits such as improved instructional delivery, personalized learning, and teacher workload reduction. However, the voices of educators in junior high school settings reveal a far more complex picture, one where the promise of innovation is tempered by real-world barriers. Through lived experiences, teachers describe persistent struggles in technology access, professional capacity, pedagogical alignment, and institutional support. These narratives echo findings in current literature which emphasize that digital transformation in schools is not just a matter of introducing toolkit involves infrastructure, training, culture, and leadership [6,7].

Technical and Infrastructural Barriers

Limited infrastructure was a recurring theme in participants' accounts. Weak internet connectivity, lack of devices, and incompatibility with school systems consistently hindered AI adoption. These findings reinforce the observations of Abdulrahman et al. [7], who argue that without reliable infrastructure, AI initiatives fail to reach their transformative potential. Teachers in the study also emphasized that these limitations not only affect the logistics of instruction but also their motivation and engagement.

"The internet is slow, especially during peak hours." — Participant 1

"We're short on devices. Not all the kids have their own gadgets." — Participant 2

"Some AI tools are not compatible with the school network." — Participant 7

Such barriers are not merely technical inconveniences; they contribute to a deeper sense of digital exclusion that disrupts both planning and execution of lessons. The literature has long warned that uneven access to digital tools reinforces educational inequities [7].

Lack of Training and Professional Preparation

A second prominent theme is the lack of structured training and hands-on experience with AI tools. Teachers described feeling isolated and unsupported, often relying on trial-and-error methods to experiment with new technologies. These narratives support Huda's [6] assertion that the absence of ongoing professional development can discourage meaningful integration of AI in classrooms.

"There was no training, so I had to learn it on my own." — Participant 4

"Honestly, it's really just trial and error. No one gave us an orientation, so I just took the initiative." — Participant 5

"At first I was skeptical, but eventually, I saw the benefits." — Participant 11

Without institutionalized mentorship or peer coaching, teachers are left to navigate a rapidly evolving digital landscape on their own. This often results in inconsistent implementation and missed opportunities for maximizing student engagement.

Pedagogical Disruption and Engagement Limitations

Even when AI tools were accessible, their integration into pedagogy posed significant challenges. Teachers reported that technical issues, unfamiliar platforms, and mismatched content disrupted their lesson flow and compromised instructional quality. These classroom-level struggles align with the findings of Budiarto et al. [8], who noted that AI tools can feel misaligned with national curricula and traditional assessment practices.

"My teaching strategies are becoming limited." — Participant 1

"It's frustrating sometimes because I know there's a better way, but I just can't implement it." — Participant 6

"I can't fully maximize the creativity of my lesson plans." — Participant 12

These reflections highlight the pedagogical implications of insufficient preparation and tool misalignment. Teachers are often forced to revert to traditional methods, not out of preference, but due to practical limitations.

Tool Usability and Appropriateness

Participants provided varied insights about specific AI tools, pointing out usability differences and challenges in design compatibility. Their responses suggest that tools with simple interfaces, minimal setup, and immediate classroom relevance are more likely to be adopted. Complex tools, especially those with technical jargon or requiring customization, were seen as burdensome. This nuanced feedback reflects the idea that AI adoption is influenced by perceived ease of use and alignment with existing teaching practices [6].

"ChatGPT is easy to use, but the students still need guidance." — Participant 1

"I had a hard time with speech-to-text because it doesn't pick up our accent well." — Participant 9

"The tools that require training or customization are really difficult." — Participant 19

User interface design, language accessibility, and training requirements are critical factors shaping teacher uptake. The gap between tool potential and teacher usability must be bridged if AI is to scale meaningfully in classrooms.

Cultural and Psychological Resistance to AI Integration

Finally, teachers offered reflections on the broader cultural resistance and psychological barriers within schools. These include fear of AI replacing teachers, generational discomfort with technology, and lack of administrative guidance. Such perceptions resonate with global studies that emphasize how attitude, belief systems, and institutional culture affect innovation adoption [6,8].

"They're afraid of being replaced by AI." — Participant 1

"They're more comfortable with traditional methods." — Participant 4

"There's no clear directive from leadership." — Participant 7

The perception that AI is an external imposition rather than an instructional support reflects deep-rooted tensions between innovation and tradition. Without proper framing, teachers may view AI as a threat rather than a partner in education.

While junior high school teachers have begun to explore the affordances of AI in teaching, their collective experiences reflect the multidimensional barriers to its meaningful integration. Technical gaps, lack of preparation, pedagogical misalignment, and cultural resistance form an ecosystem of challenges that demand systemic interventions. To move forward, policymakers and education leaders must address not only the hardware and software of AI tools, but also the human and institutional frameworks that sustain their use in practice.

Teacher Readiness and Competence in Utilizing Artificial Intelligence Tools

Teachers' ability to effectively use Artificial Intelligence (AI) tools is not a fixed trait, but one shaped by evolving exposure, training, institutional support, and internal motivation. This theme uncovers how junior high school teachers in the study navigate their current competence levels and reflect on their preparedness for digital instruction. As emphasized in Linthaluk et al. [9], access to devices is no longer the problem — readiness lies in actual application and the support to do so with confidence. The sub-themes below further demonstrate this through real narratives that highlight varying confidence levels, learning experiences, and areas for growth.

Perceptions of Confidence and Capability

Participants revealed diverse levels of self-perceived readiness. While some confidently explore tools in their own time, many still view their competence as developing, particularly in areas requiring complex application. This echoes Maulyda et al. [10], who found that competence must be cultivated, not presumed. Teachers acknowledged that confidence grows with frequent exposure and peer collaboration.

"To be honest, it's just moderate. I'm not that confident yet, but I'm willing to learn." — Participant 1

"I'm confident in theory, but I'm nervous about the implementation." — Participant 16

"I still ask for help from the younger teachers." — Participant 18

Professional Development and Informal Learning

Many teachers credited their competence to self-directed learning via online content, informal mentoring, and occasional training sessions especially those from DepEd or EdTech groups. However, others noted that hands-on workshops and peer guidance were more impactful than webinars alone. This aligns with Azad [11], who emphasized that continuous, hands-on support especially through mentoring strengthens teacher capacity.

"I'm taking self-paced courses on DepEd Commons and YouTube." — Participant 2

"We do peer mentoring. I have a co-teacher who's really tech-savvy." — Participant 8

"I'm tuning into all the free webinars on digital education." — Participant 10

Staying Updated with AI Trends

Digital competence was also shown through proactive behaviors in discovering tools. Participants engaged with Facebook teacher communities, YouTube tutorials, and peer-sharing within their schools. The role of younger colleagues and even family members (like children) as informal trainers also surfaced — a finding echoed by Warsi and Rani [12], who highlighted the influence of non-institutional sources on teacher readiness.

"I usually find them in Facebook groups for teachers." — Participant 1

"I get them from webinars, especially the ones with CPD units." — Participant 5

"I sometimes stumble upon them by accident while searching for lesson content." — Participant 17

Motivational and Attitudinal Drivers

A recurring thread among participants was their internal motivation to remain relevant, ease workloads, or inspire students. These align with the affective dimension of readiness where positive attitudes serve as the foundation for exploring and sustaining innovation in teaching, as reinforced by Maulyda et al. [10] and Azad [11].

"I want to stay relevant and updated as a teacher." — Participant 1

"I feel inspired when I see my students enjoying the lesson." — Participant 9

"I'm really passionate about integrating technology into my teaching." — Participant 15

Training Needs and Competence Gaps

Despite growing interest and use, teachers identified specific areas requiring further training such as ethical AI use, localized tools, and prompt engineering. These findings echo Linthaluek et al. [9], who noted that teachers require differentiated support depending on their subject area and technological exposure. Teachers also expressed a desire for more contextualized and real-time support mechanisms.

"I want to get formal training on prompt engineering." — Participant 1

"I'm looking for AI that's specifically designed for the Philippine context." — Participant 9

"I wish there was a support group I could reach out to anytime." — Participant 18

Teacher readiness for AI is not simply a binary of skilled or unskilled — it is an evolving capacity shaped by initiative, informal learning, institutional culture, and perceived value. The voices captured here reinforce that professional development must move beyond one-size-fits-all models and instead provide responsive, hands-on, and sustained support tailored to the lived realities of public-school educators.

Institutional Support and Leadership Practices for Artificial Intelligence Learning

As schools embrace the integration of artificial intelligence tools into pedagogy, the success of such initiatives heavily relies on both the presence and quality of institutional and leadership support. Teachers' responses reveal that while openness to digital innovation exists in many junior high schools, the infrastructure, policy environment, and leadership guidance necessary for effective AI integration remain underdeveloped, inconsistent, or informal. These gaps not only impact teacher confidence and usage but also reflect broader systemic issues. Leadership support appears more symbolic than strategic, with a reliance on individual teacher initiative rather than structured, school-wide planning — confirming earlier findings by Uzorka and Kalabuki, who argue that the absence of coherent frameworks in school leadership can stifle sustainable innovation [13].

Informal and Inconsistent Support Mechanisms

Teachers described a patchwork of support ranging from shared accounts and tech-savvy co-teachers to tokenistic gestures like coffee breaks during tech meetings. While some schools provide devices or internet, these are rarely coupled with targeted AI training or sustainable institutional programs. As Shil emphasized, institutional backing must include clear direction, training pipelines, and resourced plans to transform digital potential into practice [14].

"For now, there's very little support. It's mostly personal effort on our part." — Participant 1

"Some admins are really supportive; they actually give us time for exploration." — Participant 5

"The school provided the devices, but there's no AI-specific training yet." — Participant 3

"To be honest, internet access is our only real support for now." — Participant 4

"We have a tech person at school who's always willing to help." — Participant 12

These testimonies suggest that while institutional support exists, it is reactive rather than proactive. The reliance on informal workarounds such as sharing subscriptions or voluntary LAC topics underscores the absence of centralized policy and systematic capacity-building, as also critiqued by Zamiri and Esmaili [15].

Symbolic Encouragement from Leadership but Limited Direction

Leadership is frequently perceived as encouraging innovation yet failing to model or institutionalize AI-related practices. This aligns with Behrendt and Smallfield's [16]

assertion that successful AI initiatives require leaders who participate in planning and capacity-building.

"Our principal is supportive but hands-off when it comes to the tech side." — Participant 1

"My department head is a total techie, and their energy is contagious!" — Participant 2

"They recognize it when we use AI integration in our outputs." — Participant 15

"They don't use AI themselves, so it's hard for them to model it for us." — Participant 6

"They post our AI success stories on the school bulletin board." — Participant 18

These responses illustrate that while recognition exists, strategic leadership is lacking. In most cases, teachers must lead the charge without clear modeling, formal incentives, or collaborative structures. Leadership encouragement is motivational but not accompanied by systems that facilitate learning, experimentation, or sustainability.

Absence of Clear Policies and Guidance Structures

Respondents universally noted the lack of formal school or division policies that directly address AI use. Without policy support, teachers feel uncertain and unsupported in applying AI tools in classrooms. This reinforces Rizqa et al.'s [17] call for AI-specific policy frameworks that account for ethics, privacy, budgeting, and accountability.

"There's no clear policy on AI in our school yet." — Participant 1

"The website filtering is a real hindrance; we can't access some AI tools." — Participant 11

"There's no evaluation tool yet to measure our AI integration." — Participant 10

"We have data privacy policies, but they aren't updated for AI use." — Participant 12

"Right now, AI is more tolerated than promoted." — Participant 20

These statements reflect a recurring concern: while AI is permitted, it remains under-regulated, lacking both technical guidance and evaluative tools. Without such structures, AI integration depends largely on teacher discretion, which compromises consistency, scalability, and ethical use.

Fragmented Leadership Response to AI-Related Challenges

Teachers expressed frustration over the slow, inconsistent, or absent responses from school leaders when challenges arise. Although there are instances of successful collaboration, many participants noted leadership's limited understanding of AI's classroom application, resulting in a trial-and-error environment. This echoes Uzorka and Kalabuki's view that institutional inertia and limited vision hamper long-term innovation [13].

"I asked for training, and the admin said, 'Let's see,' but there's been no follow-up." — Participant 3

"The leadership tried to support us, but they don't fully grasp the potential of AI yet." — Participant 12

"The admin gave me the go-ahead to get student assistants for my AI tasks." — Participant 18

"My AI-infused output was actually used as a sample in the faculty showcase!" — Participant 19

"There's some progress, but the support system is still very much trial-and-error." — Participant 20

The lack of structured feedback loops and timely interventions makes innovation precarious. Even when leaders support efforts, the absence of systems to monitor, scale, or support these initiatives leaves teachers vulnerable to burnout or stagnation.

Exploratory Yet Uncertain School Culture

Overall, school culture surrounding AI adoption is described as open yet directionless. While curiosity is welcomed and teachers are encouraged to experiment, this enthusiasm is not grounded in a strategic vision. Teachers feel that AI adoption is still peripheral — optional, fragmented, and unevenly distributed.

"They're supportive in spirit, but there's no concrete action yet." — Participant 2

"They're willing to learn, but there's no clear direction yet." — Participant 4

"We have a culture of experimentation, but nothing is documented." — Participant 12

"The whole school is still in the exploring stage with AI." — Participant 20

"There are some passionate teachers, but AI hasn't gone mainstream yet." — Participant 17

These responses point to a promising yet fragile environment where teacher-driven efforts thrive without system-level reinforcement. As Shil [14] notes, enthusiasm alone cannot sustain technological transformation — institutions must align values with action, and curiosity with structure.

Policy Frameworks for Sustainable Integration of Artificial Intelligence Learning

In the face of accelerating digital transformation, the sustainability of artificial intelligence (AI) integration in junior high school education hinges not only on technical access but also on deeply rooted policy guidance. Without coherent frameworks that anticipate ethical dilemmas, resource allocation, capacity-building, and continuous learning, even the most promising AI initiatives remain fragmented. Teachers' reflections in this section reveal a strong, urgent call for structural reforms, institutional leadership, and systemic responsiveness. Their insights are consistent with literature on sustainable education technology ecosystems, which underscore the criticality of alignment between practice, policy, and pedagogy [18,19].

Clear National and School-Level Guidelines are Urgently Needed

Teachers emphasize the absence of clear, actionable policies governing AI use in schools, echoing Kioupi and Voulvoulis' call for structured, participatory policy formation rooted in system thinking and global standards [19].

"The school should come out with a formal policy for AI use in the classroom." — Participant 1

"There should be a nationwide AI resource that matches our learning competencies." — Participant 6

These statements reflect a shared perception that while experimentation is welcome, there is no blueprint to guide integration, leading to uncertainty and inconsistency across institutions. Without clearly defined mandates, schools operate in fragmented contexts where teacher efforts risk misalignment with institutional goals.

Investment in Capacity-Building and Leadership Preparation

Sustainable policy integration is not only about tools but about people. As Huang et al. [20] argue, building AI competence must involve both educators and administrators, with ongoing support structures embedded within school operations.

"We need continuous capacity-building, not just a one-time thing." — Participant 3

"We should train school leaders first so they can support teachers better." — Participant 7

These remarks recognize that sustainable AI use requires a shift in organizational culture from compliance to empowerment. Policy, in this case, must support professional development as a continuum, not a singular event, and must prepare leadership to act as both facilitators and innovators.

Alignment with Institutional Plans and Performance Metrics

Integrating AI into formal education should not be peripheral to school operations. Moro et al. [21] assert that sustainability depends on scalability and serviceability, which in education translate into integration with planning instruments and performance evaluations.

"Include AI integration in RPMS and IPCRF objectives." — Participant 5

"Make AI a priority in SIP and AIP." — Participant 16

These responses reveal that teachers seek structural anchoring for AI practices, ensuring they are not seen as "extra" work but rather as part of core instructional planning and accountability frameworks.

Resource Access and Infrastructure as Foundational Policy Concerns

Sustainability begins with access. Several participants highlighted that policy must go beyond training and include infrastructure, internet connectivity, and technical support. This aligns with the Triple-S framework [21], which calls attention to practical implementation conditions.

"Allocate budget for AI tools and training." — Participant 2

"Ensure access to reliable internet and devices." — Participant 8

Such feedback affirms the understanding that meaningful integration of AI tools must be supported by adequate logistics. Without equitable access, the potential for digital transformation becomes an engine of further stratification.

Inclusion, Collaboration, and Responsiveness in Policymaking

Teachers also voiced the importance of democratic participation in shaping AI education policy. This supports Kioupi and Voulvoulis' [19] framework, which promotes the engagement of educators as co-constructors of sustainability.

"Involve teachers in policymaking about AI." — Participant 10

"Regular consultation with teachers about AI challenges." — Participant 17

These sentiments stress that policies should reflect the contextual realities of the classroom. Listening to teacher experiences allows for more grounded, effective, and adaptable implementation strategies.

Ethical Formalization and Long-Term Collaboration

Finally, ethics remains a prominent concern. Teachers consistently call for formal structures to guide the responsible and equitable use of AI in education. This is in line with Huang et al.'s [20] assertion that sustainable frameworks must include the moral dimensions of digital transformation.

"Address ethical concerns formally through DepEd Orders." — Participant 15

"Collaborate with tech companies for localized tools." — Participant 14

"Establish partnerships with universities doing AI research." — Participant 18

Policy must provide not only protections but also platforms for innovation through multi-stakeholder engagement. These insights echo Shahzad et al. [22], who emphasize that policies grounded in ethical foresight and iterative evaluation ensure relevance and trustworthiness over time.

The aggregated reflections of teachers in this section affirm that sustainability is not a fixed point but a process — one shaped by collaboration, strategic investment, and institutional courage. AI in education, when paired with deliberate, adaptive policy, holds the power not just to automate tasks but to reimagine learning itself.

Proposed Policy Framework for Sustainable Integration of Artificial Intelligence in Junior High School Education

I. Framework Overview

This policy framework addresses the urgent need for structured, inclusive, and sustainable integration of Artificial Intelligence (AI) tools in junior high school teaching and learning. Grounded in teachers' lived experiences and supported by contemporary research [18-21], the framework identifies five interlocking policy domains: Governance,

Capacity-Building, Infrastructure, Ethics, and Monitoring. Each domain includes actionable components that reflect the needs of educators and the realities of the classroom.

II. Key Policy Domains and Components

Domain	Policy Component
Governance	<ul style="list-style-type: none"> • Issuance of clear national and school-based guidelines on AI use • Integration of AI objectives into SIP, AIP, RPMS, and IPCRF • Inclusion of teacher voice in policy development and revision
Capacity-Building	<ul style="list-style-type: none"> • Mandatory hands-on training on prompt engineering, AI-enhanced instruction, and ethics • Leadership training for principals and department heads • Establishment of peer coaching and AI mentoring systems
Infrastructure	<ul style="list-style-type: none"> • Provision of reliable internet, devices, and school-level technical support • Budget allocation for AI tools and professional development
Ethics and Inclusion	<ul style="list-style-type: none"> • DepEd Orders specifying ethical use, data privacy, and accountability • Contextualized training for SPED, assessment, and equity-based AI practices • Inclusion of values formation and media literacy in AI modules
Monitoring and Support	<ul style="list-style-type: none"> • Creation of AI focal persons in schools and clusters • Institutional partnerships with tech companies and universities • Continuous feedback mechanisms, AI clinics, and learning communities

III. Policy Implementation Guidelines

- Start with School Leadership: Equip school heads with foundational AI knowledge to drive school-wide integration and mentoring.
- Professional Development Structure:
 - Initial blended-format training (online + in-person)
 - Modular self-paced content with recorded demos
 - School-based coaching sessions and trial applications
 - Certification and recognition systems to motivate implementation
- Follow-up and Sustainability:
 - Monthly AI meetups, chat support groups, and refresher clinics
 - Technical helpdesks and cluster-based AI ambassadors
 - AI integration updates through division bulletins
- Ethical Integration Protocols:

- Mandatory inclusion of topics on plagiarism, privacy, algorithmic bias, and academic integrity
- Role-play, ethical case studies, and student guidance modules
- AI use policies made transparent to learners and parents
- Monitoring and Feedback:
 - Collection of teacher feedback quarterly
 - Inclusion of AI integration metrics in school performance reports
 - Updates to policy based on user experience and tool evolution

IV. Framework Objectives

- Align AI integration with SDG 4: Inclusive and equitable quality education
- Provide scaffolded support to educators and leadership for competent AI use
- Institutionalize ethical safeguards and inclusion measures
- Establish feedback and innovation loops between schools and policy institutions

V. Summary Recommendations

1. Issue a formal DepEd Order with comprehensive AI integration guidelines.
2. Integrate AI into national performance targets and curriculum guides.
3. Provide sustained, differentiated training for both teachers and leaders.
4. Ensure equitable access to tools, internet, and technical support.
5. Formalize ethics training as part of all AI-related programs.
6. Involve teachers in policy crafting, tool evaluation, and innovation pilots.
7. Build institutional partnerships to maintain relevance and innovation.
8. Monitor implementation through adaptive evaluation and feedback systems.

Summary of Findings, Conclusions, and Recommendations

Summary of Findings

1. On the lived experiences of junior high school teachers in addressing the challenges of implementing artificial intelligence tools in the classroom, participants revealed a strong interest in using AI but struggled due to the lack of proper orientation and limited knowledge on prompt crafting, lesson alignment, and classroom application. They emphasized the need for basic support like login assistance, tool familiarization, and content integration guides. Teachers recognized AI's usefulness in instruction and assessment, but their experiences were uneven depending on tool accessibility, training exposure, and instructional demands.
2. Regarding the readiness and competence of teachers in integrating AI tools into teaching and learning, the data showed that most teachers are eager to use AI but often rely on self-taught strategies, peer advice, and social media updates to stay informed. Their competence varies, with some already exploring AI-enhanced instruction and others just beginning. Teachers identified the lack of training in specific areas such as assessment design, ethical use, and AI tool comparison as significant barriers to feeling fully prepared.
3. On institutional support and leadership practices that influence the successful use of artificial intelligence tools in junior high schools, responses highlighted inconsistent leadership approaches and insufficient structural backing. While some schools offer webinars and internet access, others have no structured support or

follow-through. Participants stressed the need for focal persons, school-level policies, and leadership-driven culture that welcomes innovation. Peer-led learning, technical assistance, and administrative modeling were seen as missing or informal at best.

4. Concerning key components that can be drawn from teachers' experiences to inform a professional development program, participants recommended a modular, hands-on training format supported by mentorship, community learning, and follow-up mechanisms like AI clinics and digital helpdesks. They also proposed training content that balances technical skill-building with ethical awareness and classroom management strategies. Recommendations included structured support for SPED, online and face-to-face integration, parent communication, and resource-sharing systems. Participants underscored the need for DepEd guidelines, budget allocation, inclusion in performance metrics, and recognition for innovative practice to ensure long-term, system-wide adoption.

Conclusions

The findings of this study affirm that while junior high school teachers exhibit a strong willingness to integrate Artificial Intelligence (AI) tools into classroom instruction, their efforts are often constrained by gaps in training, inconsistent institutional support, and a lack of clear policy direction. Teachers' lived experiences reveal both the transformative potential and the practical difficulties of using AI in everyday teaching — from navigating tool interfaces to aligning AI-generated outputs with lesson objectives and student needs. Their readiness is shaped largely by self-initiated learning, informal peer support, and sporadic exposure to digital trends, highlighting a critical need for structured capacity-building. School leadership plays a pivotal role, yet its influence remains uneven across contexts; the absence of focal persons, clear policies, and proactive administrative guidance has left many teachers to navigate AI adoption on their own. More importantly, teachers emphasized that a sustainable and ethical integration of AI in education requires comprehensive training programs that go beyond technical proficiency, incorporating ethical literacy, values education, and inclusive strategies. The collective voice of educators points to a pressing demand for a coherent, context-sensitive policy framework — one that supports experimentation, ensures equity of access, and bridges the gap between innovation and classroom realities. These conclusions underscore the need for a strategic, system-wide approach to AI integration that empowers educators and aligns with long-term educational goals.

Recommendations

- Develop a clear, comprehensive DepEd policy specifically addressing the use of AI in basic education, including guidelines for ethical use, assessment integration, and teacher responsibilities.
- Allocate dedicated funding for AI tools, infrastructure upgrades, and long-term training programs to support equitable access and usage across all junior high schools.

- Design and implement a modular professional development program that includes hands-on workshops, prompt writing sessions, lesson planning with AI, and subject-specific applications.
- Incorporate AI integration competencies into RPMS and IPCRF to formally recognize and incentivize innovative teaching practices.
- Establish a system of AI coordinators or focal persons at the school level to provide ongoing mentoring, troubleshoot implementation issues, and cascade updates from higher offices.
- Introduce mentorship and peer coaching models that pair experienced AI-using teachers with those less familiar, promoting collaborative learning and localized capacity-building.
- Integrate training on data privacy, intellectual property, and responsible AI use within all AI-related programs, including discussion of bias, misuse, and values alignment.
- Facilitate the creation of teacher learning communities, such as chat groups, local forums, or monthly AI clinics, to sustain engagement and practical support after initial training.
- Develop and distribute localized AI teaching templates, assessment rubrics, tool comparison guides, and instructional materials adaptable to different learning environments and student needs.
- Ensure that school leaders and administrators are trained first on AI integration to create a supportive top-down culture that models innovation and guides implementation with vision and accountability.

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