BRIDGING THE EDUCATIONAL DIVIDE WITH CHATGPT'S INTEGRATION IN PHILIPPINE HIGHER EDUCATION: Q-METHODOLOGY AND NARRATIVE INQUIRY STUDIES

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ABSTRACT

Aim/Purpose	This paper investigates the integration of ChatGPT in Philippine higher education institutions (HEIs). It explores whether ChatGPT bridges or deepens educational divides, particularly in the context of the urban-rural gap, ethical concerns, and cultural resistance to technological change.
Background	Focusing on Philippine HEIs, the research addresses the problem by exploring the adoption patterns, faculty preparedness, and the impact of cultural and socioeconomic factors on ChatGPT integration in Philippine HEIs, using a mixed-methods approach combining Q-Methodology and Narrative Inquiry.
Methodology	The study employs a mixed-methods approach, combining Q-Methodology to identify shared viewpoints among stakeholders and Narrative Inquiry to provide rich contextual insights. The research sample includes 27 participants (15 students and 12 faculty members) from both urban and rural Philippine HEIs.
Contribution	This research develops a culturally sensitive framework for ChatGPT integration. It advances understanding of how local factors shape academic integrity, pedagogy, and institutional adoption. This study pioneers a Q-Narrative hybrid approach to reveal how AI adoption barriers are statistically patterned and experientially lived.
Findings	This study explores how Philippine universities adopted ChatGPT's free version (GPT-3.5) in September 2023. It revealed three distinct approaches among educators and students: (1) Ethical Tech Advocates who emphasized responsi-

ble AI use, (2) Balanced Learning Integrators who blended ChatGPT with traditional teaching methods, and (3) Pragmatic Efficiency Seekers who focused on overcoming resource limitations through AI tools.

ChatGPT can enhance inclusivity but may exacerbate inequalities when digital literacy and infrastructure disparities exist. Ethical concerns, such as academic integrity and over-reliance on AI, significantly influence technology acceptance. The urban-rural divide creates significant barriers to equitable access and effective implementation of ChatGPT.

Recommendations for Practitioners	Adopt context-sensitive ChatGPT guidelines, promote digital literacy, and address infrastructure gaps to ensure equitable access. Encourage ethical AI use through transparent discussions and balanced assessments.
Recommendations for Researchers	Prioritize longitudinal studies, cross-context comparisons, and solutions for the urban-rural divide. Validate tools to assess AI-enhanced learning.
Impact on Society	The findings highlight the dual potential of ChatGPT to either bridge or deepen educational divides, emphasizing the need for equitable access, ethical guidelines, and culturally sensitive integration strategies.
Future Research	Future studies should focus on longitudinal impacts, comparative analyses across educational contexts, and the development of ethical frameworks and assessment methods for AI integration.
Keywords	ChatGPT, Q-methodology, artificial intelligence, higher education, urban-rural divide, cultural sensitivity, academic integrity

INTRODUCTION

Artificial intelligence (AI) is transforming global education, with tools like ChatGPT offering unprecedented opportunities for personalized learning, administrative efficiency, and pedagogical innovation (Zootzky & Pfeiffer, 2024). In the Philippines, where ChatGPT usage ranks among the top five globally (Piquero, 2024), its integration into Higher Education Institutions (HEIs) presents both promise and challenges. However, the adoption of ChatGPT is not uniform; systemic inequalities, cultural norms, and a stark urban-rural divide shape it. While urban HEIs rapidly adopt ChatGPT, rural institutions face barriers like poor connectivity and low digital literacy (Achruh et al., 2024), exacerbating equity concerns.

This disparity forces educators and policymakers to confront critical questions about equity, ethics, and pedagogy. ChatGPT could democratize education, but uneven adoption may worsen inequalities. Rural students and educators face barriers like unreliable connectivity and limited institutional support, issues urban counterparts rarely encounter (Estrellado & Miranda, 2023). Also, cultural resistance to technological change and ethical concerns, such as academic dishonesty, data privacy, and potentially eroding critical thinking skills, further complicate ChatGPT's adoption (Abbas et al., 2024; Karkoulian et al., 2024). These concerns shape stakeholder acceptance and necessitate culturally sensitive integration strategies, aligning AI tools with local pedagogical values and infrastructural realities (Frimpong, 2024).

Despite growing global research on AI in education, few studies examine how the Philippines' local cultural and institutional factors influence ChatGPT adoption. This gap is significant because the Philippine educational landscape is uniquely characterized by the following:

- A tiered HEI system with varying resources and policy support.
- Cultural resistance to abandoning traditional teaching methods.
- Infrastructural disparities between urban and rural areas.

To address this gap, this study investigates ChatGPT integration in Philippine HEIs through a mixed-methods approach combining Q-methodology and Narrative Inquiry, building upon previous studies by Espartinez (2024, 2025). This dual methodology captures shared stakeholder perspectives (Q-methodology) and rich, contextual experiences (Narrative Inquiry), offering a comprehensive understanding of the challenges and opportunities in AI adoption.

RESEARCH OBJECTIVES AND QUESTIONS

The study aims to:

- Identify stakeholder viewpoints on ChatGPT integration, focusing on ethical, pedagogical, and institutional dimensions.
- Explore adoption patterns across urban and rural HEIs, examining how infrastructure, culture, and policy shape implementation.
- Provide evidence-based recommendations for equitable and ethical ChatGPT use in Philippine HEIs.

To achieve these objectives, this study adopts a mixed-methods approach combining Q-methodology (to quantify stakeholder perspectives) and Narrative Inquiry (to contextualize lived experiences). This dual design captures three key dimensions of ChatGPT integration: (1) students' perceptions of its impact on learningrefere, (2) teachers' attitudes toward pedagogical integration, and (3) ethical concerns shaping technology acceptance. These dimensions are operationalized in the following research questions:

- How do urban and rural students differ in ChatGPT access and learning outcomes?
- How do teachers in varying institutional settings navigate ethical and pedagogical challenges?
- What ethical concerns do students and teachers associate with ChatGPT, and how do these concerns influence their acceptance of the technology?

The findings will provide a culturally sensitive framework to guide policymakers in promoting equitable adoption, support educators in pedagogical integration, and help institutions address ethical concerns. While this study focuses on Philippine HEIs, its findings may inform similar challenges in other developing nations facing infrastructural and cultural barriers to AI adoption (UNESCO, 2023).

This paper begins by synthesizing global and Philippine literature on AI in education, examining how ChatGPT operates within existing technological inequities and cultural contexts. I then outline my mixed-methods approach, which combines Q-methodology with Narrative Inquiry to capture diverse stakeholder perspectives. The findings section presents distinct adoption patterns and challenges across urban-rural educational settings through factor analysis and thematic narratives. Following this, I explore implications for equitable AI integration, providing contextualized recommendations for different resource environments. The paper concludes by highlighting the study's contributions to emerging frameworks for AI equity in developing educational systems.

LITERATURE REVIEW

Prior studies across various countries have examined ChatGPT's potential benefits and challenges in academic settings (Baig & Yadegaridehkordi, 2024; Sandu et al., 2024). This research builds upon existing literature (Espartinez, 2024, 2025) by investigating the Philippine academic landscape, where technological integration must consider unique cultural and institutional factors.

While there is growing interest in AI and ChatGPT in education globally, a critical gap exists in understanding how cultural and institutional factors specific to Philippine HEIs influence their adop-

tion and utilization. This study addresses this gap by exploring the perspectives of students and faculty in the Philippines, providing insights into how local contexts shape AI integration in academic environments.

AI IN GLOBAL HIGHER EDUCATION

AI has significantly transformed HEIs by revolutionizing teaching and learning (Bancoro, 2024; Espartinez, 2024; Kumar et al., 2024). AI-powered tools, such as intelligent tutoring systems and adaptive learning platforms, enable personalized learning experiences tailored to individual student needs, while predictive analytics help identify at-risk students and improve retention rates (Grassini, 2023; Ray, 2023). Recent studies highlight the growing role of AI in enhancing accessibility for students with disabilities through voice recognition and intelligent content adaptation systems (Zhang et al., 2022). Ethical, cultural, and social considerations are central to integrating generative AI into education. While AI tools can enhance learning outcomes, they also raise concerns about data privacy, algorithmic bias, and the potential for misuse (Karkoulian et al., 2024). Also, the lack of digital literacy in underserved communities may hinder the effective use of these tools, further exacerbating educational inequities (UNESCO, 2023). Pedagogical challenges, including over-reliance on AI tools and the potential decline of critical thinking skills, highlight the need for careful implementation and ongoing evaluation of AI's role in education (Abbas et al., 2024). These challenges underscore the importance of balancing technological innovation with preserving traditional educational values (Netland et al., 2025). While AI has revolutionized education globally, tools like ChatGPT represent a significant advancement in generative AI, offering unique opportunities and challenges.

ChatGPT'S ROLE IN ENHANCING HIGHER EDUCATION

Among recent AI innovations, ChatGPT has emerged as a game-changing tool in HEIs, fundamentally altering traditional educational approaches through its diverse capabilities. Research indicates that ChatGPT offers multi-dimensional support across the educational ecosystem, serving various stakeholders in distinct yet complementary ways (Espartinez, 2024). ChatGPT is an adaptive learning companion available 24/7 for students, offering explanations tailored to individual learning styles and paces. It provides alternative explanations for complex academic concepts, making difficult material more accessible through varied approaches. The technology also generates diverse perspectives and starting points for essays, research projects, and creative assignments while offering immediate, constructive feedback on drafts and practice exercises, allowing for iterative improvement before formal submission. Further, ChatGPT assists non-native speakers with language comprehension and production, potentially reducing linguistic barriers to academic success (Magalhães Araujo & Cruz-Correia, 2024).

ChatGPT streamlines course design for educators through content suggestions, learning objective formulation, and alignment with educational standards. It assists in developing diverse assessment instruments, from multiple-choice questions to case studies, saving valuable preparation time. Administrative efficiency is enhanced as the technology automates routine communications, FAQ responses, and document drafting, allowing faculty to focus on higher-value activities. ChatGPT helps create varied instructional materials that address diverse learning needs and preferences while providing accessible support for faculty exploring new teaching methodologies or subject areas (Alkhresheh, 2024).

The potential for ChatGPT to serve as an equalizing force in education is particularly significant in contexts with resource limitations. It provides instant access to explanations and information without requiring extensive library resources or specialized databases. The technology offers additional teaching support in institutions facing faculty shortages or limited specialization while lessening reliance on expensive textbooks and proprietary educational materials. ChatGPT accommodates non-traditional students' diverse schedules and responsibilities and provides graduate assistance that can benefit first-generation students without extensive academic support networks (Achruh et al., 2024; Cabuquin et al., 2024; Mhlanga, 2023).

Despite its promise, ChatGPT integration into higher education presents substantial challenges related to academic integrity. Traditional plagiarism detection tools often cannot identify AI-generated content, raising questions about the validity of take-home assignments when AI assistance is available. Concerns persist about whether AI dependence might undermine the development of critical thinking and writing skills. Technological dependence presents another set of challenges, including the risk that over-reliance might atrophy students' independent analytical capabilities and potentially erode students' ability to evaluate source quality and reliability. Effective use requires technical competencies that not all students possess, creating potential barriers to adoption.

Equity and access issues further complicate ChatGPT implementation in educational contexts. Disparities in internet connectivity and device access determine who benefits from AI tools, while variations in technological literacy affect the effectiveness of utilization. Current AI models demonstrate stronger performance in dominant languages, potentially disadvantaging students working in other languages. These implementation challenges are particularly pronounced in developing contexts like the Philippines (part of the 'Global South,' where resource constraints are more common), in contrast to the 'Global North' (typically wealthy, technologically advanced nations in North America, Europe, and parts of Asia). Here, cultural and institutional factors create additional adoption barriers. While AI transforms education globally, its adoption varies widely – a gap explored next in the Philippine context.

CHALLENGES IN THE PHILIPPINE CONTEXT

The adoption of ChatGPT in Philippine higher education institutions presents a complex landscape shaped by unique socioeconomic and cultural factors that demand careful consideration. The digital divide represents the most significant barrier, starkly contrasting urban and rural educational settings across the archipelago. Urban universities, particularly those in Metro Manila and other major cities, benefit from relatively modern technological infrastructure and more reliable internet connectivity, positioning them advantageously for AI tool integration (Agbong-Coates, 2024; Cabuquin et al., 2024; Giray et al., 2024). In contrast, rural and provincial institutions face formidable challenges, including intermittent or absent broadband access, outdated computing facilities, and significantly lower levels of technological literacy among students and faculty (Torrato et al., 2024).

These technological disparities create fundamentally different starting points for ChatGPT implementation, with some institutions struggling to maintain basic digital learning environments while others explore advanced AI applications (Villarino, 2024). Recent empirical studies document trends of widening disparities between urban and rural educational institutions across the Philippines. Research by Villarino (2024) reveals that while top-tier universities in urban centers have begun experimenting with ChatGPT for innovative teaching applications, many provincial institutions remain disconnected from these developments. The resource limitations faced by rural institutions – including unreliable electricity supply, limited IT support staff, and insufficient technology budgets – effectively exclude them from the potential benefits of AI-enhanced education (Bentley et al., 2024). This technological stratification threatens to further entrench existing educational inequalities, potentially creating a two-tier system where only privileged institutions can leverage AI advancements to improve educational outcomes. Some studies found that institutions with limited resources experienced a lower adoption rate of AI tools than well-funded universities, despite faculty interest in implementing such technologies (Giray et al., 2024; Shata & Hartley, 2025).

Adopting AI tools like ChatGPT in Philippine universities reveals significant disparities that complicate their potential as educational equalizers. While AI promises personalized learning and administrative efficiency (Kayal, 2024), implementation faces three core challenges in the Philippine context.

- First, infrastructure limitations severely constrain AI use. Only 17% of rural higher education institutions have reliable internet access to support AI applications, compared to 89%

of urban universities (Centre for Higher Educational Development, 2023). These conditions contradict the Global North assumption of universal digital readiness (Zootzky & Pfeiffer, 2024).

- Second, cultural resistance shapes adoption patterns. Faculty surveys show that 73% prefer traditional methods over AI integration, citing concerns about academic integrity and the depersonalization of education (Espartinez, 2024). This reflects the strong cultural value of face-to-face mentorship in Philippine pedagogy, a factor rarely considered in international AI literature (Tshuma & Chasokela, 2025).
- Third, institutional capacity varies dramatically. While elite universities have established AI task forces, 86% of provincial colleges lack implementation guidelines (Centre for Higher Educational Development, 2023). Training disparities persist, with private institutions offering twice as much AI professional development as public schools (Tahil et al., 2025).

These challenges demonstrate how the Philippine experience complicates universal AI adoption narratives. Where global frameworks emphasize ethical guidelines (Lin et al., 2023), local research suggests infrastructure and cultural adaptation must precede policy development (Cabuquin et al., 2024). The country thus serves as a crucial case for understanding AI implementation in resource-constrained environments.

RESEARCH GAP AND OBJECTIVES

Existing research on AI in education has largely overlooked critical contextual factors affecting ChatGPT adoption in Philippine HEIs. While international studies document ChatGPT's educational applications (Kasneci et al., 2023) and regional research examines general technology adoption challenges in Southeast Asia, no studies specifically analyze how the Philippines' institutional hierarchy, from research universities to rural community colleges, shapes AI implementation (Centre for Higher Educational Development, 2023). Furthermore, while 96% of Philippine faculty report using digital tools (Muscanell, 2023), there is no published research on their adaptive strategies for AI use in low-bandwidth environments, creating a significant gap in understanding practical implementation.

The study's research questions were formulated to address these gaps directly:

- RQ1 (urban-rural student experiences) targets inequities in access and learning outcomes, bridging the divide highlighted in prior studies (Achruh et al., 2024; Ligot, 2024).
- RQ2 (teacher attitudes) responds to the lack of adaptive strategies for low-bandwidth environments (Estrellado & Miranda, 2023).
- RQ3 (ethical concerns) probes cultural resistance and policy fragmentation (Centre for Higher Educational Development, 2023).

This study addresses these research needs through a novel methodological approach combining Q-Methodology (Watts & Stenner, 2012) and Narrative Inquiry (Clandinin & Connelly, 2004). The Q-Methodology analysis identifies patterns in stakeholder perspectives across different institution types, while Narrative Inquiry documents specific adaptation techniques employed in resource-constrained settings. This dual approach is particularly valuable given the Philippines' complex educational landscape, where infrastructure limitations coexist with rapid technological adoption (Ligot, 2024).

The research makes three substantive contributions to the field. First, it provides empirical evidence of how institutional resources and policies affect ChatGPT adoption, filling a gap identified in recent reviews of AI in developing countries (UNESCO, 2023). Second, it develops practical implementation guidelines for varying levels of technological access (Giray & Aquino, 2024). By tying these gaps to our framework, I advance beyond generic AI adoption studies to offer actionable insights for Philippine HEIs, such as tiered policy recommendations (Tier 1 ethics vs. Tier 3 infrastructure needs), filling a critical void in localized AI integration literature (Espartinez, 2024). Third,

it demonstrates how mixed-methods research can effectively capture both systemic patterns and individual experiences in technology adoption, offering a model for similar studies in other developing contexts (Talidong & Toquero, 2020).

METHODS

Data were collected in September 2023, capturing initial adoption patterns following ChatGPT's public release in November 2022. This study combines Q-Methodology and narrative inquiry approaches, representing the first methodological synthesis in examining ChatGPT adoption in Philippine higher education. This integrated approach allows us to analyze shared stakeholder perspectives (through Q-Methodology) and individual experiential narratives (through Narrative Inquiry). The research design addresses gaps in understanding equity issues and urban-rural adoption dynamics. This methodological integration enables us to capture the rich depth of individual experiences through narrative inquiry while systematically mapping shared viewpoints and consensus patterns through Q-Methodology.

RESEARCH DESIGN

The study employs a mixed-methods approach, combining **Q-Methodology** and **Narrative Inquiry**, to comprehensively explore ChatGPT integration in Philippine higher education.

Q-Methodology (Stephenson, 1980) is particularly well-suited for this study as it systematically captures subjective perspectives while maintaining methodological rigor, enabling the identification of shared and contentious viewpoints among stakeholders (Watts & Stenner, 2012). This approach aligns with this study's aim to explore the complex, culturally mediated attitudes toward ChatGPT adoption in Philippine HEIs. Unlike traditional survey methods that impose predetermined categories, Q-Methodology allows participants to express their perspectives by actively ranking statements according to their level of agreement. This process reveals nuanced viewpoint factors that might otherwise remain hidden, as demonstrated by recent studies validating Q-Methodology's efficacy in educational research (Blay & Espartinez, 2024; Chaaban et al., 2025; Ramlo, 2025). Through this structured sorting procedure, the study uncovers the underlying factors that shape attitudes toward ChatGPT adoption in Philippine HEIs, directly addressing Research Questions 1 and 2.

Narrative inquiry complements Q-Methodology by providing contextual depth through in-depth interviews. Grounded in the understanding that experiences are best understood through stories (Clandinin & Connelly, 2004), this approach allows participants to articulate their unique encounters with ChatGPT within specific contexts. Thematic analysis followed Braun and Clarke's (2006) six-phase framework, allowing themes to emerge organically from the data.

This methodological integration captures lived experiences, ethical dilemmas, and adaptation strategies that quantitative methods alone cannot clarify, particularly regarding urban-rural disparities and cultural influences. Triangulation of Q-Methodology results with narrative insights addresses Research Question 3, establishing a template for future investigations examining the interplay between technological innovation and cultural-institutional contexts in educational settings marked by significant inequities.

PARTICIPANT SELECTION

The research followed a four-stage participant selection process to ensure a diverse and representative sample of students and faculty members from Philippine HEIs.

- *Stage 1:* Initial pool of 127 participants. Recruited through a Google Form survey in September 2023, ensuring diversity in institutional type (public vs. private), geographic location (urban vs. rural), and ChatGPT engagement levels through stratified sampling.
- *Stage 2:* Reduction to 35 participants. Selection criteria included:
  - ChatGPT usage patterns (frequency and self-reported expertise)

- Knowledge of ChatGPT's capabilities and limitations
- Demographic diversity across institutional types, locations, and academic roles
- *Stage 3:* Final Selection of 27 participants for Q-Methodology (see Table 1). The sample (15 students, 12 faculty) aligned with Q-Methodology guidelines, recommending 12-30 participants (Cairns et al., 2021). Selection ensured representation across three identified factors (Ethical Tech Advocates, Balanced Learning Integrators, and Pragmatic Efficiency Seekers), including participants from public/private institutions and urban/rural locations.

Table 1. Demographics of the final P-set

Data	Students (N = 15)	Faculty (N = 12)
Gender		
Male	8 (53%)	2 (17%)
Female	7 (47%)	10 (83%)
Other	0	0
Age		
18-below	1 (7%)	0
19-20	9 (60%)	0
21-30	5 (33%)	0
31-40	-	7 (58%)
41-55	-	2 (17%)
55 and above	-	3 (25%)
School		
Public	5 (33%)	3 (25%)
Private	10 (67%)	9 (75%)
Location		
Rural	6 (40%)	5 (42)
Urban	9 (60%)	7 (58%)
Institutional tier*		
1 - well-resourced universities with AI policy mandates	4 (27%)	2 (17%)
2 - colleges with partial policy access but limited resources	6 (40%)	6 (50%)
3 - rural/underfunded HEIs with minimal support.	5 (33%)	4 (33%)
Year level (students)		
freshmen	3 (20%)	-
sophomore	8 (53%)	-
juniors	3 (20%)	-
seniors	1 (7%)	-
Years of teaching		
5 years or less	0	1 (8%)
6-10 years	0	0
11-15 years	0	3 (25%)
more than 15 years	0	8 (67%)
Length of ChatGPT Usage		
Newbies (1-3 months)	2 (13%)	1 (8%)
Adopters (4-7 months)	10 (67%)	7 (58%)
Experts (6 months or more)	2 (13%)	2 (17%)
Skeptics (occasionally)	1 (7%)	2 (17%)

Note 1. Demographic data were derived from Espartinez (2024), with added data to maintain comparability with prior findings.

Note 2. *The Tier *system* categorizes Philippine HEIs based on resource allocation, policy influence, and recognition by the Commission on Higher Education (CHED).

- *Stage 4:* Selection of 18 participants for Narrative Inquiry. From the Q-sort sample, 18 participants (10 students, 8 educators) were selected, representing all three factors plus nonloaders who didn't align significantly with any factor. Participants were coded as S1–S10 (students) and T1–T8 (faculty).

INSTRUMENTS AND DATA SETS

This study builds on Espartinez's (2024) work, adopting a mixed-methods design that integrates Q-Methodology with narrative inquiry to investigate ChatGPT's integration in Philippine higher education. The research captures nuanced perspectives through multiple instruments by synthesizing Q-sort data with qualitative narrative analysis.

Research instruments

Pre-Sorting Interview Guide. Semi-structured interviews explored participants' experiences with ChatGPT across three domains: personal academic usage, institutional/cultural factors influencing adoption, and concerns about academic integrity and access disparities. Key questions examined ChatGPT interactions, implementation challenges, and geographical context influences.

Q-Methodology Materials. The Q-sort included 36 statements about ChatGPT integration, ranked from 'most agree' to 'most disagree.' These statements were developed from 205 opinions collected via Google Forms, focusing on academic integrity, pedagogy, and institutional implementation. Two ChatGPT experts validated the statements, and 42 students pretested them. The final Q-sample met the established criteria of exhaustiveness, balance, and representativeness (Valenta & Wigger, 1997).

Post-Sorting Interview Protocol. In-depth interviews elicited contextual explanations for participants' rankings, encouraging elaboration on ranking rationales and personal ChatGPT narratives.

Narrative Inquiry Themes. These components captured rich experiences, emphasizing personal stories of ChatGPT integration, navigation of technological challenges, urban-rural access dynamics, and cultural implications of AI adoption.

Data triangulation

This multi-instrumental approach ensured comprehensive triangulation by integrating Q-sort rankings, interview narratives, and thematic analysis. The methodology systematically addressed the study's core objectives, capturing both collective perspectives and individual experiences while maintaining methodological rigor (see Figure 1 for the complete research process flowchart).
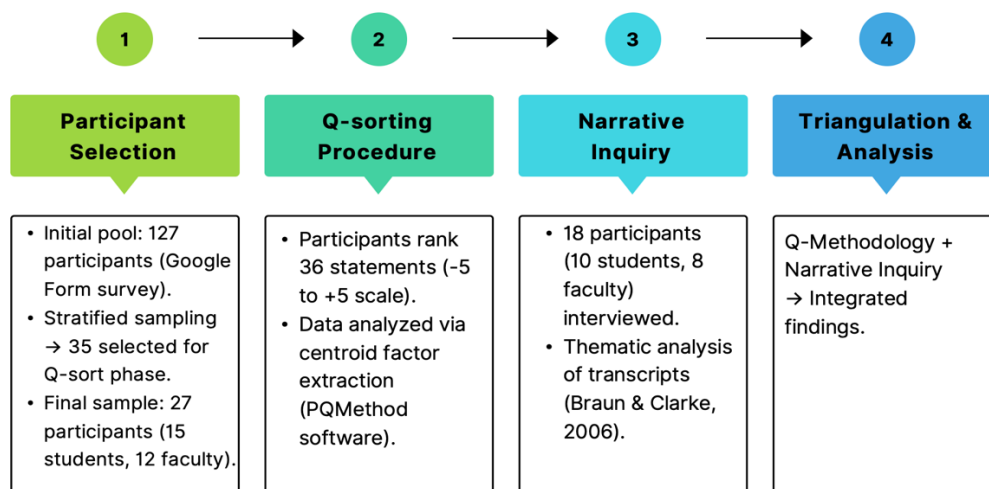

Figure 1. Research process flowchart

DATA GATHERING

This study draws upon Espartinez's (2024, 2025) Q-methodology design and narrative inquiry to examine ChatGPT integration in Philippine HEIs. The Q-sort procedures followed Stephenson's (1980) framework, with 27 participants sorting 36 statements on a -5 (strong disagreement) to +5 (strong agreement) scale – 11 synchronously and 16 asynchronously. The process involved preliminary categorization followed by detailed ranking using PQM software, distinguishing itself from general statistical tools by focusing specifically on Q studies (Brown, 1980).

Building on this foundation, I conducted the narrative inquiry component through in-depth, audio-recorded interviews (45-60 minutes each) after obtaining participant consent. These interviews explored participants' rationales for their Q-sort rankings while gathering rich experiential data about their ChatGPT use. The study adhered to rigorous ethical standards, with all participants providing informed consent after being briefed about the voluntary nature of their involvement and confidentiality protocols. Alphanumeric codes replaced personal identifiers in all materials, and raw data were securely archived on encrypted, password-protected servers with restricted access.

While Q-Methodology excels at revealing shared subjective perspectives (Watts & Stenner, 2012), its intensive focus on participant viewpoints limits statistical generalizability to wider populations – a trade-off prioritizing depth of understanding over breadth of application (Brown, 1980). This dual approach combined factor patterns from Q-Methodology with the contextual depth of narrative inquiry, providing complementary perspectives on technology adoption in higher education.

DATA ANALYSIS

I employed both Q-Methodology and narrative inquiry analysis to understand participants' perspectives comprehensively. For Q-Methodology analysis, I used a Spearman correlation matrix (effective for ordinal data and robust against outliers (Sheskin, 2020). Next, centroid factor extraction with varimax rotation identified shared perspectives, maximizing explained variance (Lutfallah & Buchanan, 2019). Factor retention was determined using Humphrey's Rule based on cross-products of the highest factor loadings (Watts & Stenner, 2005). Factor loadings of 0.3266 or higher were considered statistically significant ($p < 0.05$) for inclusion (Lutfallah & Buchanan, 2019). For narrative inquiry analysis, pre- and post-sorting interviews were transcribed and analyzed thematically, coding transcripts to identify recurring themes, patterns, and stories clarifying participants' experiences with ChatGPT. The analysis examined how narratives aligned with factor loadings and provided deeper context for Q-sort rankings. These personal accounts explained why participants identified with particular factors and offered rich examples of ChatGPT integration in academic practices.

Factor interpretation combined quantitative findings with qualitative insights, with descriptive names assigned to each factor based on statistical results and participant narratives. Participant confidentiality was maintained using participant codes, while demographic information provided context. This mixed-method approach enabled a nuanced understanding of perspectives while maintaining rigorous methodological standards.

RESULTS

The findings are presented in two parts: (1) Q-Methodology results, which identify distinct participant viewpoints, and (2) Narrative inquiry results, which provide thematic insights into students' and educators' experiences with ChatGPT. The analysis revealed distinct patterns in how participants view and interact with ChatGPT in educational settings.

Q-METHODOLOGY FINDINGS

This section presents the results of the Q-Methodology analysis, which identified three distinct factors representing different perspectives on ChatGPT integration in Philippine HEIs.

Factor extraction and variance explained

The Q-factor analysis yielded three meaningful factors based on Humphrey's Rule (Brown, 1980), which establishes significance at values of 0.10 and above (see Table 2). Factor 1 dominated with an eigenvalue of 6.52486, explaining 24% of the variance (Humphrey's value = 0.58273). Factor 2 contributed an eigenvalue of 2.04498, accounting for 8% of the variance (Humphrey's value = 0.24505). Factor 3 presented an eigenvalue of 1.61425, explaining 6% of the variance (Humphrey's value = 0.19671). These three factors accounted for 38% of the total study variance.

Table 2. Number of factors based on Humphrey's Rule

	Factor 1	Factor 2	Factor 3
Eigenvalues	6.52486	2.04498	1.61425
% Explained Variance	24	8	6
Cumulative % Expln Var	24	32	38
Humphrey's Rule	0.58273	0.24505	0.19671
Standard Error	0.05	0.05	0.05

Note. Values of Humphrey's Rule that are 0.10 and above are included in the Q factor analysis. Some data are derived from the study conducted by Espartinez (2024).

Participant distribution across factors

Using the Spearman correlation and centroid method with varimax rotation, the Q-factor analysis identified three distinct groupings of participants (see Table 3).

The Q-factor analysis using Spearman correlation and centroid method with varimax rotation identified three distinct participant groupings, shown in Table 3. Through this analysis, 12 participants loaded onto Factor 1, 8 onto Factor 2, and 4 onto Factor 3, while 3 participants did not load significantly onto any factor. Factor rotation achieved a simple structure, clarifying participant alignment and maximizing explained variance (Lutfallah & Buchanan, 2019).

Table 3. Participants per factor

Factor 1	Factor 2	Factor 3	Non-loaders
6IS7	1WJBAR	2UUL	JY1W9
8Z1XL9D	3MCJB	5HLY	4AAM
ITZZ	84GTP4	AJG	UEGOT
NLCRE5J	BVHE	WFR26	
O476XDI	FZAWDV		
QMAKI	I4KQT		
TJ7F3O	O7M8		
VZ1A9	5360		
BBVI			
DUZS			
E1GC			
H9M6			
N = 12 (44%)	**N = 8 (30%)**	**N = 4 (15%)**	**N = 3 (11%)**

Source: Online PQM Software. PQM is a specialized software for Q-Methodology analysis that generates alphanumeric codes for participant anonymity.

Following guidelines (Lutfallah & Buchanan, 2019), the study applied a minimum factor loading threshold of 0.3266 for statistical significance (p<0.05). Twenty-four participants (89%) loaded significantly onto the three factors, while three Q-sorts (11%) fell below the threshold and were excluded as non-loaders to preserve the integrity of the factor solution.

Description of factors

The author named the three factors through an iterative process that combined quantitative patterns from the Q-sort analysis with qualitative themes from participant interviews. These descriptive labels were carefully chosen to reflect each factor's distinct perspective while remaining firmly rooted in the Q-sort data.

Factor 1: Ethical tech advocates (44%, N=12)

This perspective, representing 44% of participants (6 students, 6 faculty), emphasizes ethical considerations and responsible governance while acknowledging technology's evolving nature. Ethical Tech Advocates believe staying technologically competitive is essential (statement 34, +5) while insisting that strong ethical frameworks must guide AI implementation in educational contexts (statement 4, +4). They express significant concern about the potential misuse of ChatGPT (statement 32, +4), highlighting their cautious approach to AI integration. These individuals advocate for promoting critical thinking and digital literacy skills (statement 6, +3), establishing clear guidelines for ChatGPT usage (statement 28, +3), and maintaining transparency and accountability (statement 33, +3). Notably, this factor strongly rejects using ChatGPT to circumvent academic integrity measures (statement 5, -5), showing principled opposition to applications that might undermine educational standards. They also disagree with keeping ChatGPT usage private (statement 27, -4) or seeking guidance from other users (statement 23, -4), reinforcing their commitment to transparency and self-reliance. This group actively questions reliance on ChatGPT in sensitive domains (statement 2, +2) while appreciating the technology's convenience only when balanced with personal effort and understanding (statement 36, +2), representing a perspective that embraces technological advancement while prioritizing responsible implementation.

Factor 2: balanced learning integrators (30%, N=8)

This perspective, comprising 30% of participants (5 students, 3 faculty), views ChatGPT as a valuable complementary tool that enhances rather than threatens traditional educational approaches. Balanced Learning Integrators strongly appreciate ChatGPT's convenience while understanding the importance of combining it with personal efforts for deeper understanding (statement 36, +5). They firmly reject that ChatGPT could weaken traditional learning experiences (statement 13, -5), indicating their belief in the coexistence of AI and established educational methods. These individuals advocate for institutions to balance preserving proven teaching traditions while embracing the possibilities offered by ChatGPT (statement 26, +4) and strongly support promoting critical thinking and digital literacy (statement 6, +4). This factor shows practical appreciation for using ChatGPT to optimize tasks and save time (statement 7, +3) while emphasizing the development of critical thinking skills (statement 10, +3) and the importance of verifying information accuracy (statement 21, +3). Notably, they strongly disagree with concerns about revealing their ChatGPT use (statement 20, -4) or that it might widen existing educational quality gaps (statement 12, -4), suggesting confidence in the technology's positive integration. This group conceptualizes ChatGPT as a practical educational resource that, when used appropriately and transparently, enhances rather than diminishes learning experiences.

Factor 3: Pragmatic efficiency seekers (15%, N=4)

This perspective, representing 15% of participants (3 public school students, 1 private college faculty), views ChatGPT primarily as a practical tool for enhancing productivity and efficiency in academic work. Pragmatic Efficiency Seekers strongly believe that ChatGPT is valuable for generating ideas and initial drafts, with its effectiveness dependent on reliable access to technology and training (statement 25, +5). These individuals strongly endorse using ChatGPT to optimize tasks and save

time on academic work (statement 7, +4) while sharing the belief that staying ahead of technological curves is necessary to remain competitive (statement 34, +4). They demonstrate practical application by using ChatGPT to facilitate research, provide additional explanations, and spark curiosity (statement 24, +3) while appreciating its convenience when combined with personal efforts (statement 36, +3). In stark contrast to other groups, they strongly reject exploring ChatGPT privately away from friends or acquaintances (statement 22, -5) and keeping usage discreet (statement 14, -4; statement 27, -4), suggesting a more open approach. They also disagree with employing ChatGPT cautiously as merely supplementary to traditional learning methods (statement 9, -3) or using it sparingly (statement 35, -3), as well as implementing strong usage rules (statement 28, -3), representing a pragmatic orientation that prioritizes efficiency, productivity, and openness about AI use rather than focusing on ethical guardrails or cautious implementation.

Statement analysis across factors

Statement analysis across factors (see Table 4) revealed distinct patterns of agreement and disagreement. Notable high-scoring statements included those related to technological advancement (statement #34), ethical guidelines (statement #4), and the balanced integration of ChatGPT with personal effort (statement #36). Conversely, statements about discreet usage and potential negative impacts on education quality received lower scores across factors.

Factor 1 prioritized ethical considerations, with high scores for statements like 34 ("staying ahead of technological advancements") and 4 ("ethical guidelines for ChatGPT"). Factor 2 emphasized a balanced approach, with high scores for statements like #36 ("combining ChatGPT with personal effort") and 26 ("preserving traditional learning"). Factor 3 focused on practical efficiency, with high scores for statements like 25 ("generating ideas and drafts") and 7 ("saving time on tasks").

Table 4. Statement scores by factors

#	Statement	Factor 1	Factor 2	Factor 3
1	Institutions should integrate ChatGPT to complement learning/teaching processes, offering support while students and educators actively engage in coursework and academic tasks.	-1	+2	-2
2	I actively question the need to rely on ChatGPT, especially in sensitive domains like education and healthcare.	+2	-3	-1
3	My initial interactions with ChatGPT are marked by surprise and curiosity.	-1	-2	0
4	ChatGPT should be used with strong ethical guidelines to address the need for building and upgrading infrastructure to support AI technologies in all educational institutions.	+4	+2	+2
5	I appreciate how ChatGPT is discreetly convenient and helpful, all while ensuring that I remain undetected by anti-plagiarism tools.	-5	0	0
6	Institutions should promote critical thinking and digital literacy, helping users evaluate information from ChatGPT, especially in areas with limited access to technology and training.	+3	+4	1
7	I use ChatGPT to optimize my tasks and save time on assignments, essays, and research.	-3	+3	+4
8	I am exploring the practical applications of ChatGPT in my academic tasks.	-1	-1	+2

#	Statement	Factor 1	Factor 2	Factor 3
9	I employ ChatGPT cautiously as a supplementary tool in my traditional learning/teaching methods.	-1	+1	-3
10	I prefer developing critical thinking skills using ChatGPT as a tool to stimulate thoughtful inquiry rather than as a sole information source.	+2	+3	-2
11	I maintain a vigilant attitude, scrutinizing the use of ChatGPT to uphold ethical standards.	+1	-1	2
12	I worry that ChatGPT may widen existing gaps in educational quality due to uneven access to technology.	-2	-4	-1
13	ChatGPT could weaken the value of traditional learning experiences.	-1	-5	0
14	I can discreetly explore a vast spectrum of topics through ChatGPT, avoiding my ChatGPT usage openly with family, friends, and colleagues.	-3	-1	-4
15	I actively monitor ChatGPT interactions to identify and address instances of potential misuse or harmful content.	-2	0	-1
16	I view ChatGPT as a means to meet academic standards with minimal effort.	-3	-1	2
17	I prioritize the ethical use of ChatGPT and strive to uphold its responsible usage.	+2	+1	-1
18	I doubt ChatGPT's reliability and accuracy in producing high-quality outputs.	0	+1	-2
19	As a ChatGPT user, I am excited to explore and discover new things using ChatGPT in my academic tasks.	0	-1	+1
20	I am careful about revealing my use of ChatGPT to others.	-2	-4	-1
21	I think checking and ensuring ChatGPT gives no false information or biased content is important.	+1	+3	+1
22	I prefer to explore ChatGPT privately, away from the scrutiny of friends or acquaintances.	-2	-2	-5
23	I seek guidance and insights from experienced users to maximize my ChatGPT experience.	-4	-3	+1
24	I use ChatGPT to facilitate research, provide additional explanations, or spark curiosity while safeguarding the core principles of traditional pedagogy.	+1	0	+3
25	ChatGPT is a valuable tool for generating ideas and initial drafts, *but its effectiveness depends on reliable access to technology and training.*	0	+2	+5
26	Institutions should balance preserving proven teaching/learning traditions with embracing the possibilities offered by ChatGPT.	+1	+4	0
27	I value my privacy and choose to keep my ChatGPT usage discreet.	-4	-2	-4

#	Statement	Factor 1	Factor 2	Factor 3
28	I strongly support clear rules and guidelines for using ChatGPT, especially in important decision-making situations.	+3	+1	-3
29	I think about the ethical and societal impact of ChatGPT, especially how it is used responsibly.	+1	+1	+1
30	I employ ChatGPT cautiously as a supplementary tool in my traditional learning/teaching methods.	0	0	0
31	I am curious to discover the capabilities and potential of ChatGPT for various academic tasks.	0	-2	+3
32	I worry about the unintended consequences of using ChatGPT and the potential for its misuse.	+4	-3	-2
33	My commitment lies in promoting transparency, accountability, and ethical behavior in the interactions with ChatGPT.	+3	0	+2
34	believe technology is constantly evolving, and we must stay ahead of the curve to remain competitive.	+5	+2	+4
35	I use ChatGPT sparingly, ensuring it complements rather than replaces my established learning/teaching practices.	0	0	-3
36	I appreciate the convenience of ChatGPT but understand the importance of combining it with my own efforts to gain a deeper understanding of the material.	+2	+5	+3

Note: Some data are derived from the study conducted by Espartinez (2024). Other information was obtained from the Online PQM Software.

Non-loaders

Three participants failed to align significantly with any identified factors. Two non-loaders were students (JY1W9 and 4AAM) in the early stages of ChatGPT adoption who exhibited ambivalent perspectives toward the technology. These students acknowledged ChatGPT's potential benefits while expressing reservations about its implementation. Their non-loading status can be attributed to their ambivalence, limited experience with the tool, and narrow focus on practical benefits without engaging deeply with ethical, pedagogical, or critical thinking concerns that characterized the three main factors.

The third non-loader was a professor (UEGOT) from a rural public higher education institution who faced significant infrastructural and resource limitations. This participant's unique contextual challenges – including unreliable internet connectivity, limited technological infrastructure, and insufficient institutional support for AI integration – created a perspective that diverged from the predominant viewpoints. The professor's responses reflected a tension between recognizing ChatGPT's theoretical potential and confronting the practical barriers to its implementation in resource-constrained educational environments.

The presence of these non-loaders underscores the complexity of stakeholder perspectives during technological transitions in higher education, particularly in contexts marked by varied resource availability and levels of exposure to emerging technologies. Having presented the Q-Methodology findings, we now turn to Narrative Inquiry findings to contextualize stakeholder experiences.

NARRATIVE INQUIRY FINDINGS

The voices from students and educators revealed in these narrative inquiry findings complement the Q-Methodology results by providing detailed context and personal experiences that help explain the

different viewpoints identified in the factor analysis. The findings are organized into global, organizing, and basic themes, supported by direct quotes from the students (Table 5) and the educators (Table 6) to ensure fidelity to their experiences.

Table 5. Thematic analysis for students

Global theme	Organizing theme	Basic theme	Coded segment
Convenience and Efficiency	Productivity Enhancement	Scheduling Benefits	*"As a student with a 12-hour class schedule every weekday, it gave me more time to rest and be productive with my tasks (S4)."*
		Idea Expansion	*"It makes me productive because it gives me more ideas and broadens my knowledge whenever I'm using ChatGPT (S2)."*
	Ease of Use	Immediate Responses	*"ChatGPT provides all of the information immediately, just like a search on Google (S8)."*
		User-Friendly Interface	*"ChatGPT can answer all your questions through its website or app, enhancing accessibility (S10)."*
Learning Enhancement	Supplemental Learning	Learning Aid	*"ChatGPT is very beneficial to me, aiding in my studies (S3)."*
		Idea Generation	*"It benefits me by providing new ideas I need when I am trying to study something (S8)."*
		Overcoming Creative Blocks	*"It makes me think less because ChatGPT provides all of the information immediately (S2)."*
	Problem Solving	Creative Assistance	*"It helps me in situations like if I'm stuck on a particular problem or have a question (S1)."*
Dependency and Reliance	Over-reliance Concerns	Dependency Issues	*"Initially, I relied solely on copy-paste techniques, but now I evaluate information more carefully (S1)."*
			"I sometimes find it difficult to start assignments without consulting ChatGPT first (S8)."
		Decreased Motivation	*"In my experience, it decreases my motivation to think because everything is readily available in one click (S5)."*
	Academic Integrity	Plagiarism Awareness	*"I use it to generate ideas, but I do not copy-paste it because I try to understand it in my own way (S9)."*
		Ethical Use	*"I ask ChatGPT about what I am studying, then I carefully decode and study it further (S10)."*
Policy and Detection	Policy Awareness	Lack of Enforcement	*"Despite policies against AI use, there is widespread usage on campus suggesting a gap between policy and practice (S1)."*
		Detection Difficulties	*"My professor does not know how to detect AI-generated content allowing for my undetected use (S3)."*
	Tacit Approval	Ethical and Practical Implications	*"There is a silent acceptance of AI tool usage among students and teachers, suggesting a need for open discussions on AI ethics (S10)."*
Urban-rural divide	Access and Infrastructure	Internet Connectivity	*"Without reliable internet, ChatGPT is more of a frustration than a tool for learning (S3)."*
		Technological Resources	*"In rural areas, we don't have access to the same tools as urban students (S9)."*

Global theme	Organizing theme	Basic theme	Coded segment
	Usage Patterns	Frequency of Use	*"I use ChatGPT every day because I have fast internet at home (S6, urban)."*
		Barriers to Adoption	*"I can only use ChatGPT when I go to the city because my village has no internet (S4, rural)."*
	Attitudes Toward ChatGPT	Urban Enthusiasm	*"ChatGPT helps me save so much time on research and drafting (S7, urban)."*
		Rural Frustration	*"It's hard to rely on ChatGPT when the internet keeps disconnecting (S9, rural)."*

Note: This table provides a structured breakdown of the themes derived from the narrative inquiry of college students regarding their experiences and perspectives on using ChatGPT in educational settings.

Table 6. Thematic analysis for educators

Global theme	Organizing theme	Basic theme	Coded segment
Pedagogical Tool	Teaching Enhancement	Teaching Aid	*"Using ChatGPT helps me explain complex concepts to students by providing alternative words and phrases (T3)."*
		Learning Kickstart	*"ChatGPT can kickstart the teaching and learning process by offering quick access to information and diverse perspectives (T4)."*
	Resource for Teaching Materials	Material Development	*"I find ChatGPT helpful for quickly accessing concepts and definitions when developing teaching materials (T1)."*
		Curriculum Assistance	*"ChatGPT has been instrumental in aiding the development of my syllabus, providing structure and content ideas (T5)."*
Guidance and Regulation	Need for Ethical Guidelines	Ethical Standards	*"We must encourage learners to use ChatGPT responsibly and view it as an opportunity to instill good values like humility and honesty (T6)."*
		Policy Enforcement	*"It's crucial that we regulate the use of ChatGPT to maintain academic integrity (T6)."*
	Monitoring Student Use	Academic Monitoring	*"To ensure students are learning effectively, I ask them to submit their writing tasks in parts for closer examination (T1)."*
		Policy Implementation	*"I make it a point to include specific guidelines on using ChatGPT during my class orientations (T8)."*
Concerns about Student Development	Critical Thinking	Critical Skills	*"While ChatGPT is useful, it cannot replicate the nuanced understanding of existential feelings and specific emotions necessary in learning (T5)."*
		Decline in Critical Thinking	*"While ChatGPT makes learning easier, I've noticed a decline in students' ability to develop critical thinking skills independently (T5)."*
	Academic Integrity	Integrity Challenges	*"Determining whether student submissions are original or AI-generated has become increasingly challenging (T6)."*
		Reducing Dependency	*"I need to balance the technological benefits of AI tools with the need to uphold educational integrity (T2)."*

Global theme	Organizing theme	Basic theme	Coded segment
Policy and Detection	Policy Awareness	Educator Responsibility	*"As an educator, I need to be more aware of and actively enforce the policies regarding AI use (T1)."*
		Advanced Detection Needs	*"The tools we currently have for detecting AI-generated content are not effective enough, which necessitates the development of better technologies (T7)."*
	Silent Acceptance	Professional Dilemma	*"Even though I detect the use of AI tools, the lack of concrete evidence makes it difficult to address this issue openly (T1)."*
		Hesitancy in Accusations	*"I am hesitant to accuse students of using AI-generated content without conclusive proof, which highlights the need for clearer guidelines (T1)."*
Urban-rural divide	Access and Infrastructure	Internet Connectivity	*"In rural schools, poor internet makes it hard to integrate ChatGPT into teaching (T5)."*
		Technological Resources	*"Urban schools have better access to technology, which makes ChatGPT easier to use (T4)."*
	Usage Patterns	Frequency of Use	*"I use ChatGPT regularly for lesson planning because I have reliable internet (T3, urban)."*
		Barriers to Adoption	*"I can't use ChatGPT in my classes because the internet in our area is too slow (T5, rural)."*
	Attitudes Toward ChatGPT	Urban Optimism	*"ChatGPT is a game-changer for teaching complex concepts (T4, urban)."*
		Rural Challenges	*"It's frustrating to see the potential of ChatGPT but not be able to use it due to poor infrastructure (T5, rural)."*

Note: This table provides a structured breakdown of the themes derived from the narrative inquiry of teachers regarding their experiences and perspectives on using ChatGPT in educational settings.

METHODOLOGICAL CONTEXT OF THE FINDINGS

Q-Methodology identifies shared viewpoints but is not designed for broad statistical generalization, as previously mentioned. As exemplified in this study, Factor 1 (Ethical Tech Advocates) statistically mirrored urban educators' policy-focused narratives (Table 6, T8: 'Guidelines in class orientations'), while rural faculty's infrastructural struggles explained their outlier status as non-loaders. This contrast illustrates how institutional tiers mediate ethical stances, a nuance that might be overlooked in larger-scale surveys. Despite its non-generalizability, the methodology's strength lies in capturing these contextually rich patterns, which Narrative Inquiry further contextualizes through participants' lived experiences.

Q-Methodology, combined with narrative inquiry, allowed us to uncover three distinct perspectives – Ethical Tech Advocates, Balanced Learning Integrators, and Pragmatic Efficiency Seekers – each reflecting different priorities and concerns regarding ChatGPT integration. These findings highlight the complexity of AI adoption in education and underscore the importance of context-sensitive approaches to technology integration. While the study's findings are not intended for broad generalization, they provide a valuable foundation for understanding ChatGPT adoption in developing countries facing similar challenges, such as the urban-rural divide and limited technological infrastructure.

DISCUSSION

INTEGRATION OF Q-METHODOLOGY AND NARRATIVE INQUIRY FINDINGS

The findings of the narrative inquiry provide rich, contextual insights into the experiences and perspectives of students and educators regarding the use of ChatGPT in educational settings. These findings complement the Q-Methodology results by offering detailed personal accounts that help explain the distinct viewpoints identified in the factor analysis. The distribution of participants across factors (Table 7) highlights how the themes align with the broader perspectives identified in the Q-Methodology. Three key insights emerged:

Table 7. Distribution of participants in the narrative inquiry by factor

Factor	Partici-pants	Demographics (gender, location, sector, role)	Institutional tier	Justification for tier classification
Factor 1: Ethical Tech Advocates	Students: S1, S2, S9, S10 Faculty: T2, T6, T8	S1: Male, urban, private, sophomore S2: Male, urban, private, sophomore S9: Female, urban, private, senior S10: Female, urban, private, freshman T2: Female, urban, private T6: Female, rural, public T8: Female, urban, private	T1 (well-resourced): S1, S2, S9, S10, T2, T8 T3 (Rural): T6	• T1 (Private urban universities): Strong AI policies, CHED "Center of Excellence" (Commission on Higher Education (2024) status. • T6 (Rural public): Classified as T3 due to resource constraints, despite Factor 1 alignment (ethical concerns may stem from scarcity, not policy).
Factor 2: Balanced Learning Integrators	Students: S5, S7 Faculty: T3, T4, T5	S5: Female, rural, public, sophomore S7: Male, urban, private, junior T3: Female, urban, private T4: Female, rural, public T5: Female, urban, private	T2 (Mid-tier): T3, T5, S7 T3 (Rural): S5, T4	• T2 (Mid-tier): Urban private (T3, T5) and high-performing public colleges with partial policy access. • T3 (Rural): S5/T4 reflect rural public institutions with ad-hoc adaptation.

Factor	Participants	Demographics (gender, location, sector, role)	Institutional tier	Justification for tier classification
Factor 3: Pragmatic Efficiency Seekers	Students: S3, S4, S8 Faculty: T1	S3: Male, urban, private, sophomore S4: Female, rural, public, freshman S8: Male, urban, private, junior T1: Male, urban, private	T3 (Rural): S4 T2 (Mid-tier): S3, S8, T1	• T3 (Rural): S4's public rural college lacks infrastructure. • T2 (Mid-tier): S3/S8/T1's urban private colleges are resource-moderate (use ChatGPT for efficiency, not innovation).
Non-Loaders	Students: S6 Faculty: T7	S6: Male, rural, public, freshman T7: Female, rural, public	T3 (Rural)	• All non-loaders from rural public colleges (T3) with minimal ChatGPT exposure, reinforcing systemic exclusion.

Note: The Narrative Inquiry sample comprised participants representing all Q-Methodology factors: 7 from Factor 1 (Ethical Tech Advocates), 5 from Factor 2 (Balanced Learning Integrators), 4 from Factor 3 (Pragmatic Efficiency Seekers), and 2 non-loading participants. The details are derived from Tables 3, 5, and 6.

The tiered adoption framework

The concentration of Ethical Tech Advocates (Factor 1) in Tier 1 institutions (86%) demonstrates how resource advantages enable policy-driven integration. In contrast, Pragmatic Efficiency Seekers (Factor 3) in Tier 3 schools (75%) reveal how scarcity necessitates utilitarian adoption, while Balanced Integrators (Factor 2) in Tier 2 (60%) represent adaptive hybridization. This tripartite framework challenges Global North models by showing how infrastructure mediates ethical postures.

Structural over individual determinants

The data underscore that institutional capacity – not personal attitudes – primarily drives adoption patterns. Tier 1's policy alignment creates ecosystems for ethical use, while Tier 3's survival needs force pragmatic compromises, evidenced by educators abandoning ethical reservations when facing resource constraints. This structural determinism suggests equity requires material solutions before pedagogical ones.

The implementation paradox

Even in Tier 1 institutions, reported "widespread usage despite policies" reveals a gap between formal guidelines and classroom practice. This paradox suggests that:

- Top-down policies alone cannot ensure ethical implementation.
- Students progress through developmental stages of AI literacy.
- Verification behaviors (89% in Tier 1) depend on institutional support systems.

The non-loaders from Tier 3 institutions represent a critical silent minority whose exclusion from dominant adoption patterns highlights how systemic barriers prevent even the formation of coherent AI perspectives. Their experiences expose the limitations of tiered systems that condition technological participation on institutional privilege.

This framework redefines educational equity in AI integration, arguing that meaningful access requires technological infrastructure and institutional capacity to support context-sensitive implementation. Our findings particularly challenge universalist approaches that neglect how material constraints in Global South contexts fundamentally reshape adoption paradigms.

ADDRESSING THE RESEARCH QUESTIONS

Addressing this study's three research questions, the findings reveal how ChatGPT integration in Philippine HEIs is shaped by stakeholder perspectives (RQ1-RQ3), institutional tiers (RO2), and ethical-cultural factors (RO3). The narrative inquiry provides rich, contextual insights into these dynamics, while the Q-Methodology identifies shared adoption patterns.

RQ1: Student perceptions of ChatGPT's impact

The Q-Methodology factors (Table 4) and narrative data (Tables 5-6) demonstrate a paradox in student perceptions. Students universally recognize ChatGPT's benefits: enhanced efficiency (S7's time-saving reports), idea generation (S8's brainstorming), and personalized support (S10's decoding). However, these advantages are mediated by institutional tiers.

Urban students, comprising 86% of Factor 1 in Tier 1 institutions, leverage ChatGPT strategically. In contrast, their rural peers (75% of Factor 3 in Tier 3) face systemic barriers, such as S4's connectivity issues, which exacerbate existing educational inequalities.

The factors further reveal divergent attitudes:

- Factor 1's ethical caution (S28's +3 rule emphasis)
- Factor 3's utilitarian focus (S25's +5 idea generation)
- Factor 2 students (60% from Tier 2) negotiate balance (S36s +5 personal effort)

RQ2: Teacher attitudes toward ChatGPT integration

The urban-rural divide structures adoption approaches among educators. Tier 1 educators, exemplified by T8's policy implementation, champion ethical integration yet face implementation gaps ("widespread usage despite policies").

Tier 2 teachers, represented by T3's hybrid methods, preserve pedagogical traditions (S26's +4 balance). Meanwhile, Tier 3's infrastructural exclusion, evidenced by T5's frustrations, forces pragmatic compromises.

These patterns align with Q-sort rankings: Factor 2's preservation of traditional learning (S13's -5 rejection) versus Factor 1's emphasis on safeguards (S32's +4 misuse concern).

RQ3: Ethical concerns and their influence

Our analysis uncovers tier-dependent ethical frameworks across institutions. Urban stakeholders emphasize usage ethics – T1's staged submissions and S10's critical engagement reflect Factor 1's academic integrity focus (S5's -5 plagiarism rejection).

Rural contexts, however, confront more fundamental access ethics, where Tier 3's scarcity (T7's necessity-driven use) reframes ethical priorities. Non-loaders, such as S6 with rural barriers, exemplify how systemic exclusion prevents even ethical deliberation. This pattern aligns with Hofstede's uncertainty avoidance concept, manifesting in cultural resistance until institutional support exists.

Crucially, these findings intersect across research questions:

- Tier 1's policy alignment with the Commission on Higher Education (2024) enables Factor 1's ethics-focused approach.
- Tier 3's constraints drive Factor 3's pragmatism (S4's survival use).
- Tier 2's mid-level resources foster Factor 2's hybrid approach.

Participant voices (S1-T8) ground these patterns in lived experiences, while Q-sort statistics (e.g., S36's +5) validate the identified factors. The distribution percentages across tiers (86%/75%/60%, as shown in Table 7) confirm that institutional tiers, not just individual will, shape adoption patterns, challenging universal AI integration models.

INSTITUTIONAL TIER DIFFERENCES IN CHATGPT ADOPTION PATTERNS

Beyond individual stakeholder perspectives, our analysis reveals how ChatGPT adoption patterns are fundamentally shaped by the Philippines' tiered higher education system. The study's findings indicate a clear-tiered adoption framework, where each factor's dominance correlates with distinct institutional realities.

Factor 1 (Ethical Tech Advocates), concentrated in Tier 1 (well-resourced universities), reflects these institutions' resource advantages and policy alignment. With formal AI guidelines and training, Tier 1 stakeholders prioritize ethical governance – "clear rules for ChatGPT" (S28, +3) – and institutional accountability, as exemplified by T8's reference to guidelines on AI use.

In contrast, Factor 3 (Pragmatic Efficiency Seekers), prevalent in Tier 3 (under-resourced rural colleges), embodies necessity-driven use. Participants like S4 (rural public college) noted ChatGPT's role in overcoming infrastructure gaps ("I can only use it when I go to the city"). Similarly, T7 (rural faculty) highlighted the absence of institutional support ("No guidelines exist here").

Bridging these extremes, Factor 2 (Balanced Learning Integrators) thrives in Tier 2 (mid-tier colleges), where partial resource access fosters adaptive hybridization. Tier 2 educators like T3 ("I use ChatGPT to spark discussion but still grade manually") and students like S7 ("It helps brainstorm, but I rewrite everything myself") exemplify this balance – leveraging AI's efficiency while preserving traditional pedagogy.

This tripartite pattern underscores how institutional hierarchies mediate adoption: Tier 1's policy-driven ethics, Tier 2's negotiated hybridity, and Tier 3's infrastructural pragmatism collectively challenges one-size-fits-all approaches to AI integration in educational settings.

IMPLICATIONS FOR HIGHER EDUCATION

The study's findings yield critical implications for Philippine HEIs integrating ChatGPT, demanding tier-sensitive, context-aware strategies:

Tier 1 Institutions (well-resourced universities)

Well-resourced institutions should focus on formalizing ethical frameworks that address Factor 1's emphasis on academic integrity ("determining whether submissions are AI-generated" - T6) while leveraging existing policy infrastructures. These universities have the foundation to develop comprehensive AI governance structures aligned with CHED's advisory on AI.

Tier 2 Institutions (mid-tier institutions)

Mid-tier colleges, where Balanced Learning Integrators (Factor 2) dominate, require hybrid pedagogical models that support educators in using ChatGPT to "kickstart lessons" (T4) while preserving traditional teaching methods. These institutions need to address concerns about critical thinking voiced by both students ("decreases motivation to think" - S5) and faculty by developing integration approaches that enhance rather than replace intellectual engagement.

Tier 3 Institutions (under-resourced rural colleges)

Under-resourced institutions face more fundamental challenges, where Pragmatic Efficiency Seekers' (Factor 3) necessity-driven use ("can only use it when I go to the city" - S4) underscores the urgent need for infrastructure investments, offline AI tools, and basic digital literacy programs before ethical integration can be prioritized.

Bridging the urban-rural divide

Addressing educational inequities requires targeted solutions for technological disparities ("frustration without reliable internet" - S3) and pedagogical adaptation, including:

- Equity-focused faculty development programs
- Redesigned assessments that value learning processes over AI-generated outputs
- Infrastructural support targeted at rural institutions

Ethical and policy considerations

Ethical frameworks must be co-developed with stakeholders to balance Factor 1's demand for transparency with rural contexts' access challenges, while institutional monitoring systems should respect the Philippines' tiered educational landscape.

By aligning ChatGPT integration with these diverse institutional realities, from well-resourced urban universities to underfunded rural colleges, HEIs can harness AI's potential while mitigating academic quality and equity risks.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Our findings demand two paradigm shifts in AI education research:

First, the emergence of Tiered Adoption Models – represented by the Ethical Tech (Tier 1), Balanced (Tier 2), and Pragmatic (Tier 3) factors – directly challenges one-size-fits-all frameworks that dominate current literature. Future studies should test and refine this tiered model in other Global South contexts to establish its transferability and potential for guiding differentiated implementation strategies across varying resource environments.

Second, our data strongly supports an Infrastructure-First Ethics approach. Contrary to UNESCO's (2023) top-down ethical guidelines, I demonstrate that meaningful ethical engagement with AI technologies fundamentally presupposes basic access and infrastructure. Theoretical work must integrate material constraints into AI ethics schemas to avoid developing frameworks that inadvertently privilege resource-rich institutions while excluding others from ethical discourse entirely.

Practical recommendations

For policymakers, I recommend implementing tiered funding mechanisms that mandate that 40% of national AI education budgets be explicitly allocated to rural HEIs (Estrellado & Miranda, 2023). Moreover, policymakers should prioritize partnerships with NGOs to deploy localized Large Language Models in low-bandwidth areas, creating offline solutions that address the infrastructural barriers identified in our study.

For educators, I propose tier-specific strategies: (1) Tier 1 institutions should develop sophisticated AI-auditing protocols (such as Draftback analyses) that leverage their technological advantages, and (2) Tier 3 institutions should focus on hybrid assignment designs (e.g., ChatGPT-aided brainstorming combined with handwritten reflections) that accommodate intermittent connectivity while introducing AI literacy.

Limitations

While our 27-participant sample enabled the deep qualitative analysis necessary for our research questions (Watts & Stenner, 2012), I acknowledge this as a methodological limitation. The scope of our study was also geographically constrained to the Philippine context, which may limit the generalizability of our findings to other Global South environments with different infrastructural challenges and cultural contexts.

Future research opportunities

Building on these limitations, I identify several promising avenues for future investigation:

- Cross-national validation studies with substantially larger cohorts across multiple ASEAN nations are needed to test the generalizability of our tiered model beyond the Philippine context.
- Longitudinal research designs tracking ChatGPT's impact as infrastructure gradually improves would provide valuable insights into how adoption patterns evolve with changing resource constraints.
- Tool development research focused on creating low-cost, lightweight AI detection mechanisms specifically designed for resource-constrained educational settings represents a critical opportunity.
- Combining our qualitative findings with quantitative metrics, mixed-methods approaches could better quantify the relationship between infrastructure quality and ethical engagement with AI technologies.

These future directions underscore that equitable AI integration requires technical solutions and cultural adaptation – a synthesis I now contextualize in the concluding recommendations.

CONCLUSION

This mixed-methods study of ChatGPT integration in Philippine Higher Education Institutions reveals a landscape shaped by institutional tiers, infrastructural disparities, and stakeholder adaptation strategies.

First, the urban-rural divide emerges as a defining challenge, where uneven technological access creates fundamentally different adoption contexts – from urban students leveraging ChatGPT's efficiency ("saves time on research" - S7) to rural educators constrained by infrastructure ("can't use it due to slow internet" - T5).

Second, stakeholders demonstrate nuanced engagement with AI: students balance pragmatic benefits against dependency risks ("difficult to start assignments without ChatGPT" - S8), while teachers navigate its instructional value amidst concerns about critical thinking erosion ("decline in independent skill development" - T5).

Third, the Q-Methodology's three factors – Ethical Tech Advocates, Balanced Learning Integrators, and Pragmatic Efficiency Seekers – demonstrate how institutional resources shape adoption patterns, with policy-driven, hybrid, and necessity-driven approaches dominating Tiers 1-3, respectively.

This research advances a tiered framework for AI adoption in Global South education systems, challenging the assumption that ethical guidelines alone ensure equitable implementation. Infrastructure and cultural adaptation must precede – or accompany – policy development, as evidenced by Tier 3's necessity-driven pragmatism. While ChatGPT offers transformative potential for personalized learning and administrative efficiency, its benefits remain contingent on addressing systemic inequities.

Institutions must adopt differentiated strategies tailored to their specific contexts: (1) infrastructure investments prioritizing rural institutions, (2) professional development programs that address both technical skills and pedagogical adaptation, and (3) participatory policy-making involving all stakeholders to co-create ethical guidelines responsive to local realities. Only through these context-sensitive approaches can Philippine HEIs harness AI's potential while safeguarding educational equity and academic integrity.

These findings advance a tiered adoption framework for AI in education, demonstrating how infrastructure and institutional capacity, not just ethical guidelines, shape equitable integration. This insight challenges universalist AI policies and offers a roadmap for addressing technological inequities in the Philippines and similarly constrained Global South contexts.

RECOMMENDATION

To address the urban-rural divide, ethical concerns, and pedagogical challenges identified in this study, I propose a tiered, stakeholder-specific action plan for ChatGPT integration in Philippine higher education. For infrastructure and access, CHED and local governments should launch a National AI-Readiness Fund prioritizing Tier 3 rural institutions, providing subsidized broadband for areas with less than 40% internet coverage, as reported by Estrellado and Miranda (2023), alongside offline AI solutions such as localized LLMs on school servers to support students who report: "I can only use ChatGPT when I go to the city" (S4). Public-private partnerships with telecommunications companies and initiatives like Google's "Digital Tayo" program should be mandated to provide free ChatGPT access via HEI email domains and low-cost devices for Tier 2-3 students. University leaders at Tier 1 institutions should establish AI sandbox labs for faculty and student experimentation, while Tier 2-3 institutions should deploy mobile tech hubs such as satellite internet buses to reach remote campuses.

Regarding pedagogy and responsible AI-enhanced learning, faculty should redesign assessments to curb over-reliance, with Tier 1 institutions replacing essays with oral defenses combined with AI-draft analysis using tools like Draftback, and Tier 2-3 schools implementing scaffolded assignments incorporating brainstorming, ChatGPT output, and reflection components. AI literacy should be taught by embedding prompt engineering and bias detection in curricula, encouraging students to "check for false information" (T1), and assigning peer reviews of ChatGPT outputs to foster critical thinking and help students "decode and study further" (S10). Students should participate through AI ethics councils that co-develop usage guidelines, addressing the "silent acceptance" of misuse.

For policy and governance, administrators at Tier 1 institutions should form AI ethics boards to audit usage and mandate AI disclosure statements, while Tier 2 institutions should allow ChatGPT for low-stakes tasks like brainstorming but ban it in exams, and Tier 3 schools should prioritize digital literacy before implementing AI-specific policies. Faculty training workshops should focus on detecting AI content through style analysis and designing "AI-resistant" assessments such as personalized case studies.

Systemic change and advocacy efforts should include lobbying CHED to recognize AI fluency as a core competency, ensuring rural stakeholders are included in AI policy task forces to counter urban bias, and piloting offline AI tools in Tier 3 schools to evaluate equity impacts. The implementation roadmap consists of three phases: infrastructure deployment in the first 12 months targeting 50+ Tier 3 schools with 80% access in pilot schools; pedagogical training from months 6-18 for 500+ faculty on AI assessments aiming for 50% plagiarism reduction; and policy adoption in months 12-24 across three universities with a goal of 100% student policy awareness.

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