

Technology integration in Southeast Asian university history education: a qualitative study

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ABSTRACT

This study investigates how university history lecturers in Vietnam, the Philippines, and Indonesia perceive and integrate technology into history instruction within diverse socio-cultural and institutional contexts. The study was conducted in response to persistent challenges in history education, including lecture-dominated instruction, students' perception of history as a memorization-based subject, and the limited pedagogical use of digital tools in humanities education. Using an exploratory qualitative approach, data were collected through semi-structured interviews, document analysis, and field notes involving three university history lecturers from the selected countries. Thematic analysis revealed that lecturers viewed technology as an important tool for enhancing student engagement, interactivity, and contextual understanding of history. Although participants faced challenges such as unequal internet access, varying levels of digital literacy, and limited institutional support, they adopted adaptive strategies including gamified learning, multimedia integration, and digital literacy guidance. An important finding is that students were not only technology users but also active producers of digital historical content such as podcasts, videos, and timelines. The study concludes that effective technology integration in history education requires pedagogical intentionality, institutional support, and context-sensitive digital practices. The findings contribute to digital pedagogy discourse in Southeast Asian humanities education.

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1. INTRODUCTION

The 21st-century learning landscape has been deeply stirred by the rapid developments in digital technology. The reading of history, long thought to be a field dependent upon memorization and passive learning, is a particularly ripe area of such change. It is increasingly critical for pedagogical approaches to change as digital native students are walking through our classroom doors. If history is to continue to be relevant for history education and generate interest for participation, it is vital to integrate technology. Pedagogical intentionality is a key in digital integration [1], [2] have contended that competent technology teaching requires knowledge of the complex interplay between content, pedagogy, and technology.

Teaching history through digital tools is uneven, under-researched, and often hindered by pedagogical and infrastructural limitations in the vast majority of developing contexts [3]–[6]. Although

educational technology has progressed, infrastructure, institutional support, pedagogical paradigms, and teachers' digital skills explain regional variations on the use of digital resources at the history class [5], [6]. With its variety of educational systems and a strong rich-poor divide, teaching history using technology is an interesting area of research in Southeast Asia. However, despite not being studied frequently, it is an important theme to the worldwide discussions in educational technology.

The evidence however has been poorly represented in middle- and low-income countries in general and Southeast Asia in particular due to the dearth of empirical information. By considering various resource constraints, policy aims, and local norms and practices, this article explores how history teachers in Vietnam, the Philippines and Indonesia use digital resources. We have selected these three countries due to their large student populations, commitment to digital educational reform, and shared colonial history, which has shaped their curricula in unique ways [7]. Pros and cons of using educational technology in the history classroom have been explored in previous research [8]–[10]. Appropriate incorporation of technology can augment the way historical studies and experiences are conducted by incorporating such into living experience [11]. In line with this, Qiong [12] emphasizes that the digital technology tools should be related to learning goals to realize meaningful learning. Recent research from Vietnam by Nguyen *et al.* [13] shed light onto the intricate struggle that teachers have faced as they work to enroll students in learning geography and history.

Although studies have investigated the integration of technology in history education in individual Southeast Asian countries, including Indonesia [14], [15], and Vietnam [16], the majority of research is limited to single national contexts or concentrates on educational technology in general, rather than on history as a discipline-specific domain. In contrast to the examination of how history educators specifically adopt digital tools to their pedagogical practices, cross-national studies in the region have largely emphasized broad digital competencies across subjects [17]. Consequently, there is a scarcity of exploratory qualitative research that emphasizes history education as a discipline-specific case in Southeast Asian contexts, particularly from the perspective of university lecturers who are directly involved in instructional implementation.

The novelty of this study lies in its cross-country qualitative investigation of technology integration in university-level history education across Vietnam, the Philippines, and Indonesia. This study especially looks at history education as a discipline-specific pedagogical domain within Southeast Asian higher education, in contrast to earlier research that mostly focuses on single-country contexts or generic educational technology adoption. The study also demonstrates how instructors and students work together to create digital historical learning using contextualized pedagogical techniques like timelines, podcasts, digital storytelling, and inquiry-based digital activities. This qualitative comparative approach offers fresh perspectives on digital pedagogy in humanities education, especially in Southeast Asian contexts that are still under-represented in the body of literature.

This study is expected to contribute theoretically and practically to the development of digital history pedagogy in Southeast Asia. The findings give lecturers context-sensitive information about how to use technology into history classes. The study provides evidence about the significance of digital infrastructure and institutional support in humanities education for academic institutions. The results could help policymakers create sustainable digital pedagogy regulations and professional development initiatives for teaching history in Southeast Asian universities.

In order to address this gap, the current study employs an exploratory qualitative research design to investigate the ways in which university history lecturers in Vietnam, the Philippines, and Indonesia perceive and incorporate technology into their teaching practices. The study investigates the motivations, classroom implementation strategies, perceived challenges, and assessment practices of lecturers in relation to the use of digital technology, utilizing structured interviews. This study offers illustrative, cross-contextual insights into the ways in which institutional conditions, pedagogical intentions, and socio-cultural contexts influence the integration of technology in university-level history education, rather than attempting to achieve broad generalization. These insights are intended to inform future evaluative and large-scale research on digital pedagogy in the field of history education. This study is guided by the subsequent research questions:

- What are the perceptions of history lecturers in Vietnam, the Philippines, and Indonesia regarding the integration of technology in their pedagogy?
- In what way is technology integrated into practical classroom settings within these contexts?
- What obstacles and constraints do educators encounter when incorporating digital tools into history instruction?

2. METHOD

2.1. Research design

In order to investigate the experiences, perceptions, and instructional practices of university history lecturers in the integration of digital technology into their teaching, this study implemented a qualitative

research design. In order to facilitate an in-depth comprehension of the contextual, cultural, and individual factors that influence the use of technology in history education, a qualitative approach was determined to be suitable. Recognizing that pedagogical practices are situated within specific institutional and socio-cultural contexts, this study prioritizes the construction of meaning from participants' perspectives, guided by an interpretivist paradigm [18].

2.2. Participants and sampling

Three university-level history lecturers from Vietnam, the Philippines, and Indonesia comprised the participants, each of whom represented a unique national and institutional context. The lecturers were actively engaged in teaching history courses at the time of the study and had a range of teaching experiences, from three months to seventeen years. Purposive sampling was implemented to identify participants who had direct experience with the integration of technology into history instruction and who could offer contextually rich, insightful perspectives on their pedagogical practices.

Although the study involved only three participants, the research was exploratory in nature and prioritized depth of contextual understanding rather than statistical generalization. Each participant represented a distinct institutional and national context, allowing rich comparative insights into technology integration practices in Southeast Asian history education. Rather than pursuing statistical representativeness, the selection of participants was designed to capture illustrative perspectives from various Southeast Asian contexts. This method facilitates exploratory qualitative inquiry by facilitating a nuanced analysis of the similarities and differences in instructional practices, challenges, and pedagogical intentions across a variety of educational environments. As shown in Table 1, the participants represented diverse institutional contexts, teaching experiences, and technological backgrounds across the three countries.

Table 1. Demographic characteristics of participants

Participant name	Institution	Teaching experience	Language used in teaching	Technology/media used
VAT	Dong Thap University, Vietnam	17 years	Vietnamese	Projector or television screen; Wi-Fi
MG	Aldersgate College, Philippines at the time of data collection	6-month teaching internship; 3 months as a current lecturer (at the time of data collection)	English and Filipino	TV, books, online resources, and Wi-Fi, modules
AA	Universitas Halu Oleo, Indonesia	10 years	Bahasa Indonesia	Projectors, internet access, printed modules, library resources, and online platforms

2.3. Data collection

Two primary qualitative instruments were implemented to accumulate data: document analysis and semi-structured interviews. Furthermore, field notes were preserved during the data collection process to document contextual information and analytical reflections. All data collection activities were conducted remotely as a result of the participants' geographical dispersion across three countries.

First, each participant participated in semi-structured interviews conducted through Google Meet. In order to investigate four main themes such as lecturers' perceptions of technology integration, instructional implementation strategies, challenges encountered, and technology-supported assessment practices, an interview guide was implemented, which included open-ended questions. Participants were able to provide comprehensive accounts while maintaining consistency across cases as a result of the online interview format. Audio recordings were made of all interviews with the participants' consent, and they were transcribed verbatim for analysis. In order to facilitate the ensuing analytic process and to capture contextual information (e.g., clarification points, emphases, and emerging patterns), the researchers generated field notes during and immediately following each interview.

Second, document analysis was implemented to enhance and supplement the interview data. Lesson plans, teaching materials, photographs of learning platforms, and examples of digital tools utilized in teaching and assessment (e.g., Quizizz, Padlet, and Google Classroom) were all included in the documents. These documents contributed to the clarification and confirmation of the responses of participants during the interview, as well as additional evidence regarding the integration of technology into instructional planning and learning activities. The conclusions of this study were supported by triangulated qualitative evidence obtained from semi-structured interviews, teaching documents, field notes, and thematic analysis across three institutional contexts.

2.4. Data analysis

Thematic analysis was implemented in accordance with the framework proposed by Braun and Clarke [19] to analyze the data. In order to gain a comprehensive understanding of the data, the researchers conducted a series of reviews of the verbatim interview transcripts, pertinent documents, and field notes. Inductive codes were initially derived from the interview data and subsequently organized into broader themes that reflect the perceptions, instructional practices, challenges, and assessment approaches of lecturers regarding the integration of technology in history education. Themes were reviewed and refined by comparing them to the original data to ensure consistency and coherence. Themes derived from the interviews were contextualized and supported by field notes and documents. The themes are supported by representative excerpts and pertinent evidence from the data sources in the final report.

To enhance credibility and trustworthiness, the study applied triangulation through interviews, document analysis, and field notes. Member checking was conducted by allowing participants to review interview transcripts and preliminary interpretations. Dependability was strengthened through the use of a consistent interview protocol and systematic coding procedures. Reflexive note-taking and an audit trail were maintained throughout the analysis process to improve confirmability. Transferability was supported by providing detailed descriptions of participants' institutional contexts and teaching backgrounds.

Several strategies were implemented in accordance with qualitative research standards to guarantee trustworthiness [20]. Through member checking, which involved the evaluation of interview transcripts and preliminary interpretations, as well as the triangulation of interview data, documents, and field notes, credibility was improved. The use of a consistent interview protocol and systematic documentation of coding and analytical decisions bolstered dependability. Reflexive note-taking and the preservation of an audit trail throughout the research process were implemented to enhance confirmability. Transferability was bolstered by the provision of comprehensive descriptions of the institutional contexts and teaching backgrounds of the participants.

3. RESULTS AND DISCUSSION

3.1. Results

3.1.1. Lecturer's perception towards the use of technology in the classroom

a. Motives

The three interviewed lecturers are from Vietnam, the Philippines, and Indonesia, and all of them have a great attention to introducing technology in the history classes, specifically to improve student engagement and educational achievement. Support of academic institution (by the government) in the global trend of technology application is significant toward information visibility. This is the view of Vietnamese educator as technology has been seen as an important way to enhance access to information. By using digital tools to make his course more interactive and enjoyable, the Filipino professor sees technology as a weapon against the belief that history is a boring lesson. The readiness factor technology has got to meet students where they are in their generation, says today's instructor. Using multimedia resources, such as films, interactive timelines and virtual museum tours, the Indonesian teacher demonstrates how technology can be embedded to make learning consistent with students' digital lives. All three educators said technology provides a means to make the classroom a more contemporary, interactive and stimulating place to learn.

b. Experiences

Based on their past experiences, the lecturers display varying levels of technological competence and confidence. The Vietnamese lecturer, who is primarily self-taught, admits that there are issues with technology motivation and class planning, which can occasionally have an impact on student engagement. On the other hand, Filipino lecturers were officially trained in technology integration during their college years, allowing them to effectively integrate technological tools with their learning goals. Having taken part in professional development programs and regularly used technology in the classroom, the Indonesian lecturer provides a more experienced perspective. All three lecturers report positive outcomes despite their varied backgrounds, particularly in terms of student engagement and curiosity when using digital technologies. They also acknowledge common issues that prevent the full potential of technology-enhanced learning, like inconsistent internet connectivity and unequal access to digital devices among students.

c. Expectations

The lecturers express optimistic and student-centered expectations for the future. According to the Vietnamese lecturer, technology will improve students' assimilation of professional knowledge, raising the standard of their education as a whole. The Filipino educator believes that technology will inspire students to learn passionately and view education as a way to develop their skills and knowledge. The Indonesian lecturer claims that digital tools can improve students' understanding of the significance of history and aims to foster independent, critical, and reflective thinking in them. The lecturers agree that modern students want

dynamic, interactive, and visually stimulating learning experiences after reflecting on their expectations. This emphasizes that in the digital age, successful technology integration not only supports curriculum goals but also aligns with students' preferred learning styles.

3.1.2. The implementation of using technology in teaching history

a. Planning stage

All three lecturers stress the importance of creating lesson plans in advance and making sure they are in line with curriculum objectives during the planning phase. Subject to faculty approval, the Vietnamese lecturer develops teaching materials before the school year starts. The Filipino instructor ensures that every class has substantial technological application by integrating focused exercises and online materials. The Indonesian lecturer focuses on using digital resources and multimedia to improve learning outcomes and coordinating lectures with national curriculum standards.

The lecturers agree that technology should serve pedagogical goals, which include increasing the importance, interactivity, and engagement of learning. They use digital tools by motivating and explaining them to students, making sure they understand how to use them and the learning goals they are supposed to meet. However, issues are acknowledged. The Vietnamese lecturer notes that insufficient preparation, whether in terms of subject matter expertise or technological proficiency, can affect how effective the session is. The Indonesian lecturer focuses on infrastructure issues like device accessibility and internet connectivity, but she tries to find other ways to deal with them. In contrast, the Filipino lecturer reports no significant challenges because of careful planning and support.

b. Action stage

In order to improve historical understanding and student engagement, all teachers use a variety of web-based resources during the action stage. Common tools include interactive tests, digital games, YouTube, and Padlet. The introduction, main body, and conclusion of each session are presented by the Vietnamese lecturer using websites and YouTube. The Filipino professor leans on Padlet for reflection and brainstorming, YouTube videos, and guided questions and gamified tools such as "color of the wheel" and "duck race" to sustain students' attention. In order to encourage expressions and reflection, the Indonesian lecturer uses structured methods such as Mentimeter and visual materials, and group studies. Various segments are accompanied by these instruments throughout the lecture.

For introductory exercises, instructors show movies and graphics to create a context and engage the students. Keeping the activity fun and engaging for primary tasks, visual images can help maintain attention, and gamification can generate interest and conversation. For wrap-up activities, they often use Google Forms, Quizizz, and Socrative for exit tickets, feedback, and knowledge checks. These programs are in contrast to traditional passive, lecture-based instructional techniques to technology-rich, student-centered learning environments.

c. Evaluation stage

The way lecturers use technology to evaluate students' learning varies. The Vietnamese instructor does not make extensive use of technology for assessment; instead, they use traditional techniques like point systems and feedback. On the other hand, online tests, plagiarism detection software, and digital rubrics are used by Filipino and Indonesian instructors to evaluate students' critical thinking, creativity, and historical understanding. They stress how important it is to use technology for reflective learning and instant feedback in addition to submission.

According to all three teachers, the students are capable of using technology to complete their assignments. They note that students can create presentations, timelines, movies, podcasts, and digital exhibits, and they recognize their proficiency with technology. These resources promote greater engagement with historical content by empowering students to express their understanding in a variety of creative ways.

3.1.3. Challenge in implementing technology in teaching history

Common problems with integrating technology into history instruction across different educational settings in Vietnam, the Philippines, and Indonesia are revealed by the qualitative analysis of interview data. Despite these challenges, the lecturers demonstrate creativity and a proactive attitude in overcoming them to ensure effective digital integration.

a. Challenges in implementing technology

One of the most cited problems is the pace of technological change, which can place stress on older or less digitally literate educators. The Vietnamese lecturer says it is a challenge to keep pace with advances in technology, not least because there is no access to the infrastructure and resources required. Likewise, the Pinoy teacher cites varied abilities of students in digital skills, resource limitations, and technical glitches as huge hindrances. The teacher also raises the challenge of ensuring that students are able to think critically about and verify the validity of sources on the web, a particularly important concern in teaching history, where accuracy matters. The Indonesian lecturer shares these concerns, summing up practical problems, such

as unequal digital competency among students, device or internet unavailability and an excessive reliance on unreliable online sources. It is also hard for students to concentrate on online classes, for digital media's distractions are just one swipe away.

b. Strategies to overcome the challenges

One concern was voiced more often than others that technology was advancing so quickly that it can be overwhelming for some of the more seasoned teachers, or for others who have not worked with digital technology. Catch up with the technology development trend “it is not easy to keep up with the trend of technology development,” said the Vietnamese lecturer, suggesting that the “hard thing to overcome is the lack of infrastructure and facilities.” Similarly, the Filipino instructor identifies lack of materials, technical problems, and mismatch of student digital literacy as obstacles. To that, she adds the difficulty students have determining which online sources are credible (a problem particularly high in history classes where accuracy is literally everything).

These are similar worries expressed by the Indonesian teacher who also notes the different levels of digital literacy that students possess and the lack of access to devices, or the internet really compound matters and that students are relying too much on poor quality online sources. Moreover, focusing in the cyberworld can be hard for students and among all distractions of the digital world. Table 2 illustrates the thematic analysis summary of lecturers' perceptions, instructional practices, and challenges regarding technology integration in history education.

Table 2. Thematic analysis summary of history lecturers' perceptions and practices on technology integration in Southeast Asia

Category	Sub-category	VAT (Vietnam)	MG (Philippines)	AA (Indonesia)
1. Motivation to use technology	Purpose and goals	Institutional encouragement, enrich knowledge; personal awareness of technology's value	Make history engaging; align with the digital era; reduce boredom	Enhance engagement; align with students' digital habits
	Student-centered reasons	Believes it benefits student understanding	Increase motivation and curiosity	Promote autonomy, inquiry, and relevance
2. Technology Engagement	Strategies and tools used	PowerPoint, Canvas, YouTube, and websites	Google Classroom, Padlet, interactive PPTs, YouTube	Google Classroom, Padlet, virtual tours, interactive videos
	Student involvement	Encourages student use of laptops/phones	Uses interactive tools like Padlet for responses	Uses digital storytelling tools and timelines
3. Teaching preparation	Lesson planning	Plans ahead of the school year, approved by faculty	Based on the syllabus, it integrates resources and tools	Based on the national curriculum with digital resources
	Student preparation	Sets clear tech requirements	Motivational intro, explanation of tools	Step-by-step explanation and objectives
4. Teaching implementation	Opening activities	Uses YouTube or relevant websites to introduce topics	YouTube documentaries, Padlet for responses	Visuals/videos + Padlet or Mentimeter for reflections
	Main activities	Uses online sources like YouTube for content	Gamified tools like Duck Race, color wheel	Quizzes, games, research, and discussions
	Closing activities	Uses YouTube to summarize key points	Google Forms or Quizizz for assessments	Google Forms, Quizizz, or Socrative for instant feedback
5. Experience with technology	Prior experience	Self-taught, limited training	Formal training in “Technology for teaching and learning”	Professional development and consistent use
	Positive experiences	Convenience in lesson preparation	High student participation and interest	Students are more active and reflective
	Negative experiences	Low interest affects the quality of teaching	Poor internet connectivity limits the execution	Internet/device inequality; source credibility issues
6. Assessment	Evaluation methods	Manual feedback (plus points)	Rubrics, digital submissions, plagiarism checks	Rubrics, originality tools, and tech-supported feedback
	Student capability	Believes students are tech-savvy and capable	Confident students can handle digital assignments	Students create digital products (e.g., videos, timelines, podcasts)
7. Challenges	Types of challenges	Fast-paced tech development; limited facilities; older lecturers slower to adapt	Limited tech resources, inconsistent connection, student digital skill gaps	Inequity in access, overreliance on poor online sources, attention issues
	Solutions/strategies	Calls for joint effort from school, teachers, and students	Uses free tools, offers training, teaches source verification	Uses offline tools and tutorials, guides digital literacy, keeps tech purposeful

Overall, the result demonstrates that technology integration across the three Southeast Asian contexts consistently emphasized student engagement, interactivity, and learner participation. Although lecturers employed different digital tools and strategies depending on institutional conditions and technological access, all participants shared similar pedagogical goals: making history learning more contextual, inquiry-oriented, and student-centered. The results further indicate that successful technology integration depended not only on technological resources, but also on lecturers' adaptability, pedagogical planning, and digital literacy guidance.

3.2. Discussion

The three lecturers from Vietnam, the Philippines, and Indonesia share a generally positive perception of the role of technology in teaching history. They view it as a transformative tool to foster engagement and support learning. As VAT from Vietnam noted, "*technology is evolving*," highlighting its inevitable presence in modern education. Meanwhile, MG from the Philippines stated, "*the purpose of using technology in the classroom is to make the discussion more meaningful and interactive*," reflecting a pedagogical shift towards student-centered learning. AA from Indonesia emphasized that technology is vital "*to promote meaningful, active learning and ensure students experience history in a contextual and connected manner*." This perspective is consistent with that of Kerimbayev *et al.* [21] who observed that a student-centered methodology enabled by new technologies greatly enhances student motivation, involvement and co-operation in educational circumstances. Interactive digital technology is important in rejuvenating historical interest and literacy as indicated by Fahrudin *et al.* [22] discovered that students' cognitive, emotional, and behavioral involvement was very much promoted when they were used in history teaching [23], [24]. A key finding of this study is that lecturers across different Southeast Asian contexts shared similar pedagogical goals in using technology, particularly enhancing engagement and contextual understanding, despite differences in infrastructure and institutional support. This finding suggests that technology integration in history education is increasingly perceived as a pedagogical transformation that promotes contextual, student-centered, and inquiry-oriented learning practices rather than traditional memorization-based instruction.

The teachers are also keen to harness technology for making history more contextual and relevant to students' learning experiences. They concede that history is often viewed as being boring or unchanging, so using digital resources makes things more constantly changing or exciting. "*I use technology in the class because in our country, history is seen as a dull subject*," said MG, a testimony that he wants to change that mindset of students. AA expressed this view when describing how she "*use[s] technology to reach learners in a way that is more inclusive and more contextual*." This is in line with Fahrudin *et al.* [22] who argued that interactive digital approaches such as role-play, simulations, and multimedia can enhance historical understanding and student engagement tremendously. In their opinion, the need to minimize students' boredom and indifference in history classrooms justifies these practices.

Effective technology integration requires careful planning. Each lecturer uses a different method when creating lesson plans that incorporate digital resources. "*We typically prepare lesson plans and teaching materials prior to the commencement of the new academic year*," VAT said, highlighting an organized institutional methodology. MG integrates technology into the curriculum, but AA ensures that her materials align with national standards and "*each learning outcome*," emphasizing the need for intentional pedagogical and digital resource alignment. According to Panakaje *et al.* [25], teacher readiness and appropriate pedagogical alignment are key factors in the success of technology-enhanced learning.

The implementation of technology among the instructors is diverse and innovative. The lecturers use technology in a variety of creative ways. Digital storytelling, YouTube, Padlet, Google Forms, and other platforms are commonly used. MG's statement, "*I utilized Padlet to catch student interest ... to enhance information retention*," for instance, demonstrates an effort to support collaborative and reflective learning processes. AA employs a multifaceted approach utilizing technologies such as digital archives, Padlet for reflections, and YouTube films for contextual understanding, thereby enhancing the learning experience. Similarly, Kerimbayev *et al.* [21] endorse this viewpoint, contending that modern educational settings using varied technologies foster critical thinking, collaboration, and improved learning outcomes.

Technology is strategically used during different lesson phases, particularly opening and main activities. Lecturers rely on videos and interactive tools to generate interest. VAT said, "*We usually use YouTube ... to provide new knowledge*," MG described how she "*used the duck race and the color of the wheel*" to gamify classroom discussions. These methods demonstrate that digital tools are employed not only to distribute content but also to stimulate participation and historical inquiry.

Assessment practices have also been enriched through technology. AA uses tools such as Google Forms, Quizizz, or Socrative for instant feedback. MG explained, "*I created the assessment, sometimes an essay, multiple choice, modified true or false ... I used this because it gives instant feedback to the students*." These tools help make evaluation more efficient and student-friendly. Furthermore, all lecturers agree that

students are capable of creating digital assignments. AA stated, *“They can create videos, podcasts, infographics, or digital exhibitions.”*

An unexpected finding of this study is that students across the three contexts were reported not only as capable users of technology, but also as active digital producers of historical learning artifacts (e.g., videos, podcasts, timelines, and digital exhibitions). This is a significant finding, as lecturers continued to observe a strong inclination for students to engage creatively when they were given structured guidance and purposeful tasks, despite persistent concerns about unequal access and varied digital competence [16], [26]. Furthermore, the lecturers’ optimism regarding technology remained consistent, even in environments with infrastructural limitations. This suggests that pedagogical agency and intentional design may be as critical as technological availability in facilitating meaningful digital history learning [27].

Despite their enthusiasm, the lecturers face notable challenges. VAT mentioned that *“the older the lecturer, the slower the use of technology”* and that facilities are *“still difficult.”* MG listed *“limited resources, technical issues, students’ varying digital skills,”* while AA added *“limited access to devices or internet”* and *“difficulty in maintaining focus during online sessions.”* These challenges reflect not just technical issues but also systemic and human barriers in the integration process. Similarly, although digital tools improve teaching, their effectiveness is contingent upon infrastructure, instructor capacity, and institutional support systems [28], [29].

When interpreting these findings, it is important to consider a number of limitations. To begin, the study was limited to only three lecturers (one from each country), which provides depth but restricts the generalizability of the findings to broader populations of history educators in Indonesia, the Philippines, and Vietnam. Secondly, despite the use of documentation to support triangulation, a significant portion of the evidence is derived from the self-reported perceptions and reflections of lecturers, which may be influenced by personal or institutional expectations. Third, the study did not include student perspectives or learning outcome measures, which means that conclusions regarding effectiveness are predominantly based on educators’ accounts rather than direct evidence of student achievement. Furthermore, the study depended on remotely conducted interviews and documents provided by participants, thereby constraining the degree to which classroom procedures may be independently validated.

The findings suggest that technology integration in history education should move beyond simple digital substitution toward inquiry-oriented and student-centered learning practices. Universities and policymakers should prioritize sustained professional development programs that support lecturers’ pedagogical and digital competencies. In addition, institutions should improve equitable access to digital infrastructure and promote digital literacy, particularly in evaluating historical sources and online information credibility. The study contributes to the limited body of discipline-specific research on digital pedagogy in history education within Southeast Asia and provides practical insights for educators, curriculum developers, and policymakers regarding technology integration in humanities instruction.

To address these obstacles, the lecturers employ adaptive strategies. MG utilizes *“free digital tools, offers training sessions, and teaches students how to evaluate sources effectively.”* AA suggested using *“low-bandwidth tools or offline resources,”* emphasizing the need to *“design interactive and purposeful tech use to maintain focus.”* VAT proposed broader collaboration, stating, *“Perhaps it is necessary to make more efforts of both lecturers, students, and schools.”* These responses highlight their commitment to creating inclusive, effective digital learning environments. Supporting this, Kerimbayev *et al.* [21] emphasize that the development of digital environments with a clear purpose is crucial for ensuring enduring impact and equitable access, even in resource-limited environments. This is in line with their findings.

This study contributes theoretically to the discourse on digital pedagogy and technology integration in history education by extending the technological pedagogical content knowledge (TPACK) framework within Southeast Asian higher education contexts. The results of this study show that contextual factors like digital infrastructure, institutional support, students’ digital literacy, and sociocultural learning environments also have a significant impact on the efficacy of technology integration in history education, even though TPACK emphasizes the relationship between technology, pedagogy, and content knowledge.

Furthermore, this study highlights that meaningful digital pedagogy in history education is shaped not only by lecturers’ technological competence, but also by pedagogical intentionality and inquiry-oriented learning practices. The results show that through podcasts, videos, timelines, and other digital initiatives, students are positioned as active producers of historical knowledge rather than just passive consumers of digital content. This research supports the growth of student-centered and inquiry-based approaches in Southeast Asian humanities education and advances a more reflective and participatory understanding of digital history pedagogy.

4. CONCLUSION

This study investigated how university history lecturers in Vietnam, the Philippines, and Indonesia perceive and implement technology integration in history instruction within diverse Southeast Asian higher education contexts. This study adds to the small corpus of discipline-specific digital pedagogy research in Southeast Asia as a cross-national qualitative investigation with a particular focus on history education. According to the results, instructors believe that using digital tools can improve student engagement, contextual understanding, relevance of history education, and interaction. Participants from many contexts emphasized the need of pedagogical intentionality, which involves ensuring that technology use matches with students' learning requirements and curriculum objectives. They also overcame recurring hurdles, such as limited internet connection, unequal digital capabilities, and worries about the authenticity of online information, by applying adaptive tactics including low-bandwidth technologies and explicit digital literacy instruction.

The findings also show that meaningful technology integration in history education goes beyond the use of digital resources and necessitates inquiry-based learning methods, historical thinking development, and institutional support. This study provides useful insights for enhancing history teaching techniques in higher education by promoting more student-centered, reflective, and technologically enriched learning settings. As a result, colleges should boost continuous professional development programs and provide dependable digital infrastructure to encourage lecturers' instructional innovation. Furthermore, technology integration programs should prioritize digital literacy for both instructors and students, especially when examining historical sources and online material critically. Future research should include more diverse participant representation, as well as student viewpoints and learning evidence, in order to provide a more thorough picture of technology-supported history education in Southeast Asia.

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C : Conceptualization

M : Methodology

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I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

CONFLICT OF INTEREST STATEMENT

Authors state no conflict of interest.

DATA AVAILABILITY

The authors confirm that the data supporting the findings of this study are available within the article.

Technology integration in Southeast Asian university history education: a qualitative study (Darnawati)

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