Jurnal
Manajemen
Teknologi

Jurnal Manajemen Teknologi, 24(3), 2025,243-263
Available online at http://journal.sbm.itb.ac.id

The Role of AI in Academic Activities: A Comparative Analysis of Communication Dynamics in Jakarta and Perth

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Abstract. *This study explores how Artificial Intelligence has been adopted in communication at the higher education level by comparing institutions in Jakarta, Indonesia, and Perth, Australia. Grounded in Media Richness Theory and Cognitive Dissonance Theory, this study investigates how AI-based tools reshape communications practices, personalization of learning, and institutional adaptation in two divergent cultural and infrastructural contexts. The qualitative design involved collecting data through in-depth interviews with 32 participants —16 in each city —along with non-participant observations and document analysis of AI policies and institutional reports. All interview transcripts were thematically analyzed using NVivo 14 software, supported by Braun and Clarke's (2023) six-phase framework. Coding revealed four key themes: (1) AI as an administrative enabler, (2) pedagogical personalization and engagement, (3) cultural and ethical preparedness, and (4) institutional and policy alignment. Triangulating interview, observation, and document data further enhanced the credibility and depth of interpretation. For instance, results from Perth indicate a higher use of AI, with richer media interactions and greater readiness for institutional adaptation, compared to the fairly fragmentary, administratively inspired development of such use in Jakarta. The study adds to the theory by connecting communication richness and dissonance reduction mechanisms with specific AI adoption behaviors. It sets out some empirically based policy, training, and ethics governance recommendations for education.*

Keywords: *Artificial Intelligence; Academic Communication; NVivo; Thematic Analysis; Comparative Study; Jakarta and Perth*

How to Cite: *Yunus,U., Ramonita, L., Husada, S and Allmark, P. (2025). The Role of AI in Academic Activities: A Comparative Analysis of Communication Dynamics in Jakarta and Perth. Jurnal Manajemen Teknologi, 24(3), 243-263. doi:10.12695/jmt.2025.24.3.4*

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Received: February 8th, 2025; Revision: July 2nd, 2025; Accepted: October 23rd, 2025
Print ISSN: 1412-1700; Online ISSN: 2089-7928. DOI: http://dx.doi.org/ 10.12695/jmt.2025.24.3.4

Published by Unit Research and Knowledge- School of Business and Management-Institut Teknologi Bandung

Introduction

With the emerging trend of universal absorption of Artificial Intelligence in every field. In this context, education AI (Artificial Intelligence) has the potential to transform environments by providing improved pathways of communication between students and the institutions (Pandl et al., 2020). AI can provide personalized learning pathways, automate administrative tasks and increase system efficiency (Zhai et al., 2021). Feedback and evaluation processes are traditionally heavily relied upon in the teaching of writing, with these being time consuming, and subject to human bias. Thus, there is an increasing interest in the application of artificial intelligence in writing instruction to provide a more efficient and objective feedback and assessment. AI-enabled assessment tools for writing have shown improvements, both in accuracy and effectiveness. "AI has the potential to revolutionize education, enhancing teaching practices and personalizing learning experiences" (Luckin et al., 2022). The implication of AI-mediated communication in the education context is profound.

Moreover, academic activities in different countries have also used artificial intelligence. AI-Mediated Communication Involves utilizing AI to help generate or improve messages to reach communication goals (Hancock et al., 2020). It makes communication more efficient and can provide better student support. Increasingly, interest and exploration are being paid for its prospect of transforming methods of communication and assessment of writing in educational settings. We examine AI-powered assessment tools to improve academic writing pedagogy in this study. We offer a comparative study of the implementation of AI in academic institutions in two capital cities: Jakarta, Indonesia, and Perth, Western Australia. Just as the cultural aspects of the two cities differ, so does the implementation of AI in academia. This study is also the first to perform comparative analysis.

We critique the potential of Media Richness Theory (MRT) (Carmichael et al., 2021) and Cognitive Dissonance Theory (CDT) in the case of academic institutions adopting AI-powered assessment tools (Mouta et al., 2024). Not exclusively focused on AI but rather the communication dynamics enabling AI. Theories are used to describe AI as a medium of communication and to analyze how humans adjust to technological evolution.

This study combines MRT and CDT to explain how educators and students in academic settings interact with, interpret, and adapt to AI-powered communication tools. The framework here conceptualizes AI systems, such as chatbots, adaptive learning platforms, and automated feedback applications, as communication media with differing levels of richness. Drawing from the criteria postulated by Daft and Lengel in1984 (Sheer, 2020), media richness is operationalized through three indicators: (1) interactivity, or the immediacy and responsiveness of AI-human exchanges; (2) personalization, where the system should be able to customize information to match the profile of a particular user; and (3) feedback richness, referring to the presence of multimodal, adaptive, and affective feedback mechanisms. These indicators are observed in this present study through interview narratives and institutional documentation of AI usage in both Jakarta and Perth.

Meanwhile, the Cognitive Dissonance Theory has been used to explain the psychological adaptation process that takes place when educators' and students' beliefs about AI's potential benefits conflict with their institutional reality or ethical concern. Dissonance is triggered when expectations of AI's effectiveness clash with barriers like inadequate infrastructure, data privacy, or lack of training (Habib et al., 2025). It is processed through emotional and behavioral responses-skepticism, experimentation, or selective trust-and resolved with institutional adaptation, professional development, or gradual normalization of AI use.

By combining these two, the framework illustrates how Media Richness Theory explains AI platforms afford communication flow and understanding, whereas Cognitive Dissonance Theory indicates how users cognitively and emotionally reconcile the experiences in adopting AI. Together, they form a dual-lens approach that helps link technological communication affordances with human psychological adjustment. This finally explains why Perth exhibits smooth adoption of technology (low dissonance, high richness) compared to Jakarta (high dissonance, low richness). An integrated model that informs the analytical logic was applied throughout data interpretation in this study.

This study finds the MRT or CDT particularly instrumental in analyzing the adoption of AI in schools. They are the cultural contexts, regulatory frameworks, infrastructure readiness, and ethical considerations of (Harmon-Jones & Mills, 2019a), and the problem of sharing data on AI adoption as suggested (Shepherd & Martz Jr, 2006) which represents a challenge but at the same time is an opportunity. By integrating these theories, this research aims to provide a comprehensive theoretical framework that encapsulates the practical implications of the potential effectiveness of AI-powered assessment tools in fostering communication dynamics in academic institutions.

Jakarta and Perth take two very different approaches to address this communication necessity in their respective backgrounds and stages of economic development and that is the reason for the variation in the results we see. Jakarta, in the Global South; Perth, in the Global North. Further "the influential appropriation of AI by the HE is the genesis of socioeconomic development, as AI technology is enacted into industries and organizations" (Maphosa & Maphosa, 2023). As the capital city of Indonesia, Jakarta depicts an extensive and urban setting alongside a growing tech industry (Martinez & Masron, 2020). Proven wealthy city in Australia – Perth- which has a vast infrastructure focusing on development, creativity and education (Maginn & Foley, 2017). Jakarta's tech community has a very vibrant, and an entrepreneur spirit that the number of tech startups and initiatives concerning AI applications is increasing. In Indonesia, although acknowledging some issues in educational contexts, the policies related to artificial intelligence in education are generic and specific since there is no robust evidence of the implementation of AI technologies.

By contrast, Perth has an established technology ecosystem that sees schools and universities, research institutions and companies collaborating for AI research and development. There are frameworks existing for AI and data privacy for both Indonesia and Australia (Walters & Novak, 2021). Jakarta's regulation of AI is still developing, which presents both challenges and playing opportunities for AI in environments. Conversely, with Australia as a controlled body, Perth works within the law whilst at the same time encouraging innovation but still ensuring data protection and responsible AI use.

Education is a strong driver for AI in Perth, with schools and universities conducting research in AI and providing degrees in data and artificial intelligence (Stephenson et al., 2022). The same trend is true for Jakarta, the capital city of Indonesia, which has launched data science and AI programs. Still, the use of technology for academic purposes is still in its infancy in Jakarta's educational institutions (Yong & Liu, 2024). Generational diversity within each city in terms of both the languages spoken and the range and differences in kinds of education also affect how AI might fit into and participate with both places.

Through identifying key barriers, opportunities, and effective methods, this study will explore the optimization of AI use in educational settings in Jakarta and Perth. Through a comparative examination of Jakarta and Perth's communication

processes, we will identify variables that encompass factors such as cultural, linguistic, and technological (Ismail, 2016). The aim of this detailed investigation is to uncover differences in willingness to accept and also examine potential pitfalls regarding the use of AI-enabled assessment tools. Results represent first steps for AI use to be better captured and leveraged for teaching and learning, and add to current discussions about ensuring fairness and innovative but ethical AI use. Additionally, through the analysis of the particulars of implementation for AI in Jakarta vs. Perth, this research also informs questions of the flexibility and scalability of AI-driven assessment systems across a variety of academic contexts. By emphasizing the way AI could transform communication dynamics in educational institutions, this research aims to be part of the ongoing dialogue around AI and pedagogy, providing practical implications for educators, students, and academic organizations.

Theory/Literature

The Role of AI in Academic Institutions

The adoption and incorporation of artificial intelligence (AI) in education have been studied in varying shapes and forms in previous studies. In addressing the divergent patterns of AI use in emerging and mature economies, Smith and Johnson-Hanks (2015) explored how socio-economic contexts shape AI's impact and implementation (Smith & Johnson-Hanks, 2015). Likewise, Selwyn et al. (2023)explored the impact of cultural factors on the integration of AI in university education in Indonesia and Australia. In contrast, Chaudhry & Kazim (2022) investigated the adoption of AI-powered applications within academics for the improvement of learning and assessment systems. In this context, these studies synthesize the opportunities and challenges posed by AI integration in education and underscore the emergent tools of intelligent tutoring systems, personalized learning platforms, and automated assessment tools. Moreover, they emphasize the need to address ethical considerations, protect data privacy, and encourage evidence-based practices in the implementation of AI technologies.

The Role of Academic Institutions in Promoting AI Adoption

According to Luckin et al (2022), educational institutions are central to how we develop AI-use, creating a needs model for pursuing AI adoption. This includes a study of university initiatives to introduce AI technologies into curriculum design, student support services and administrative processes. The study identifies key drivers of successful AI adoption such leadership support, institutional policies, interaction with industry partners, and faculty engagement

The role of teachers is just as important in AI adoption as in Wang et al. (2024) empirical study that sought to identify factors that may shape teachers' use of AI in education. The results showed that perceived usefulness, ease of use, technological readiness, training and support, and organizational culture are noteworthy predictors of AI adoption among educators. As this summary indicates, we need enough training and support to ensure the successful incorporation of AI technology into teaching and learning approaches.

In addition to educators and institutions, the perspective of students is also an important factor that affects the adoption process. Wang et al. l (2024) performed a qualitative study about student attitudes toward integrating AI in education. Their research revealed insights about students' experiences with personalized learning platforms; data privacy concerns; algorithmic bias awareness; and the challenges of designing for students. The study stressed the importance of engaging students in conversations about how AI should be adopted and responding to their input and concerns in the design and deployment of AI technologies.

Current Literature and Frameworks for AI in Education

This constitutes an increasingly large and rapidly growing body of literature around the use of AI in educational environments. As an example, Maphosa and Maphosa (2023) provide a bibliometric analysis of more than 300 articles on AI in higher education, yielding insight into prevailing trends and research directions. For example, Hussain and Ahmad (2024) mapped the literature on AI in academic libraries and found more than 370 papers addressing the topic. An understanding of trends, challenges and opportunities associated with AI in higher education is important; for instance, Alshahrani et al. (2024)proposed a comprehensive framework for the adoption of AI based on lessons learned to guide higher education institutions during adoption of AI in the education process. The framework's key steps (needs assessment, stakeholder engagement, pilot testing, scalability planning, and continuous evaluation) provide practical guidance for educational institutions looking to integrate AI effectively.

However, although bringing valuable insights, these studies generally adopt a narrow perspective concerning the issue of AI integration in education and do not specify whether institutional preparedness is conducive to educator involvement or if it bears an opposition to the level of student engagement, nor do they claim that the three are decisive dimensions influenced by the ethical/technical hindrance of the process on the way.

The Complexities of AI Adoption in Education

With the increasing complexity of AI technology, skills are needed to apply such in our daily lives (Dwivedi et al., 2021). This involves training user groups like educators, administrative staff, and IT experts who can implement AI across various strands. AI in practice also concerns large amounts of data which may invade the personal data privacy and security (Chen et al., 2021). The education world should identify how data can be protected, comply with relevant provisions on the security of personal data, and be transparent with regards to the use of certain data to build trust of all parties involved.

The AI use cumulates in ethical questions, the fairness in certain parties, accountability, and transparency (Bogina et al., 2022). In this case, educational institutions, educators must put first the ethical issues and also to audit AI algorithms in their application to the academic world. With respect to AI use, particularly for decision making, stakeholder inclusion must be required for the existence of AI as a remedy to address problems and be used appropriately (Chang & Ke, 2024). Financial investment also needs to be spent to use AI technology in the implementation of specific academic activities. Besides that, it needs infrastructure readiness and human resource readiness to implement it. There is a need for educational institutions to prioritize AI and make it a strategic thing to achieve educational goals. In that case, institutions can leverage funding opportunities with investors, and external partnership opportunities, to make the use of AI innovative (Southworth et al., 2023).

Get to know a little more about AI technology for education. The teaching system, through AI whenever possible, can be personalized in such a way that it can watch the target learning needs and preferences of students in learning (Ayeni et al., 2024). To realize this goal, it is necessary to develop AI that can analyze various things in learning activities, such as learning patterns that are appropriate for students according to interests and learning goals. It is also going to deliver specific and non-general feedback for every learning. AI-based technology enables learning material to be presented and delivered in real-time, allowing learning objectives to be fulfilled as much as possible. So, access to learning via AI must be equitable so that there are no educational divides. Providing access to AI for every person, particularly at schools, is how the digital divide can be eliminated once and for all. This is a prototypical education system that embraces the principles of inclusive AI development (Siddiqi, 2024).

Integrating AI involves the participation of all potential stakeholders, such as researchers, policymakers, educators, and industry partners. A collaborative ecosystem will foster sharing of knowledge, innovation, and co-creation of AI based solutions for a specific educational environment (Aithal & Maiya, 2023). In summary, this implies regular research, implementation evaluation and strict validation studies to be performed to move AI-based educational technology towards more effective learning. Institutions need to use evidence-based practices, gather data on the use of AI and how effective it is, and continually iterate on AI algorithms informed by research feedback and results.

Research Methodology

Research Design and Data Collection

This study employed qualitative research design to investigate the use of artificial intelligence (AI) in academic communication adopted by educational institutions across two cities, namely: Jakarta and Perth. Data was obtained from in-depth interviews with 32 participants, 16 of informants from each site. Participant Factors: Participants in this study consists of the Junior High School Teacher, High School Students, College Students, Library Lecturer, and Administration. The interviews were designed to explore how AI supports

Sampling Technique

Purposive sampling was used to recruit informants with appropriate knowledge and experience related to the topic. Participants were selected based on key characteristics, including their role within an educational institution, to gauge varying insights regarding the use and impact of AI in academic communication. These informants were selected for their direct engagement with AI, either as users or implementers, as well as recruitment for their ability to provide meaningful perspectives on the research questions.

Table 1.
Informant Criteria

The study categorized informants based on their roles in Jakarta and Perth to reflect the differing educational systems and AI applications in each context. Table 1 outlines the criteria for informant	**Category**	**Role**
Jakarta	Junior and Senior High School Teachers	Key figures in the teaching process, providing insights into AI-supported communication.
	Junior and Senior High School Students	Users of AI-based systems, sharing their experiences and engagement in academic communication.
	University Students (Medical & Social Sciences)	Perspectives on AI use in higher education settings, particularly in technical and social disciplines.
	Lecturers and Library Heads	Insight into information management and the impact of AI on academic processes.
	Library Staff and Academic Administrators	Practical experience with AI-based systems in daily operations.

Table 1. *Continued*

The study categorized informants based on their roles in Jakarta and Perth to reflect the differing educational systems and AI applications in each context. Table 1 outlines the criteria for informant	**Category**	**Role**
Perth	Junior and High School Teachers	Perspectives on AI integration in secondary and high school education.
	Junior and High School Students	Student perspectives on AI's role in learning and communication processes.
	University Students (Exact & Social Sciences)	Views on AI in specialized educational settings.
	Lecturers and Library Heads	Roles in academic communication and information retrieval facilitated by AI.
	Academic Staff	Practical experience with AI in student and faculty interactions.

Number of Informants

A total of 16 informants were interviewed in each city, ensuring a manageable yet diverse data set. The distribution of informants by role is presented in Table 2.

Table 2.
Number of Informants by Location and Role

City	**Role**	**Number of Informants**
Jakarta	Junior High School Teachers	2
	High School Teachers	2
	Junior High School Student	1
	High School Student	1
	Medical Students	2
	Social Sciences Students	2
	Lecturers	2
	Library Head	1
	Library Staff	1
	Academic Administrative Staff	2
Perth	Junior High School Teachers	2
	High School Teachers	2
	Junior High School Students	2
	High School Students	2
	Exact Sciences Students	2
	Social Science Students	2
	Faculty Lecturers	2
	Library Head	1
	Academic Staff	1

Justification for the Sampling Approach

Purposive sampling was adopted so that participants were directly involved in, or affected by, applications of AI in academic communication. The study collected data that was specific, contextual and in-depth by targeting relevant informants. For example, librarians were able to share their ideas around the use of AI in data management and how students thought about AI to support their learning and interaction with their lecturers.

Observations and Document Analysis

This study utilized in-depth interviews, non-participant observations, and document analysis to triangulate data and augment validity. Observations took place in chosen educational institutions in Jakarta and Perth to document real-time communication practices and the utilization of AI-based solutions in academic endeavours. The researchers concentrated on classroom interactions, administrative procedures, library services, and student support systems. Detailed field notes were collected to record the type, frequency, and context of AI integration in academic activities. Document analysis included looking at school reports, institutional regulations, AI integration guidelines, learning management system (LMS) records, and government education strategies that were available to the public in both locations. These documents were chosen on purpose to help people understand AI adoption frameworks and how institutions work. These observations, interviews, and document analysis organized for methodological triangulation, which made the results more credible and trustworthy.

Data Quality and Relevance

The qualitative nature of this research favored depth over quantity, in accordance with the recommendations of Malterud et al. (2016), which favor meaningful and conceptually relevant data over quantity when it comes to qualitative studies. Data collection and analysis were carried out in parallel, resulting in somewhat complementary datasets that allowed for in-depth exploration of the phenomenon and detailed descriptions of AI's role in academic communication in two culturally divergent contexts.

Data Analysis

All 32 interviews were transcribed verbatim and analyzed by thematic analysis, following (Braun et al., 2023) six-phase framework. NVivo 14 software managed data coding and retrieval. The analytic approach combined induction and deduction: inductive codes were derived from participants' narratives, while deductive codes were guided by the principles of Media Richness Theory and Cognitive Dissonance Theory.

This led to an initial 68 descriptive codes, which were later condensed into 11 focused codes, and finally clustered into four key themes:

1. AI as an Administrative Enabler: this is the automation of communication, scheduling, and data management.
2. Pedagogical Personalization and Engagement: Adaptive learning and media-rich student teacher interaction.
3. Cultural and Ethical Readiness: Inclination towards AI ethics, trust, and perceived academic integrity.
4. The alignment of institutional and policies: governance frameworks, infrastructure readiness, professional development.

To enhance trustworthiness, the study employed methodological triangulation by combining three qualitative sources: (1) semi-structured interviews with educators, students, and administrators; (2) non-participant observations are used in classrooms, libraries, and administrative offices; and (3) document analysis of AI policy papers, institutional reports, and education strategies of Indonesia and Australia. Themes were also cross-validated across data sources for credibility, dependability, and confirmability (Lincoln et al., 2011). Any discrepancies in the coding were resolved through discussions among researchers until a consensus was reached.

Results And Discussion

These results emanated directly from the thematic analysis described above. Each theme is a synthesis of insights from multiple data sources and stakeholder groups. Quotes from participants are selected that provide core interpretations and illustrate how the empirical evidence aligns with the theoretical framework.

The Implementation of AI in Academic Communication in Education Institutions

This research focuses on the implementation of Artificial Intelligence (AI) in academic communication in several educational institutions in Jakarta and Perth. Individuals and institutions have been anonymized for privacy. The results show the increasing use of artificial intelligence to promote efficiency in administration in education, personalized learning experience and enhanced communication. Here's a comparative perspective on AI applications across these regions.

Table 3.
Key Application of AI in Jakarta and Perth Academic Institutions

Institution	AI Application	Details
Jakarta Campus A	Chatbots, e-learning platforms, mental health, and security	AI-based chatbots for administrative queries; personalized learning recommendations; mental health apps.
Jakarta School B	Academic monitoring and plagiarism detection	Insights on students' strengths and weaknesses; automated feedback on assignments.
Jakarta Campus C	Adaptive learning and virtual training	AI for tailoring learning experiences and generating personalized exam questions.
Jakarta School D	Research, mental health, and security	AI for predictive models in health and cybersecurity; apps like Woebot for mental health support.
Perth Campus E	Progress reports and assignment grading	Automated progress reporting; focus on improving teacher-student-parent communication.
Perth Campus Y	Simulation-based learning	AI-driven simulations for exact and social sciences, including real-time feedback.
Perth Campus Z	Library management systems	AI-powered tools like SLiMS and iLis in Jakarta, Avigilon and XProtect for enhanced campus security in Perth.

The above table showcases the usage of AI applications in Jakarta and Perth educational institutions selected for the research. Campus A is a prime example of a holistic approach of applying AI to help the administration function better, while delivering holistic experience to students. AI chatbots help tackle questions about lecture timings, scholarships, on-campus events, etc., relieving the administrative workload significantly. "AI

helps us track attendance and manage assignments more easily, but we haven't fully familiar to use it for teaching or personalized learning" (Lecturer, Jakarta). Furthermore, integrating its capabilities into e-learning platforms offers personalized reading suggestions tailored to individual learning needs, creating an adaptive learning environment. For mental health, AI applications can leverage instances of stress or anxiety to provide students with counseling referrals. From identifying potential dangers, creating a secure setting for learning, and even those proactive measures behind the scenes, AI-based campus security systems add to the overall safety while offering these dividends. This wide application of AI demonstrates its capacity in developing a more supportive and effective campus environment.

Our new school B - academic performance monitoring and assessment analysis of student data. Questions like, 'What could be better?' and 'Which, if any, of your strengths could you further develop?' can serve this end, allowing educators to understand better the support their students need to excel. Furthermore, AI tools help to facilitate a seamless assignment evaluation process, which ensures checks for plagiarism and provides automated feedback. Beyond underlining academic integrity, these processes lessen the burden and pressure placed on educators and give them more time to move toward pedagogical practices.

Campus C leverages AI to enhance communication between lecturers and students. Students are constantly notified of their academic responsibilities with automated email reminders and assignment updates. Moreover, AI systems are used to monitor and encourage online participation in these discussions, helping the lecturer measure participation and contribution levels. Hearts is always bringing us these light bulb moments, the moments when we delve into technology that will ultimately create more open, participatory classrooms.

On the other hand, School D demonstrates the power of AI in adaptive educational platforms that personalize learning according to students' unique pace and learning style. These systems cater to individual student needs and promote knowledge retention and engagement through personal recommendations for individual learning experiences. With dedicated training modules of virtual training, simulated examination scenes with unique solutions are provided to different problems faced by students, ultimately shaping them in a much better manner, preparing them for the assessments. Meanwhile, other common apps that are used in Jakarta include Ruangguru, SiaKAD Cloud, Quipper, and SLiMS on top of institutions-specific applications. These platforms leverage AI for personalized education, effective academic data management, and library services.

AI adoption in Perth follows a similar trajectory but shows a more extensive adoption blueprint for integration intech in academic systems and mental health support. Campus E distinguishes itself with its dual focus on research innovation and practical AI applications. "The platform reminds me about upcoming tasks and suggests materials that match my progress — it's like having a digital academic advisor" (Student, Perth). Creating a research center dedicated to areas such as cybersecurity, big data analytics, and healthcare reflects the desire to use AI to advance society. At the same time, its operational implementation of AI strengthens national recruitment and retention initiatives aimed at institutional growth and sustainability.

Virtual areas dedicated to mental health support, powered by AI-based tools such as Woebot and Wysa (known for internet Cognitive Behavioral Therapy (CBT)), foster connections with professional counselors through a minor fee. This integration exemplifies the potential for A.I. to provide a bridge between accessibility and personalized care. Avigilon and Milestone XProtect are advanced security systems that

further enhance safety by proactively monitoring activities and identifying potential risks, thereby reinforcing a secure learning environment.

Campus X and School Y show how AI can streamline the process. For example, at Campus X, AI-powered online learning platforms track student engagement and notify lecturers when to step in and offer academic support, promoting timely assistance. Once the students are into the workflow, there are automated systems that send reminders for assignments to be completed and ensure that, based on the progress students are making, they will be sent relevant materials to make sure they stay on course. In a similar vein, School Y utilizes AI to send home auto generated progress reports to parents, helping improve communications and creating a supportive learning environment. Objective assessments are also streamlined through AI-assisted grading systems, enabling those handling nuanced evaluations to concentrate on their core tasks.

At Campus Z, we have witnessed the power of AI to enhance experiential learning, especially in healthcare. The campus uses project simulations that incorporate AI to give students a taste of hands-on experience in real-world scenarios. In addition, real-time feedback mechanisms allow students to continuously hone their skills and improve learning outcomes. As one small example, this kind of approach shows how AI can help students gain experience with real-life challenges where they become a professional amongst a community, without the immediate dangers of the real world.

The W School Library is another fine example of the ways in which AI can enhance academic resources and user engagement. And AI-powered systems can suggest heretofore unknown literature based on past borrowing histories but unleashes a new level of individual customization to the user experience and intellectual exploration. Along with that, chatbots reduce the volume of inquiries, thus making libraries more accessible and user-friendly.

The comparison of AI in educational institutions in Jakarta and Perth will bring this point home even more. Table 4 summarizes the similarities and differences which illustrate how institutions from both cities employ AI to meet administrative, academic, and operational needs.

Table 4
Comparative Overview of AI Applications in Jakarta and Perth

Feature	Jakarta Institutions	Perth Institutions
Administrative Efficiency	Chatbots (e.g., Campus A), Academic Data Management (SiaKAD)	Chatbots, AI analytics for recruitment (Campus E)
Learning Personalization	Adaptive Learning (School D), Quipper	AI simulations (Campus Z), EAB Navigate
Mental Health Support	Basic Counseling Apps (Campus A)	Woebot, Wysa with CBT-based support
Security Systems	Basic AI Monitoring (Campus A)	Advanced AI systems (Avigilon, Milestone XProtect)
Library Systems	SLiMS, iLis	AI-based literature recommendations (W School Library)

AI Implementation in Jakarta focuses more on fundamental applications like resembling, chat-bots, and elementary data management systems for basic data management "SiaKAD". They often streamline processes, alleviating workloads for staff and making things easier to access for students. Learning personalization is developed mainly through online learning platforms like Quipper, for example, where content delivery to a student could be personalized to each students' needs and adaptive learning systems as in School D. However, in student's point of view, "Mostly we use AI for admin stuff, like checking schedules or uploading assignments. It's not yet something that helps us learn better" (High School Student, Jakarta). Moreover, mental health support and security system in Jakarta is still basic and not using AI for improvement. Cataloging and user support in library services are based on widely adopted platforms such as SLiMS and iLis.

In contrast, Perth has better and widespread adoption of AI across sectors. Chatbots are just the tip of the iceberg; at Campus E, for example, they use AI-driven recruitment analytics to facilitate strategic planning of human resources. Immersive AI simulations at Campus Z and specialized platforms such as EAB Navigate provide tailored academic support and resources, taking personalization of learning to the next level. "AI tools make our communication faster. I can see which students need help and the system alerts us when someone is falling behind" (High School Teacher, Perth). In Perth smart solutions such as Woebot and Wysa that use Cognitive Behavioral Therapy (CBT) techniques have been integrated for bigger deployments of dwellers, ensuring scalable and effective mental health. Perth security systems also make use of advanced security solutions, with Avigilon and Milestone XProtect offering proactive threat detection and response. The W School Library, for example, uses AI creatively for literature recommendations, allowing users to get informed about literature in their fields of interest.

Teachers and Lecturers' Views on the Use of AI on Education Institution

The views of teachers and lecturers on AI in education institutions complement the discourse on the applications and challenges of AI. There are even AI-based learning platforms like Coursera, Khan Academy, and many LMS you may recognize. These platforms harness the power of AI to adjust curricula based on individuals' student performance, ensuring in-the-moment feedback in a way that is similar to the interactive experience of learning in physical classrooms. This feature known as high media richness facilitates the digital learning experience as it helps increase engagement and cater to the needs of all kinds of learners. But teachers in Jakarta and Perth have different ways of reacting when it comes to incorporating AI in academic settings depending on their values at work, technological literacy and ethics.

Educators who see A.I. as a tool that can help them do their jobs more quickly and efficiently tend to welcome its adoption. For example, they see AI's potential for automating administrative tasks such as grading and class management, freeing them up for teaching and research. This alignment of goals and professional aspirations is what minimizes cognitive dissonance and is making them overall more likely to embrace technological advancements. Additionally, the potential of AI to facilitate personalized education aligns with their investment in high-quality instruction, as it raises the level of individual support for students and improves learning outcomes. The use of AI to support mental health discussed previously only serves to strengthen this belief, making the technology an important extension to educators' mission to cultivate supportive and inclusive learning spaces.

Should you change your research question, research design, and research procedures, Ai is also well known as an instrument to augment inquiry, with precision and efficiency, in terms of data analysis and predictive-informed

modelling. This type of educator views AI as a catalyst and driver of scientific development and educational evolution, akin to Luckin et al. (2022) results as such as faculty involvement is one of the most important factors driving AI through the educational process as proven in our study.

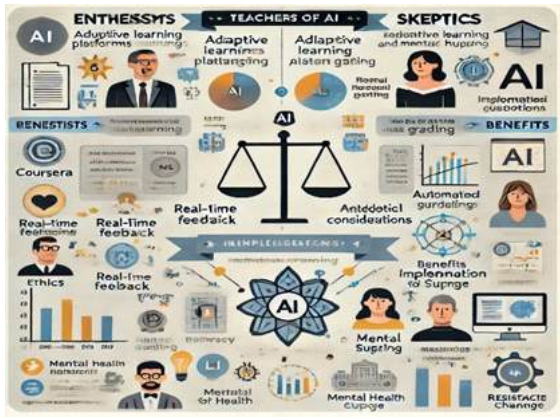
On the other hand, some educators are still skeptical of AI, noting concerns around control, ethics, privacy and academic integrity. Such fears often arise from a perceived disconnect between AI technologies and longstanding educational values. The rise of automated grading systems, for instance, has raised concerns about their reliability and potential bias, paralleling the broader tension between efficiency and the nuanced subjectivity often inherent in human grading. Educators with ethical concerns may avoid adopting AI tools, or may experience cognitive dissonance, searching for signals in their educational environment that will affirm their views or make them relax their views.

AI integration is also complicated by not only technological uncertainty but also resistance to change. Educators who feel uneasy about new technologies may focus on technical issues — the costs of implementing new systems, their reliability — to explain their unwillingness. These dynamic highlights the need for specific training and effective messaging to correct misinformation and instill confidence in educators.

Views on the role of AI in education are divergent among educators right now, so these differences reflect a larger discussion about AI. While many people see its transformative potential, its potential to damage academic integrity and ethical implications of automation needs careful consideration. Co-designing AI technologies with faculty and being transparent about governance alongside progress is key to trust and responsible implementation of AI technologies.

ChatGPT facilitating our image creation was useful to illustrate how teachers perceive the existence of AI in their work.

Picture. Educators Response to Artificial Intelligence



Students' Views on the Use of AI on School and Campus

The perspective of students on this is another important aspect of the conversation, building on what educators previously had to say. The students from private institutions in Jakarta and Perth show diverse opinions on AI which are influenced by their education, field of study, and experience with the technology. Although their responses are largely positive, their concerns and hopes suggest ways to improve how AI is taught and applied.

Many of its students see the transformative power of AI and how it relates to the careers they hope to pursue. Students studying STEM disciplines tend to see AI as a ticket to lucrative, high-status positions, and understand AI in the context of its role in technological and industrial innovation. This optimism is reinforced through exposure to AI applications in our daily settings—everything from virtual assistants (such as Google Assistant and Siri) to features based on AI techniques on social media platforms.

There was also a significant interest among learners in learning skills related to AI, leading them to seek out extracurricular programs like tech clubs, hackathons, or coding programs to augment their knowledge. Both these activities

provide practical experience and supplement formal education which, as many students point out, often lack in-depth coverage of AI topics. For this reason, they seek an integrated curriculum teaching the fundamentals of AI and programming and their real-life application (Alshahrani et al., 2024) stressed the need for including students in conversations concerning AI implementation.

While students are excited about AI, they have real concerns about the ethical and social implications it carries. For example, one common concern is that AI will affect the job market, and many people are scared that automation and robotics will take human jobs, putting their job prospects at risk. This anxiety highlights the importance of educational establishments in preparing students for an AI-powered job market through relevant skill development and fostering adaptability.

Data privacy and algorithmic bias also remain concerns. Such students are wary of AI technologies, specifically on those dependent on a lot of data being gathered. Research by Wang et al. (2024) shows that privacy concerns along with biases in the AI algorithms can impact the perception of students, calling for more transparency and accountability in the design and deployment of AI systems.

These concerns are further compounded by the limited exposure to AI within formal educational settings. According to a large cohort of students currently involved in AI, reigning curricula simply do not present enough detail to enable in-depth understanding of AI and its applications, leading students to seek external resources or extracurricular courses for learning in this area. This highlights the need for AI literacy to be included in the broader curriculum along with access to resources and facilities like computer labs with AI software and online learning resources.

Media Richness Theory, which assesses how effectively communication media facilitate information exchange (Stephenson et al., 2022), can be utilized to analyze the differential levels of student engagement and understanding. Providing tailored content without adding an investment on media richness creates several AI-powered sites which unlike traditional sites can able to capitalise on their data wealth. But the effectiveness of these platforms depend on human-AI interaction. Meanwhile, interactive dashboards can present data in a way that enriches understanding, low quality implementations could fall short of providing such richness.

The Differences in the Use of AI in Jakarta and Perth

Analyzing the second example of AI being used in education between Jakarta and Perth using Cognitive Dissonance Theory (Harmon-Jones & Mills, 2019b). This theory states that we might not feel good when our beliefs, attitudes or behaviors contradict (Anaya-Sánchez et al., 2020; Harmon-Jones & Mills, 2019b), and it force individuals or institutions to change the way they do things to match the way they want it to be. This is especially relevant to understanding how those areas are positioned to respond to the unique challenges and opportunities of AI in the education space.

In Jakarta, the incorporation of AI is still relatively young, working mainly at the administrative level, providing services of general information. Chatbots respond to student inquiries, and libraries use artificial intelligence for basic collection cataloging instead of making high-level, customized recommendations. Likewise, analytics tools for tracking student engagement and personalized learning are very much work in progress.

This gulf between the acknowledged potential of AI and its limited use create institutional dissonance. While educational institutions in Jakarta recognize the transformative advantages that AI could bring them, they are limited by the challenges of insufficient funding, a lack of training among staff, a scarcity of government or private sector support, and poor infrastructure.

In order to mitigate this dissonance, the first step required is enhancing capacities and providing educators with professional development regarding technology. By investing in AI-based learning personalization and communication tools, institutions will be able to better align AI's education benefits with the expectation they have around its educational benefits.

On the other hand, Perth is a bit more developed in using AI in education. Institutions are using AI to identify students and automate their feedback systems, oversee students known to have engagement issues, and customize learning experiences. For example, libraries draw on AI to recommend literature to users according to their preferences, whereas schools use AI to communicate with parents effectively by sending automated reports of student progress. These applications illustrate a broader integration of AI into both academic and administrative processes.

Such congruence between one's beliefs about AI's potential and the practical experience of it serves to ameliorate cognitive dissonance. As its institutions invest in technology, staff training and wider use of AI tools, Perth is bolstering its belief that AI will help usher in a new age of higher education innovation. By seamlessly integrating multiple processes under this structure, the framework establishes a culture of continuous improvement that allows institutions to meet evolving challenges while continually improving learning outcomes.

Jakarta vs Perth: The Case for Aligning Beliefs with Actions to Avoid Cognitive Dissonance: AI Adoption→ Despite a successful integration of advanced infrastructure and strategic investments in Perth, Jakarta still grapples with major technical constraints and institutional hurdles. Tackling these obstacles will require a multi-component approach involving government action, private-sector partnerships, and a focus on developing the human capital needed to execute AI. The table below summarizes the main findings of this study.

Table 5.
The Usage of Academics AI in Jakarta and Perth

Aspect	**Jakarta**	**Perth**
Stage of AI Implementation	Nascent, limited primarily to administrative tasks and general information services	Advanced, integrated into both academic and administrative processes
Applications	• Chatbots for student queries • Basic catalogue management in libraries • Minimal personalized learning tools	• Automated feedback systems • Personalized learning experiences • Advanced library recommendations
Challenges	• Inadequate infrastructure • Limited staff training • Insufficient support from government/private sector	Managing emerging challenges while maintaining progress

Table 5. *Continued*

Aspect	Jakarta	Perth
Cognitive Dissonance	High dissonance due to the gap between potential benefits and current applications.	Low dissonance due to alignment between beliefs in AI's potential and its implementation
Efforts to Reduce Dissonance	• Upgrading infrastructure • Professional development for educators • Investments in AI tools	• Continued investments in technology and staff training • Broader adoption of AI tools
Support Systems	Requires government initiatives and private sector partnerships to bridge the gap	Strong institutional strategies and investments ensure continuous improvement
Outcomes	Limited progress in aligning practices with AI's educational benefits	Enhanced learning outcomes and educational innovation

The results of this research are consistent with previous studies that focus on the importance of the integration of technologies to mitigate dissonance. However, institutions implementing measures that tackle the root causes of these frustrations such as inadequate resources or insufficient training are more likely to see successful integration of AI systems into their educational practices (Anaya-Sánchez et al., 2020; Harmon-Jones & Mills, 2019b). Overcoming these barriers would allow the Jakarta educational institutions to slowly move from discrimination practices to the aspiration, and strive to realise them to achieve the transformative potential of AI in improving academic communication and learning outcome.

Conclusions

This research has explored the use of Artificial Intelligence (AI) in education in Jakarta and Perth and demonstrates the progression and challenges that educational institutions face in both regions. These findings highlight not only that AI holds remarkable potential for improving educational practices but also that its uptake is deeply influenced by various elements (technological infrastructure, staff training, and institutional support).

Perth is much further on down the road on the AI integration journey. Further, institutions have effectively executed the use of AI in both the academic and administrative sphere, leading to enhanced student engagement, personalized learning experiences, and smooth communication. In contrast, its schools are still in the infancy phase of AI usage. Too many common practices focus on things like administrative efficiency and not personalized learning or holistic analytics across a student population.

By applying the Cognitive Dissonance Theory as an analytical framework, the study identifies a key gap in Jakarta. Institutions wrestle with a disconnection between their acknowledgment of AI's game-changing potential and the real-world hurdles of implementation. This mismatch is driven by hurdles including poor infrastructure, a lack of staff training and limited resources.

In contrast, institutions in Perth suffer less dissonance as they have adopted AI well due to established strategies, sustained investments in AI development, and a considerable technology stack. To bridge the gap and foster effective AI implementation in Jakarta, several key recommendations are proposed:

1. Enhancing Infrastructure and Resources: Prioritizing investments in technology infrastructure, including high-speed internet and robust hardware, to support AI-driven systems.
2. Focusing on Staff Training and Development: Providing targeted professional development programs to equip educators and administrators with the skills necessary to utilize AI tools effectively.
3. Promoting AI Literacy Among Students: Incorporating AI literacy into the curriculum to empower students with essential knowledge and skills for a digital future.
4. Encouraging Collaboration Between Government and the Private Sector: Strengthening partnerships to secure funding, share expertise, and develop scalable AI solutions tailored to local needs.
5. Implementing Incremental Adoption and Pilot Projects: Testing AI applications in small-scale projects to evaluate effectiveness and refine strategies before broader implementation.
6. Ensuring Ethical AI Integration: Adopting transparent and equitable AI practices to safeguard privacy, data security, and inclusivity in educational environments.

This would help to lessen cognitive dissonance and align educational practices in Jakarta with AI's potential. Such initiatives will lead to a more inclusive, effective, and innovative learning environment. In conclusion, this research reveals the transformative potential of AI in education, emphasizing that through strategic investments and collaborative efforts, institutions can harness AI to revamp teaching and learning outcomes to a large extent. For Jakarta, progression means ascertaining from much more established models, like those in Perth, and adjusting approaches to sail us back to local settings and difficulties.

The thematic findings reveal a continuum of AI adoption maturity in both Jakarta and Perth. Perth's rich AI ecosystem reflects characteristics of Media Richness Theory: complex, timely, and feedback-laden channels are each conducive to collaboration, personalized learning, and community. Conversely, Jakarta's shallow integration reveals higher states of cognitive dissonance, with educators and students agreeing on the potential for AI yet failing to align aspirations and training with infrastructure.

These will directly inform the practical recommendations of this study and ensure that strategies proposed, like staff training, infrastructure development, and ethical governance, are analytically grounded in stakeholder experiences and not prescriptive assumptions.

Practical Implications

The following recommendations are derived directly from empirical findings and triangulated qualitative data. They reflect recurring stakeholder insights across interviews, observations, and policy documents, rather than hypothetical or normative prescriptions.

The findings of this study offer several practical implications for stakeholders in the education sector, particularly for policymakers, administrators, and educators in regions like Jakarta that are in the early stages of AI adoption.

1. Strategic Infrastructure Investment: Educational institutions need to prioritize investments in foundational infrastructure, such as reliable internet connectivity and AI-compatible devices, to support advanced technologies. Governments and private sector partners must collaborate to ensure equitable access to these resources, particularly for underfunded schools.
2. Professional Development for Educators: A critical step toward successful AI adoption is empowering educators and administrators with the necessary skills and confidence to use AI tools effectively. This can be achieved through workshops, certification programs, and hands-on

training, ensuring staff are not only users of the technology but also advocates for its potential in education.

3. Enhanced Collaboration Model: Stronger partnerships between government bodies, private organizations, and educational institutions can streamline funding, innovation, and implementation efforts. These collaborations can also help tailor AI solutions to address local educational needs, making them more effective and contextually relevant.
4. AI Literacy for Students: Introducing AI literacy into the curriculum can prepare students for future job markets where digital and AI competencies will be essential. This includes teaching students how to interact with AI systems, understand ethical considerations, and critically evaluate AI-generated outputs.
5. Pilot Programs and Incremental Rollouts: Starting with small-scale AI pilot programs allows institutions to test the effectiveness of new technologies without committing extensive resources upfront. Lessons learned from these pilots can inform larger-scale implementation strategies, reducing risks and improving adoption outcomes.
6. Ethical and Transparent AI Use: To build trust among educators, students, and parents, institutions must emphasize ethical AI practices. This includes protecting user data, ensuring inclusivity, and fostering accountability in AI decision-making processes. Transparent communication about how AI tools are used, and their benefits can alleviate concerns and encourage acceptance.
7. Focus on Mental Health and Student Support: Institutions can explore AI-driven mental health tools, such as CBT-based applications, to provide accessible and scalable mental health support for students. These tools can supplement existing counseling services, ensuring students have multiple avenues to seek help.

Research Limitations

This study is limited by its exclusive use of qualitative methods—primarily in-depth interviews, observations, and document analysis. While these approaches provide rich and nuanced insights into the dynamics of AI adoption in academic communication, they do not allow for broader statistical generalization. The scope of the research is also limited to two cities—Jakarta and Perth—which may not fully capture variations in AI adoption across other regions or types of educational institutions.

Although such software as NVivo was utilized, along with triangulation, this is still an interpretive study. For the future, inter-coder reliability checks, quantitative validation, and mixed-methods triangulation would enhance the generalizability and robustness of the thematic insights.

Future Research

Mixed-methods research is advised to mitigate these limitations and strengthen the rigor of future research. Integrating qualitative interviews with quantitative surveys would allow academics to corroborate qualitative results and produce more generalizable insights. Quantitative data helps explain broader patterns and trends, whereas qualitative data provides depth, context, and cultural richness. Broadening the geographic reach to encompass more regions and educational levels would yield a more thorough comprehension of AI integration within academic settings. Furthermore, extended studies could document the progressive dynamics of AI acceptance across time.

Declaration

Author Contributions

This study employs ChatGPT to verify the correctness of writing a few keywords in Artificial Intelligence and generate an image as a representation of the research findings.

Funding Statement

The authors declare that this research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Competing Interest
The authors declare that they have no conflicts of interest to report regarding the present study.

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