Challenges for Lecturers at Thai Nguyen University of Information and Communication Technology (ICTU) in Adjusting Pedagogy and Assignment Design to Adapt to Generative AI

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Abstract

The emergence of Generative Artificial Intelligence (GenAI) has presented profound pedagogical and academic challenges to global higher education. This study employs a qualitative case study design to explore the specific challenges faced by lecturers (N=15) at the University of Information and Communication Technology (ICTU), Vietnam, in adjusting their pedagogy and assignment design to adapt to GenAI. Data was collected through semi-structured interviews and analyzed using Thematic Analysis. The results reveal two primary groups of challenges: (1) Pedagogical Challenges, encompassing a crisis of professional role and competence , pedagogical disorientation , and classroom management difficulties ; and (2) Assessment Challenges, highlighted by a crisis in academic integrity (i.e., "AI-giarism") , a significant time and creative burden in designing "AI-proof" assignments , and the lack of clear institutional policies ("policy vacuum"). The study confirms a "professional paradox" at a technology-focused university, where lecturers face dual pressures regarding technical expertise and AI pedagogical competence. Urgent recommendations are made for the university to establish clear AI policies and invest in pedagogical professional development , and for lecturers to proactively develop AI Literacy and transition towards authentic assessment.

Keywords: Generative AI (GenAI), Higher Education, Pedagogy, Assessment, Academic Integrity, AI Literacy, Case Study.

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1. Introduction

The emergence of Generative Artificial Intelligence (GenAI), culminating in the launch of ChatGPT in late 2022, has created a paradigm-shifting shock, forcing global higher education into a new, volatile era . The pace of this technology's development has outstripped the adaptive capacity of policy frameworks, pushing educational institutions into a "crisis of reaction" (Azcárate, 2024).

Lecturers are currently operating in a "policy vacuum", left to grapple with complex ethical and pedagogical issues without clear institutional guidance (Đặng et al., 2024; Monib et al., 2025). This disruption is fundamentally reshaping the role of the lecturer. The traditional "knowledge transmitter" model is rapidly becoming obsolete, necessitating a mandatory shift towards the role of "learning facilitator and mentor" (Thái, 2023). The focus is now on cultivating higher-order skills such as critical thinking, problem-solving, and AI literacy (Monib et al., 2025).

However, this shift creates a "workload paradox" : while GenAI can reduce administrative tasks, it significantly increases the pedagogical and cognitive load, requiring lecturers to continuously learn and invest time in designing more complex learning experiences (Dalgety et al., 2003; Maltese et al., 2014).

The epicenter of the challenge lies in assessment. GenAI's ability to produce "ghostwritten assignments" has severely undermined the integrity of traditional assessment forms like essays and reports (N. G. Nguyễn et al., 2024; T. T. N. Nguyễn, 2024). Paradoxically, this crisis is inadvertently becoming a powerful catalyst, compelling educators to adopt best-practice pedagogies that have long been advocated for. Universities are forced to shift from rote memorization tasks to forms of authentic assessment—such as project-based learning, real-world problem-solving, or oral examinations—to evaluate what students can actually do (N. P. Nguyễn et al., 2025; T. T. N. Nguyễn, 2024).

In Vietnam, these global challenges are amplified by endemic issues such as "surrogate learning and cheating", which now risk becoming more sophisticated. Despite this, specific and comprehensive research in this context remains very limited.

This study focuses on a typical and urgent case: the University of Information and Communication Technology (ICTU) - Thai Nguyen University. As a leading institution for IT training, ICTU faces a "professional paradox" its lecturers are technology experts, but not necessarily experts in AI-integrated pedagogy (Lâm & Trương, 2025; L. T. P. Nguyễn et al., 2024). They face dual pressure: they are expected to lead innovation while simultaneously managing a technologically savvy student body capable of skillfully exploiting GenAI, making the challenges in assignment design even greater (Azcárate, 2024; T. T. N. Nguyễn, 2024).

Therefore, this study is conducted to identify and deeply analyze the challenges ICTU lecturers face in adjusting teaching methods and assignment design to adapt to GenAI. The study will focus on answering the following questions:

(1) What main challenges (academic, ethical, pedagogical) do ICTU lecturers perceive when students use GenAI?

(2) How have lecturers been adjusting their teaching methods and assignment/assessment designs?

(3) What forms of support do lecturers need from the university to integrate GenAI effectively and ethically?

2. Research Methodology

This study employs a qualitative approach, using a case study design. The "case" is defined as the set of challenges related to pedagogy and assignment design faced by the academic staff at the University of Information and Communication Technology (ICTU). ICTU is treated as a "bounded system," allowing for an in-depth, empirical investigation focused on answering "how" and "why" questions within a real-life context. The research prioritizes analytical depth over breadth of coverage, aiming for analytical generalization rather than statistical generalization.

The research sample consists of 15 lecturers (N=15) at ICTU, selected using purposive sampling. Criterion sampling was applied to ensure participants were "information-rich cases," based on the following conditions: a minimum of 3 years of experience, currently teaching core specialized modules, and representing different faculties/departments to ensure diversity. The sample size was determined by the principle of data saturation, where new interviews no longer provided significant new information or themes.

Data was primarily collected through semi-structured interviews. This method allowed for adherence to a set of guiding questions based on the research objectives while maintaining the flexibility to ask probing questions to clarify participants' experiences and build rapport. Data collection took place from August to September 2025. All participants signed informed consent forms, and all interviews (averaging 45-60 minutes) were audio-recorded with permission. The audio data was then transcribed verbatim and fully anonymized (e.g., LEC01, LEC02) to ensure confidentiality.

The data analysis method used was Thematic Analysis (TA) following the six-phase process of (Braun & Clarke, 2006) to ensure systemization and rigor. This process included deep familiarization with the data, generating initial codes, searching for, reviewing, defining, and naming themes. The coding process was inductive or "bottom-up," meaning codes and themes were generated directly from the data itself. The qualitative data analysis software NVivo 12 was used as a tool to support data management and organization, while the entire process of analysis, interpretation, and theme construction was conducted by the researcher.

3. Research Results

3.1. Theme Group 1: Challenges in Adjusting Pedagogy

Data analysis reveals the first group of challenges relates directly to changes in classroom interaction and the pedagogical role of lecturers. Three main themes emerged: a crisis of competence and role, pedagogical disorientation, and difficulties in classroom management.

The most prominent theme was the *crisis of competence and role*. Most lecturers (12/15) expressed feeling "overwhelmed" and "behind" the technology. They face dual pressure: needing to self-learn to understand the capabilities and limitations of new GenAI tools, while also meeting the expectation of being technology experts at an ICT university. The lack of formal, specialized training programs from the university exacerbates this burden.

"We are tech people, but software engineering is completely different from AI pedagogy. The technology comes out weekly; we don't have time to breathe, let alone get formal training. Often, students know more tools than I do, which makes me feel very insecure about my expertise." (LEC04)

The second theme was *pedagogical disorientation*. GenAI's ability to provide instant answers has challenged the traditional "knowledge transmitter" role. Lecturers find themselves forced to shift to a "facilitator, supporter" role but encounter difficulties in organizing interactive learning activities. When students can query an AI immediately, discussions or debates risk becoming superficial.

"I tried organizing a debate, but instead of thinking, they were secretly typing prompts to find arguments. It's very hard to promote real critical thinking when they have another 'brain' supporting them so quickly. I feel disoriented, unsure of what my main role in the classroom is anymore." (LEC09)

Finally, the *challenge of classroom management* [162] was emphasized. Lecturers struggle to control students' misuse of AI during class, especially on personal devices. This leads to concerns about the decline in students' concentration and independent thinking.

"It's very difficult to know if they are taking notes or using AI. But what I worry about most is the reliance. They seem more hesitant to think. When faced with a difficult problem, their first reflex is to ask AI, not to analyze it themselves. That is the biggest challenge in teaching." (LEC11)

3.2. Theme Group 2: Challenges in Assignment and Assessment Design

The second group of challenges was rated by lecturers as more urgent and high-pressure, directly related to ensuring output quality and academic fairness.

The most serious theme was the *crisis of academic integrity and the powerlessness of detection tools* [167, 168]. All lecturers affirmed the sophisticated rise of "AI-giarism." Students do not copy-paste; they use AI to paraphrase or generate entirely new content,

rendering traditional plagiarism detection tools ineffective. Specialized AI detection tools were assessed as "unreliable" and frequently produced false positives.

"Turnitin is almost useless against well-written AI texts. I've tried AI checkers, but they give very contradictory results. I suspect students are misusing it, but I don't have strong enough evidence to make an accusation. This creates a very toxic atmosphere of suspicion in the classroom." (LEC02)

This leads to the second theme: *creative exhaustion and time burden in assignment design* [169, 170]. To combat "AI-giarism," lecturers are forced to abandon traditional assignment types (like literature review essays) and shift to designing "AI-proof" assignments. However, this process consumes significant time and creative energy. Lecturers reported spending considerably more time creating assignments that require higher-order thinking, analysis of specific contexts, or critique based on personal experience.

"'Thinking of an essay topic now is exhausting. You have to 'patch' every loophole AI could slip through. Instead of asking 'Analyze A,' I have to ask 'Relate A to the context of company X where you interned, and critique it based on observation Y.' Designing one such prompt takes three or four times longer than before." (LEC07)

Finally, lecturers pointed to the *absence of new assessment policies and processes* . One of the biggest barriers is the lack of clear regulations or guidelines from the university regarding permitting, prohibiting, or restricting student AI use. This "policy vacuum" leaves lecturers feeling hesitant and afraid to innovate boldly. They also recognize the urgent need to build new assessment rubrics (e.g., assessing group work processes, prompt engineering skills, or the ability to critique AI outputs), but they don't know where to start without a common policy framework.

"'The university hasn't clearly said if it's banned or allowed. I want to teach them to use AI ethically, but if I allow it in my course while another course bans it, it creates chaos. We need clear 'rules of the game.' Without them, we can't build new rubrics and are just stuck passively 'fighting' AI." (LEC13)

4. Discussion

4.1. Interpreting the Core Challenges in the ICTU Context

The challenges identified, while global, manifest with particular intensity at ICTU. The "professional paradox" posited at the study's outset was clearly confirmed by the results. The feeling of "professional insecurity" (as LEC04 shared) reveals a large gap between expertise in a specific IT field and the pedagogical competence to integrate AI. This pressure is amplified as they must teach a tech-savvy generation of students, who not only use AI but are also capable of misusing it more sophisticatedly, creating an unbalanced chase for the lecturers.

This finding is both consistent with and divergent from international research. The consistency lies in the academic integrity crisis (described by LEC02) and the burden of

designing "AI-proof" assignments (like LEC07). These are common problems educators worldwide are grappling with. However, the distinct point at ICTU is the implicit expectation that its lecturers must be technology leaders. This makes their pedagogical disorientation more difficult to accept, creating greater psychological and professional pressure compared to colleagues at non-technology-focused universities.

4.2. From Challenge to Mandatory Pedagogical Transformation

The challenges in teaching methods (Section 3.1) are not just obstacles; they are the very catalysts forcing a fundamental pedagogical transformation. When the "knowledge transmitter" role becomes obsolete due to GenAI, and traditional interactive methods (like debates) are challenged (as LEC09 described), lecturers have no choice but to abandon passive, one-way teaching.

The "disorientation" in pedagogical roles is actually a sign of a mandatory shift towards active learning methods, especially problem-based learning and project-based learning (PBL). In these models, the lecturer is no longer the center of knowledge but becomes the problem designer, mentor, and facilitator. GenAI, in this context, can become a powerful tool for students in the problem-solving process, rather than a tool for cheating.

4.3. Redefining "Assignments" and "Assessment"

The findings on "creative exhaustion" (LEC07) and the "academic integrity crisis" (LEC02) confirm a hard truth: traditional assessment forms, which focus on reproducing or synthesizing information, are rapidly losing their value. Any assignment that an AI can perform better or faster than a student no longer has meaning in assessing real competence.

However, this "challenge" in assignment design is actually a "golden opportunity" for education to transition to authentic assessment, which reformers have long advocated. Instead of essays, lecturers are forced to shift the focus to assessing the *process* rather than the *product*. Forms such as oral presentations, project defenses, portfolio building, debates with direct refutation, or tasks requiring students to critique and improve AI-generated results are becoming mandatory. These are the higher-order skills that AI cannot yet replace, and they more accurately reflect the competencies students need in the real world.

4.4. Implications of the Study

The research results offer urgent implications for both lecturers and university leadership. For lecturers, the study underscores the necessity of continuous self-learning. They cannot wait for formal training programs but must proactively develop their AI Literacy, including both technical skills (using AI) and pedagogical skills (teaching with AI), to regain their confidence and leadership role.

For ICTU leadership, the "policy vacuum" mentioned by LEC13 is an issue that must be addressed immediately. The university needs to urgently issue clear, flexible policies on the use of AI in learning and assessment. More importantly, the university must invest

heavily in substantive professional development programs focused on pedagogical design and assessment methods in the AI context, rather than just simple technology skills training.

5. Conclusion

This study has answered its core questions, identifying that lecturers at ICTU are facing two main groups of challenges: (1) pedagogical challenges, including a role crisis, disorientation in methodological shifts, and difficulties in classroom management; and (2) assessment challenges, notably the academic integrity crisis and the time burden of designing "AI-proof" assignments.

The main contribution of this study is providing the first deep, contextual, and empirical evidence of GenAI's impact on lecturers at a key technical university in Vietnam. However, these results have inherent limitations: as this is a single case study design at ICTU and relies on lecturer self-reporting, its statistical generalizability is limited.

From these findings, the study offers urgent recommendations. For lecturers, there is a need for proactive self-development, enhancing AI Literacy, and bravely shifting teaching methods to focus on higher-order skills and authentic assessment. For the university leadership (ICTU), it is strongly recommended that clear AI use policies be urgently issued, while simultaneously organizing in-depth professional development workshops on AI-integrated pedagogy, rather than just technology training. Regarding future research, subsequent studies should focus on understanding student perspectives, expand to other university contexts, or conduct intervention studies to test the effectiveness of new assessment models in the GenAI era.

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