

Exploring ChatGPT and Higher Education Practice in Indonesia

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Abstracts: The rapid advancement of artificial intelligence (AI) technologies has brought about disruptive changes in various industries, including higher education. Among these transformative technologies, ChatGPT has emerged as a powerful tool that has captured the attention and enthusiasm of students in higher education institutions. While students embrace this AI-based tool, educators find themselves in a state of unease, unsure of how to navigate the uncharted territory of integrating such technologies into their teaching practices. In Indonesia, a country that has witnessed previous technological disruptions in higher education, the introduction of AI technologies, particularly ChatGPT, has placed practitioners in a dilemma regarding the best course of action. This concept note proposes a research study to explore the possibility of the proper use of AI technologies, such as ChatGPT, in higher education practice in Indonesia.

Keywords: Academic writing, AI technologies, ChatGPT, Higher Education, and Social Life

1. INTRODUCTION

ChatGPT is an AI-based tool that can generate text in a conversational style based on a given input [1]. It can provide students and educators with personalized, real-time responses to their questions and needs, and it can be used to generate lesson plans or teaching materials, allowing educators to save time and effort in preparing for class [1]. However, the use of ChatGPT in higher education has raised concerns over its potential use in cheating [2]. While academics have been concerned about AI-generated assignments for some time, ChatGPT “moves the field leaps ahead in generating text from prompts” [3]. Therefore, it is essential to explore the proper use of AI technologies, such as ChatGPT, in higher education practice. In Indonesia, some educators and policymakers are eager to embrace the technology, claiming it would do better than harm for the Indonesian school system yet some teachers and students say it would be good [4]. However, the introduction of AI technologies, particularly ChatGPT, has placed practitioners in a dilemma regarding the best course of action [4]. Therefore, a research study is needed to explore the possibilities and challenges of ChatGPT in higher education in Indonesia. The study will focus on the possible uses of ChatGPT in teaching and learning processes in higher education, why ChatGPT has created concern in the academic world, and what strategies are needed to promote critical thinking in higher education now that ChatGPT exists [5]. ChatGPT has emerged as a powerful tool that has captured the attention and enthusiasm of students in higher education institutions. However, its use in higher education has raised concerns over its potential use in cheating. Therefore, a research study is needed to explore the proper use of AI technologies, such as ChatGPT, in higher education practice in Indonesia. The study will focus on the possible uses of ChatGPT in teaching and learning processes in higher education, why ChatGPT has created concern in the academic world, and what strategies are needed to promote critical thinking, in higher education now that ChatGPT exists.

2. LITERATURE REVIEW

The implementation of AI technologies in Indonesia's higher education practice presents both opportunities and challenges. While many educators recognize the potential benefits of AI technologies, there remains a considerable degree of skepticism, fear, and apathy towards their use. Skepticism arises from the concern that AI tools, like ChatGPT, may foster excessive reliance among students, potentially hindering their independent engagement in academic pursuits. Moreover, educators fear that these technologies could replace traditional pedagogical methods, compromising critical thinking and creativity. Conversely, apathy towards AI technologies stems from the belief that these tools have already permeated daily academic practice, with students and practitioners alike surreptitiously employing them. Consequently, there is a prevailing sentiment that little can be done to regulate or ensure proper

and acceptable use of AI technologies in Indonesia's higher education academic practice. The lack of critical reflection of challenges and risks of Artificial Intelligence in Education (AIEd), the weak connection to theoretical pedagogical perspectives, and the need for further exploration of ethical and educational approaches in the application of AIEd in higher education have been identified in a systematic review of research on artificial intelligence applications in higher education [6]. The review also highlights the ethical implications of AI in higher education, such as data privacy, bias, and transparency. It is important to ensure that the use of AI in education is responsible [7]. Institutions need to engage in campus-wide discussions about the impact of AI on administrative, teaching, and research practices. It is crucial to develop administrators' and faculty members' understanding of the promises and challenges of AI in higher education. AI has the potential to greatly enhance students' abilities to think critically and expand their soft skills if leveraged well. However, the impact of AI on teaching and learning within higher education is still being researched, and there are conflicting opinions on what the tool means for student success. It is crucial to explore the possibilities and challenges of ChatGPT in higher education in Indonesia. The study will focus on the possible uses of ChatGPT in teaching and learning processes in higher education, why ChatGPT has created concern in the academic world, and what strategies are needed to promote critical thinking in higher education now that ChatGPT exists. Educators and leaders at colleges and universities need to respond to students' use of this transformative technology and leverage these emerging tools in an effective and ethical way.

The purpose of this research study is to address the skepticism, fear, and apathy surrounding ChatGPT and AI tools in higher education practice in Indonesia. By conducting a comprehensive investigation, we aim to explore the potential benefits, risks, and challenges associated with the integration of AI technologies, specifically ChatGPT, in academic work and assignment writing. The study seeks to facilitate informed discourse and generate guidelines that can foster a policy shift for the safe and effective integration of AI technologies into higher education practice in Indonesia.

Objectives:

1. To highlight the dangers of solely relying on AI technology, such as ChatGPT, for academic and research writing:
 - Assess the impact of AI technologies on student engagement, critical thinking, and creativity.
 - Examine the limitations and potential biases inherent in AI-generated content.
2. To consider how ChatGPT can be safely integrated into higher education practice, academic work, and especially in writing:
 - Explore best practices for incorporating AI technologies into the teaching and learning process.
 - Investigate the potential benefits of ChatGPT in improving efficiency, enhancing student support, and fostering personalized learning experiences.
3. To analyze how existing higher education policies can align with the integration of AI technologies in the practice and research process:
 - Evaluate current policies and regulations related to the use of AI technologies in higher education.
 - Identify gaps and propose recommendations for policy development and implementation.

The proposed research study aims to shed light on the integration and proper use of AI technologies, particularly ChatGPT, in higher education practice in Indonesia. By examining the fears, skepticism, and apathy prevalent among educators and practitioners, we seek to address the concerns surrounding AI technologies and develop guidelines that promote their responsible and effective incorporation into academic settings. Ultimately, this research study endeavors to contribute to the ongoing dialogue surrounding the role of AI technologies in shaping

the future of higher education in Indonesia.

In order to achieve the objectives outlined above, this research study will draw upon existing theoretical frameworks and studies that have examined the impact of AI technologies in higher education practice. By building upon the foundations laid by previous research, we aim to deepen our understanding of the challenges and opportunities associated with the integration of ChatGPT and similar AI technologies.

Firstly, we will explore the existing literature on the use of AI in education, examining the ways in which AI technologies have been employed in different educational contexts worldwide. This literature review will encompass studies that investigate the effectiveness of AI-based tools in enhancing student learning outcomes, facilitating personalized instruction, and supporting adaptive learning environments. By synthesizing these findings, we will identify the potential benefits and limitations of AI technologies in higher education practice.

Furthermore, we will analyze theoretical frameworks and conceptual models that have been proposed to guide the integration of AI technologies in education. These frameworks will provide valuable insights into the factors that influence the successful implementation of AI tools, including considerations of pedagogical strategies, student engagement, ethical implications, and the role of educators in fostering a balanced approach to technology integration. The theories of educational technology adoption, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), will also be examined to provide a theoretical basis for understanding the acceptance and utilization of AI technologies in higher education.

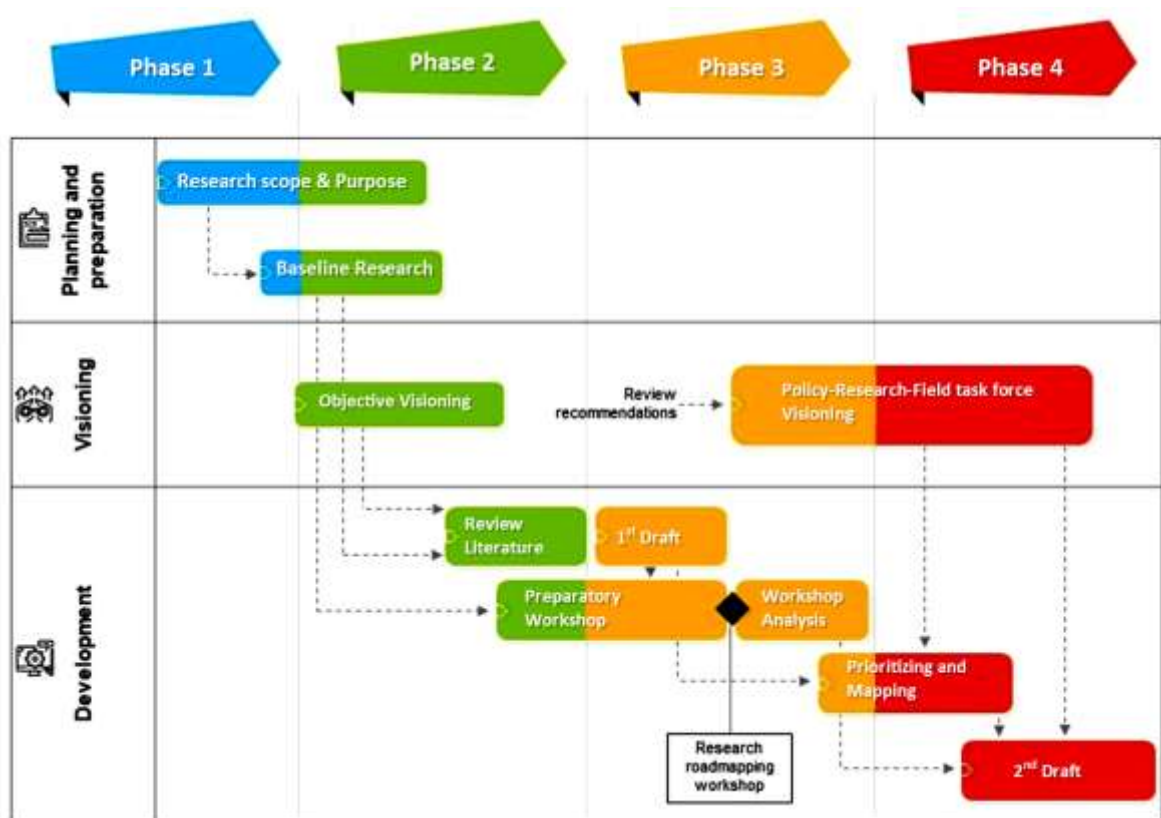
These two major theories of educational technology adoption will be examined to provide a theoretical basis for understanding the acceptance and utilization of AI technologies in higher education [8]. TAM was introduced by Fred Davis in 1986 and is specifically tailored for modeling users' acceptance of information systems or technologies [9]. TAM2 and TAM3 were later developed by Venkatesh and Bala (2008) by combining TAM with the model of the determinants of perceived ease of use [9]. UTAUT examines the acceptance of technology, determined by the effects of performance expectancy, effort expectancy, social influence, and facilitating conditions [10]. UTAUT has made several contributions to the literature by providing empirical insight into technology acceptance by comparing prominent technology acceptance theories, which often offer competing or partial perspectives on the subject. UTAUT demonstrates that proposed factors account for 70 percent of the variance in use intention, offering stronger predictive power compared to the rest of the models that examine technology acceptance [10]. Chao [11] developed and empirically tested a model to predict the factors affecting students' behavioral intentions toward using mobile technology-based using the extended UTAUT model with the addition of perceived enjoyment, mobile self-efficacy, satisfaction, trust, and perceived risk moderators.

Furthermore, the study will delve into theoretical perspectives on the impact of AI technologies on student autonomy and critical thinking. Drawing upon socio-cultural theories of learning and cognitive development, we will explore how the use of AI tools like ChatGPT may influence students' independent engagement with academic content and their ability to think critically and creatively. Understanding these dynamics will help us address the concerns surrounding excessive reliance on AI technologies and develop strategies to ensure a balanced approach that nurtures students' independent thinking and intellectual growth.

The research will also examine policy frameworks and guidelines related to the integration of AI technologies in higher education. This analysis will encompass both international and national policies to identify best practices and regulatory approaches that can inform the development of guidelines for the proper use of AI technologies, specifically ChatGPT, in the Indonesian higher education context. By aligning our study with existing policies and recommendations, we can ensure that our research outcomes are practical, feasible, and contribute to the broader educational landscape.

The research roadmap consists of three primary components: planning and preparation, visioning, and research development. These components are executed across four phases, as summarized in Figure 1. Phase 1 and a portion of Phase 2 encompass the Planning and Preparation component, which involves determining the research scope, purpose, and conducting baseline research. During this phase, activities are undertaken to lay the

groundwork for the study.



Source: slideteam

Figure 1. Road map for the proposed research

The Visioning component is an integral part of the roadmap. It draws upon the findings from the baseline research, enabling the completion of Phase 2. This phase entails envisioning the research objectives. It also marks the beginning of Phase 3, where the Policy-Research-Field task force conducts their visioning process, alongside a review of the research task force's recommendations. The visioning aspect extends into Phase 4, where the results and recommendations from the research task force are incorporated into the final stages of research development.

The Research Development component spans from Phase 2 to Phase 4. Phase 2 involves a comprehensive review of relevant literature and the initiation of preparatory workshops. These activities pave the way for Phase 3, where the first draft of the research is developed. The initial draft undergoes revision through preparatory workshops, while analysis workshops are conducted to scrutinize the research and generate the research roadmap. The outcomes derived from these workshops, combined with the results and recommendations of the research task force, form the foundation for Phase 4—the prioritization and mapping of the research to be undertaken. In this phase, the research task force's findings and recommendations, in conjunction with prioritization and mapping activities, contribute to the development of the second draft of the research.

3. CONCLUSION

In summary the research roadmap encompasses three major components: planning and preparation, visioning, and research development. These components unfold across four phases, each serving a specific purpose. The roadmap commences with establishing the research's scope and conducting baseline research, followed by envisioning the research objectives and incorporating the recommendations from the research task force. The Research Development component spans from literature review and preparatory workshops to the development of

the first and second drafts of the research. This structured approach ensures a systematic and coherent progression throughout the study, leading to well-informed outcomes and insights.

By synthesizing theoretical studies, empirical research, and policy analysis, the proposed research aims to advance our understanding of the proper use and integration of AI technologies, with a specific focus on ChatGPT, in higher education practice in Indonesia. By building upon the existing body of knowledge, we seek to generate valuable insights, guidelines, and recommendations that can inform educators, policymakers, and stakeholders in their efforts to harness the potential of AI technologies while ensuring a balanced and effective learning environment for students.

REFERENCES

- [1] Sullivan, M., Kelly, A., & McLaughlan, P. (2023). ChatGPT in higher education: Considerations for academic integrity and student learning. *Journal of Applied Learning and Teaching*, 6(1).
- [2] Wick, A. (2023). ChatGPT in Higher Education: A Primer for Instructors. Cengage. <https://todaylearner.cengage.com>
- [3] Williams, T. (2022). ChatGPT 'a powerful tool for education if used correctly'. The Times Higher Education. <https://www.timeshighereducation.com>
- [4] Suhenda, D. (2023 March). Could ChatGPT be good for RI education? Some teachers, students think so. The Jakarta Post. <https://www.thejakartapost.com/indonesia/2023/03/17/could-chatgpt-be-good-for-ri-education-some-teachers-students-think-so.html>
- [5] UNESCO IESALC. (2023). ChatGPT, artificial intelligence and higher education: What do higher education institutions need to know? UNESCO. <https://www.iesalc.unesco.org/en/2023/04/14/chatgpt-and-artificial-intelligence-in-higher-education-quick-start-guide-and-interactive-seminar/>
- [6] Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—where are the educators?. *International Journal of Educational Technology in Higher Education*, 16(1), 1-27.
- [7] Ghalayini, M. (2023 April). Unlocking the potential of AI in higher education. University World News. <https://www.universityworldnews.com/post.php?story=20230419095059196>
- [8] Granić, A. (2023). Technology Acceptance and Adoption in Education. In *Handbook of Open, Distance and Digital Education* (pp. 183-197). Singapore: Springer Nature Singapore.
- [9] Lai, P. C. (2017). The literature review of technology adoption models and theories for the novelty technology. *JISTEM-Journal of Information Systems and Technology Management*, 14, 21-38.
- [10] Marikyan, D. & Papagiannidis, S. (2023). *Unified Theory of Acceptance and Use of Technology: A review*. In S. Papagiannidis (Ed), *TheoryHub Book*. Available at <http://open.ncl.ac.uk> / ISBN: 9781739604400
- [11] Chao, C. M. (2019). Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model. *Frontiers in psychology*, 10, 1652.

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