

AI Literacy Among Lecturers in University: A Case Study in a Private University in Timor-Leste

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Abstract: This study aims to evaluate the level of literacy and experience of lecturers regarding the use of artificial intelligence (AI) systems in higher education environments in Timor Leste. A questionnaire was distributed to measure key aspects such as understanding of the definition of AI, belief in the value and benefits of AI in education, accessibility and ease of use of AI, operational skills in using everyday AI applications, and previous positive experiences with AI. The study concluded that although the adoption and acceptance of AI among lecturers is quite decent, there is still a need to improve literacy and practical experience with AI to ensure that this technology can be optimally utilized in education.

Keywords: AI literacy, ISC Lecturers, Ease of Use of AI Tools, Positive Experience of AI

1. Introduction

Nowadays, we often hear the term AI literacy, but in general this term has not been widely defined (Biagini, Cuomo, & Ranieri, 2023). AI literacy generally refers to the ability to comprehend, use, monitor and critically reflect on AI applications (Long & Magerko, 2020). The concept of artificial intelligence (AI) literacy for lecturers includes the understanding, skills, and awareness needed to integrate, utilize, and critique AI technology in the context of higher education. This literacy is very important as AI is increasingly playing a role in different aspects of learning, research, and administration in higher education.

Mastery of AI literacy for lecturers is the priority here in higher education. This is because when a lecturer understands AI, he can utilize AI tools to speed up administrative processes, such as automatic assessment or analysis of academic data, designing draft lesson plans, and so on. Therefore, this study aims to determine the AI literacy of lecturers at the Instituto Superior Cristal (ISC), Timor Leste. As is well known, currently the availability of ICT infrastructure is still a challenge in the world of education in Timor Leste. Limited ICT infrastructure can reduce the motivation of lecturers to learn and develop their AI literacy. Without easy access to resources and technology, the learning process becomes more difficult and requires more effort, which may not be willing or able to be done by all lecturers. By knowing the AI literacy of lecturers in Timor Leste, it can provide policy makers, especially at ISC, with an overview to make more informed decisions in terms of resource allocation, professional development, and investment in technology infrastructure. This can ensure that funds and efforts are focused on areas that need the most improvement.

2. Theoretical Background

In general, the term "literacy" refers to basic knowledge of reading and writing. However, currently this definition has developed into a more modern one that refers to the ability to understand, identify, interpret, create, calculate, communicate using printed and written

materials related to varying contexts" (Ng D. K., Leung, Chu, & Qiao, 2021). This definition not only involves the basal skills of reading and writing but requires more complex abilities through the process of comprehension, interpretation, and creation. Ng and colleagues postulate, AI literacy is categorized into 4 concepts, namely: 1) know and understand AI, 2) use and apply AI, 3) evaluate and create AI, and (4) AI Ethics. Previously, Kandlhofer et al (2016) first introduced a set of competencies that enable individuals to know and understand AI and use AI technologies. Wang et al. (2022) designed several questionnaires to measure students' current level of AI literacy using four dimensions, namely awareness, usage, evaluation and ethics.

3. Research Methodology

This study involved 43 ISC Timor Leste lecturers as research participants, with a male composition of 59.8% and female of 40.2%. This study used questionnaires to measure AI literacy with a focus on the first dimension, namely knowing and understanding AI, and the second dimension, namely using and implementing AI as defined by Ng et al (2021) by adopting several questions in the research of Ofosu-Ampong et al (2023) which can be seen in Table 1.

Table 1. Questions for AI Literacy

Questions	
Q1	I know definitions of artificial intelligence
Q2	I trust in the value, accuracy and benefit expected from the use of AI systems in education
Q3	I trust in the accessibility and user-friendliness of AI systems
Q4	I can operate AI applications in everyday life
Q5	I have a previous positive experience with the use of an AI system

4. Discussions

The results of this study can be seen in Figure 1. The results of question Q1 can be concluded that while many lecturers already have a fairly good understanding of the definition of artificial intelligence, there is still room for improvement, especially in providing deeper understanding and confidence for those who feel neutral or unsure.

The results of Question Q2, Overall, show that the majority of respondents (76.8% if looking at the sum of "Strongly Agree" and "Agree") have a positive view of the use of AI in education, believing in its value, accuracy, and the benefits it can bring. This reflects strong optimism among respondents about the potential of AI to improve the education system. However, there are 16.3% who feel neutral, indicating that there is still uncertainty or a lack of full confidence among some respondents. In addition, 7% disagree, indicating that there is concern or skepticism that needs to be addressed, perhaps through more information, training, or real evidence of the benefits of AI in the context of Education.

Overall, the results of Q3, while views on AI accessibility and user-friendliness are quite positive, highlight the importance of continuing to improve user interface design and providing adequate support and training to maximize accessibility for all users.

Q4 Results indicate that approximately 58.2% of respondents (if looking at those between "Strongly Agree" and "Agree") believe that they can operate AI applications in their daily lives. This shows that more than half of respondents feel quite comfortable with the use of AI, although only 16.3% feel very confident in this regard. However, 34.9% of respondents felt neutral, indicating uncertainty or lack of experience in using AI applications routinely. The high percentage of neutral respondents highlights the need for more awareness, training, or support for those who may feel less confident or unfamiliar with AI. Additionally, the 7% who disagreed indicate that a small number of respondents felt incapable or had difficulty operating

AI applications. This indicates that while most feel quite comfortable, there are still challenges in making AI truly easy for everyone to operate. Q5 results indicate that while positive experiences with AI are fairly common among respondents, there is a need for more positive interactions and education to ensure that more people can experience the benefits of AI.

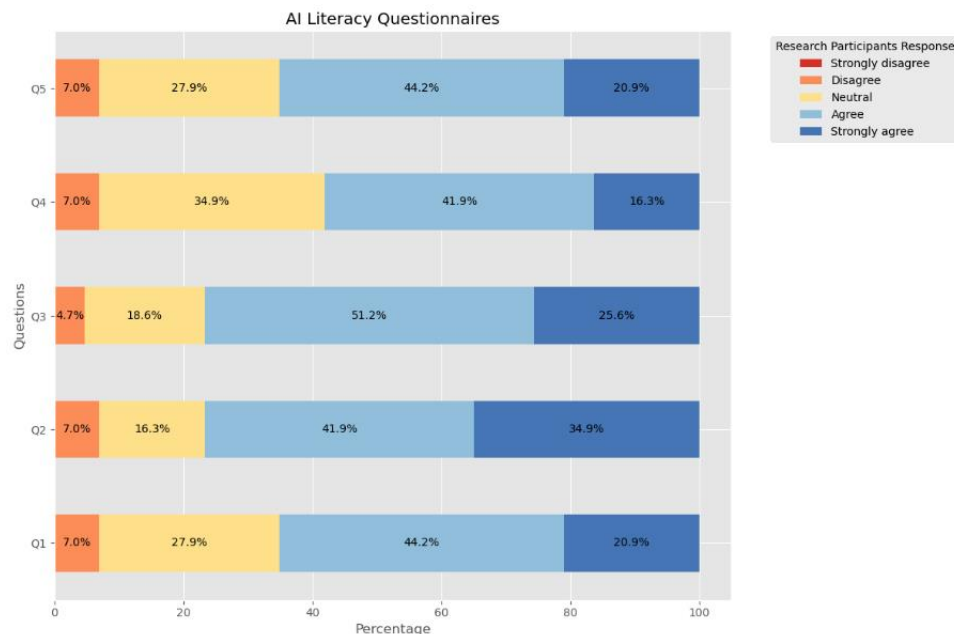


Figure 1. Research Participants Response of AI Literacy Questionnaires by Using Likert Scale

5. Conclusions

Overall, the results of this research show that despite ICT infrastructure in Timor Leste still being limited, especially at the Instituto Cristal Superior (ISC), respondents showed a fairly positive view of AI in terms of knowledge, value, accessibility, ease of use, and personal experience. However, the level of confidence and positive experience varied, with a number of respondents still feeling neutral or unsure. This suggests that although AI is well received by the majority, there still is a need to continue to improve understanding, accessibility, and user experience in order for more people to feel comfortable and confident in using AI in various aspects of their lives.

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