

## Leveraging AI-driven Meta-cognitive Strategies for Sustainable Education in Sri Lanka

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This study was done with the main purpose of identifying the effects of Meta-cognitive Strategies for Sustainable Education through the use of AI in Sri Lanka. The conceptual framework was built based on the previous literature findings. Leveraging AI was considered as the mediator variable of the developed conceptual framework. Data collection was done using a questionnaire. Sample size was 384 students who are following their higher education. Data was analysed using SPSS and Smart PLS SEM. Validity and reliability of the measurements were achieved. According to the data analysis results, it was clear that the meta-cognitive strategies can independently enhance the sustainable education and the same result can be achieved through the use of AI. However, when the AI is integrated, the effect of meta-cognitive strategies on sustainable education reduced. This indicated poor knowledge in leveraging AI among the students. It was recommended that the universities should promote meta-cognitive strategies of the students leveraging AI to promote sustainable education in Sri Lanka. Further, the universities should arrange programmes to increase the AI literacy among students in Sri Lanka. Future researchers can combine both qualitative and quantitative methods to obtain the outcomes and it is better to consider primary and secondary students to improve the generalizability of the findings.

**Keywords:** Higher education students, Leveraging AI, Meta-cognitive Strategies, Sustainable Education

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