Teacher Awareness and Use of AI-Assisted Tools in Secondary Classrooms: A Study of the Mathugama Educational Zone, Sri Lanka

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The AI-assisted tools are rapidly transforming teaching and learning practices worldwide. However, limited research has examined the awareness of secondary school teachers regarding the integration of these technologies within the Sri Lankan educational context. Therefore, investigating teachers' awareness of integrating AI-assisted tools is essential to identify existing gaps and support the development of effective professional training programs in Sri Lankan secondary education. This study focuses on teachers' awareness of integrating AI-assisted tools in teaching and learning. The specific objectives of the study were to investigate the level of awareness of AI-assisted tools among secondary teachers, to examine the extent to which secondary teachers integrate AI-assisted tools into teaching and learning, to provide implications for the Ministry of Education to enhance the integration of AI-assisted tools in the teaching and learning process. The convergent mixed methods design was employed in this study. A sample of 153 secondary teachers in the Mathugama educational zone was selected using the random sampling method. The quantitative data were collected by administering a questionnaire, and qualitative data were collected using interviews. Quantitative data were analyzed using descriptive statistics, and qualitative data were analyzed using thematic analysis. The self-reported data collected from questionnaire revealed that there was a low level (16.3%) of teachers' awareness of AI-assisted tools in teaching and learning. Among the subset of teachers who were aware of AI tools, 86% of teachers were utilizing Chat GPT, and 37% were using Gemini. However, significant gaps in pedagogical use of AI-assisted tools were identified: only 12% knew how to use AI-assisted tools for lesson planning, 11% for lesson development, 6% for assessments, and 9% for providing personalized student feedback. The interview data further suggested that, although teachers recognize the terminology, the majority lack the technical pedagogical knowledge to implement these tools in the teaching and learning process effectively. Therefore, the study concludes that the majority of teachers demonstrated limited awareness and pedagogical competency of integrating AI-assisted tools in teaching and learning. The study highlights important implications for the Ministry of Education, particularly the urgent need to introduce targeted professional development programs and policy initiatives to enhance teachers' conceptual understanding and practical application of AI-assisted tools in classroom teaching and learning processes.

Keywords: artificial intelligence, awareness, teaching and learning