WAESOL Project Funding Grant Report

The Impact of Professional Development on My Teaching Practice: A Reflection on the Use of a Grant for Conference Participation

Dini Arini

I am grateful to have been selected as a recipient of the 2024 WAESOL Project Funding Grant to support my project, AI Integration in Science Education: Supporting Multilingual Learners. This initiative explored how artificial intelligence (AI) can assist science educators in Washington State, Indonesia, and Saudi Arabia teach multilingual learners (MLLs). Through this project, I investigated current AI applications, provided practical AI tools, and equipped teachers with training to effectively integrate AI into their instruction.

The project focused on bridging the gap between AI technology and multilingual science education by helping teachers utilize AI to enhance language accessibility and student engagement. To accomplish this, I conducted surveys and interviews with science teachers to assess their current AI use, challenges, and perceptions. Findings revealed enthusiasm for AI-driven language support but highlighted gaps in AI literacy and training.

Based on these insights, AI tools—including language processing technologies, adaptive learning platforms, and real-time translation tools—were introduced. These tools were curated to enhance instruction and simplify complex scientific concepts for MLLs. To ensure successful implementation, interactive workshops were held to train educators on how to integrate AI effectively into their classrooms. These sessions covered AI's role in real-time translation, personalized learning, and ethical considerations.

Educators reported increased confidence in using AI tools to support MLLs, particularly in simplifying scientific terminology and providing adaptive learning support. AI tools facilitated interactive learning, allowing MLLs to access scientific content more effectively through translations, visual aids, and real-time feedback mechanisms. While AI was well-received, teachers emphasized the need for continued professional development to address technical challenges and ethical considerationsSome teachers faced difficulties integrating AI due to limited digital literacy and infrastructure gaps. To mitigate this, simplified guidelines and troubleshooting support were provided. Teachers also aised concerns regarding student data privacy when using AI tools. Additional training on ethical AI use and data protection strategies was incorporated into workshops.

This project successfully demonstrated AI's potential to support multilingual learners in science education while identifying critical areas for further development. Moving forward, I recommend sustained AI training programs, clear institutional policies on ethical AI usage, and further research on the long-term impact of AI on MLL learning outcomes. With the support of WAESOL, this project has contributed to advancing AI-assisted multilingual education. The results of this study have been submitted to Disciplinary and Interdisciplinary Science Education Research (DISER) (https://diser.springeropen.com/) for publication, further disseminating insights on AI integration in science classrooms for multilingual learners. I look forward to further collaboration and continuing to explore innovative ways to enhance language accessibility in science education.