Localized AI Solutions for Equitable Lifelong Learning in the Davao City

Initial Results and Discussion

The results of our survey indicate that the majority of teachers in Davao City are comfortable with using technology in their classrooms. Specifically, 50% of teachers reported feeling "very comfortable" with technology for teaching, while 37.5% felt "comfortable." Only one teacher expressed discomfort, suggesting that most educators are open to integrating digital tools into their teaching, though there may be a need for additional training to handle more advanced technologies. This aligns with existing literature, which shows that while educators are generally open to adopting technology, they may face challenges when transitioning to more sophisticated tools (Anderson, 2018).

In terms of the use of digital tools, a significant 87.5% of teachers reported using various digital tools, with Google Classroom and Zoom being the most commonly used platforms. However, only 12.5% of teachers are currently utilizing AI-powered tools. This indicates that while teachers are familiar with digital tools, the integration of AI tools is still limited, likely due to factors such as lack of awareness or access to AI-specific resources. This trend is consistent with research that suggests while traditional digital tools are widely adopted, AI-based systems are still emerging in education (Smith et al., 2020).

When asked about the perceived usefulness of AI in the classroom, half of the teachers believed that AI tools would be "very useful," while 37.5% felt they would be "useful." Only 12.5% did not see AI as beneficial. This shows a general optimism about the potential of AI to enhance teaching and learning. Studies have similarly found that educators are positive about AI's ability to support personalized learning and administrative tasks (Luckin, 2016), suggesting that AI's role in education is well-received but requires targeted implementation.

Teachers' preferences for AI features also highlighted an interest in resources that directly support teaching. The most requested features were AI-generated teaching resources such as lesson plans and videos (87.5%), followed by personalized learning paths (25%) and language support (25%). Automated grading and feedback were less prioritized. These findings suggest that teachers are more interested in AI tools that assist with lesson preparation and cater to the

diverse linguistic needs of students. This aligns with the findings of Guskey (2014), who noted that educators value AI tools that augment teaching resources and help address the varied needs of learners.

For students, the survey revealed a strong desire for bilingual education, with 62.5% of respondents supporting bilingual lessons in both English and Bisaya. This preference for bilingual instruction underscores the linguistic diversity of Davao City and the need for AI systems that can seamlessly switch between languages. This was further supported by the finding that 37.5% of students preferred AI features such as language switching and interactive lessons, including quizzes and videos. Literature on AI in education suggests that students value personalization and interactivity, as these features improve engagement and learning outcomes (Chen & Xie, 2020). Thus, the integration of bilingual support and interactive elements in AI systems is crucial to enhancing student engagement and learning.

The importance of language support was further emphasized by both teachers and students. In the teacher survey, 62.5% of respondents highlighted the need for AI tools that support both English and Bisaya, reflecting the multilingual nature of the region. Similarly, 62.5% of students also found language support essential. These findings underscore the necessity of designing AI systems that accommodate multiple languages to ensure inclusivity and accessibility, as highlighted by Liu & Zhang (2019), who noted that language support is a key factor in improving the learning experience in multilingual settings.

However, the implementation of technology in education faces several challenges. Teachers identified limited access to educational content in local languages (62.5%) and a lack of resources, such as devices and internet connectivity (25%), as significant barriers. These challenges are consistent with findings from UNESCO (2017), which highlighted similar obstacles in many developing countries. These resource limitations must be addressed to facilitate the successful adoption of AI in Davao City’s classrooms.

Despite these challenges, the survey also revealed a positive outlook toward AI integration. Seventy-five percent of teachers expressed openness to using an AI-powered assistant, and students showed confidence in AI tools, with most respondents feeling neutral to very confident in their use. This suggests that both teachers and students are receptive to the idea of AI in education, provided that the necessary resources and support are available.