

## Case Study: Bridging Tradition and Innovation: Tabia Kwegu’s Journey with AI in Education

**Name:** Tabia Kwegu

**Project:** AI TEACHERS: Improving Teacher's Competencies Through an AI-Driven Assessment Program

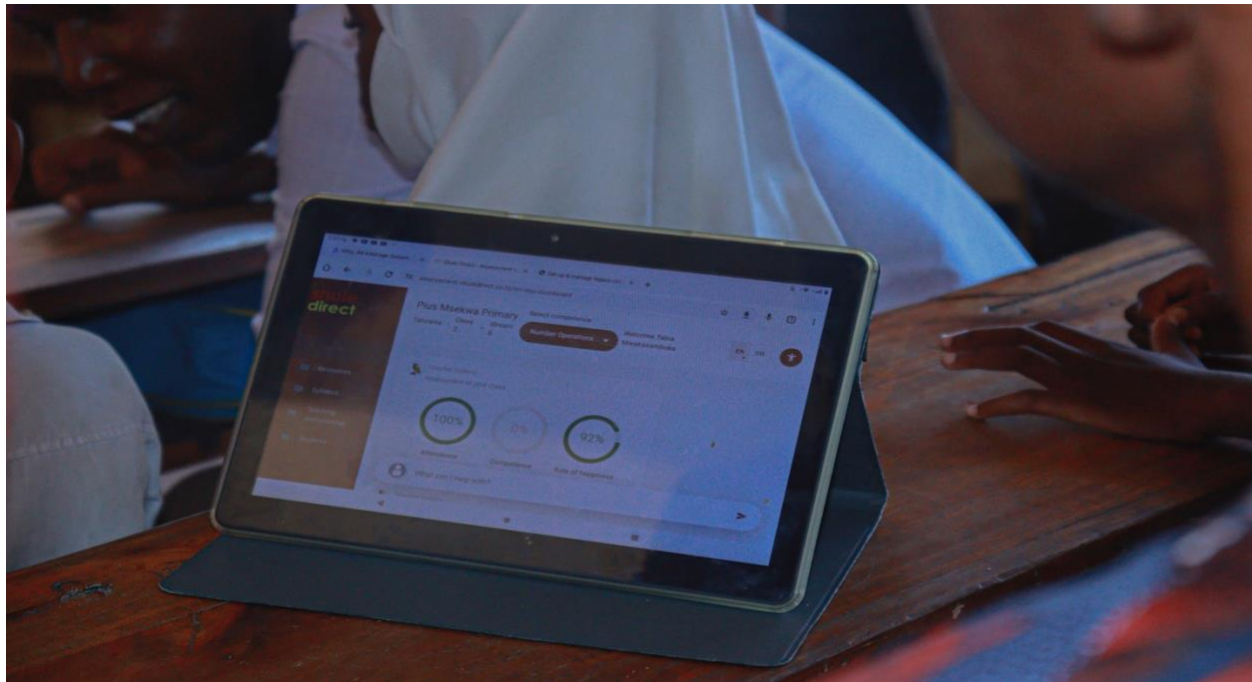
**Date:** February 26, 2025

### Background

Tabia Kwegu is a seasoned educator with over 10 years of teaching experience since 2005. She currently teaches Class 2 at Pius Msekwa Primary School in Tanzania, focusing on reading and English, she has also taught mathematics, environmental studies, sports, and games. As part of the AI TEACHERS project—funded by the Bill and Melinda Gates Foundation and implemented by Shule Direct, Lead for Ghana, and Effective Basic Services (eBASE) Africa—a user-friendly teacher dashboard was designed to provide teachers with access to student data, personalized recommendations, and automated teaching guides.

Tabia has been utilizing this AI-driven platform to enhance her students' numeracy skills. This case study explores her behaviors, attitudes, and evolving perceptions of AI as a tool for teaching and learning.

*Image 1: AI Teacher's Dashboard*



### **Initial Engagement with AI Tools**

Tabia’s initial interaction with AI technology was through the Shule Direct platform, which she used for student assessments and as a supplementary learning resource. She incorporated the platform into her teaching by supervising students to access the digital learning content and accessing its resources to inform her instructional strategies. Her early adoption reflects a willingness to experiment with digital tools, though her usage was constrained by practical limitations such as infrastructure and time.

### **Beliefs and Attitudes Toward AI**

Tabia exhibits a balanced perspective on AI in education, recognizing both its potential and limitations. She views AI as a valuable tool, particularly in contexts where infrastructure and teacher training are adequate, stating, “I think AI can be good if the infrastructure is available and teachers are given comprehensive trainings.” However, she expresses concerns about over-reliance on technology, fearing it could hinder the development of critical thinking skills among students. Despite these reservations, Tabia does not see AI as a threat to her role. She asserts, “Technology cannot take the entire responsibility of teachers,” emphasizing that AI should complement rather than replace human educators. Her confidence in maintaining her role stems from her belief in the irreplaceable value of personal interactions, such as fostering student ethics, providing customized support, and shaping civic participation—areas she feels AI cannot fully address.

Tabia is optimistic about AI’s potential to enhance student outcomes, especially in numeracy. She highlights how the platform’s diverse content, including puzzles and games, strengthens students’ thinking skills, and how AI-generated insights (e.g., from the teacher dashboard) help her tailor instruction to individual needs. This suggests a pragmatic acceptance of AI as a supportive tool rather than a standalone solution.

*Image 2: Teacher Tabia from Pius Msekwa Primary sits nearby, ready to assist learners using Shule Direct Kids Learning App whenever needed.*



### **Behavioral Shifts and Classroom Integration**

Throughout the project, Tabia’s behavior toward AI evolved from cautious exploration to selective integration. She used the platform daily to assess and support her students, particularly those struggling with numeracy concepts like number recognition and operations.

Her teaching practices adapted as she leveraged AI insights to identify and address specific student weaknesses. For instance, she noted, “Children who were difficult to understand, we gave them more practice and helped them according to the areas they had problems.” This data-driven approach led to observable improvements, such as enhanced number recognition among struggling students, demonstrating a positive shift in her instructional behavior facilitated by AI.

### **Perceptions of Colleagues and Community Norms**

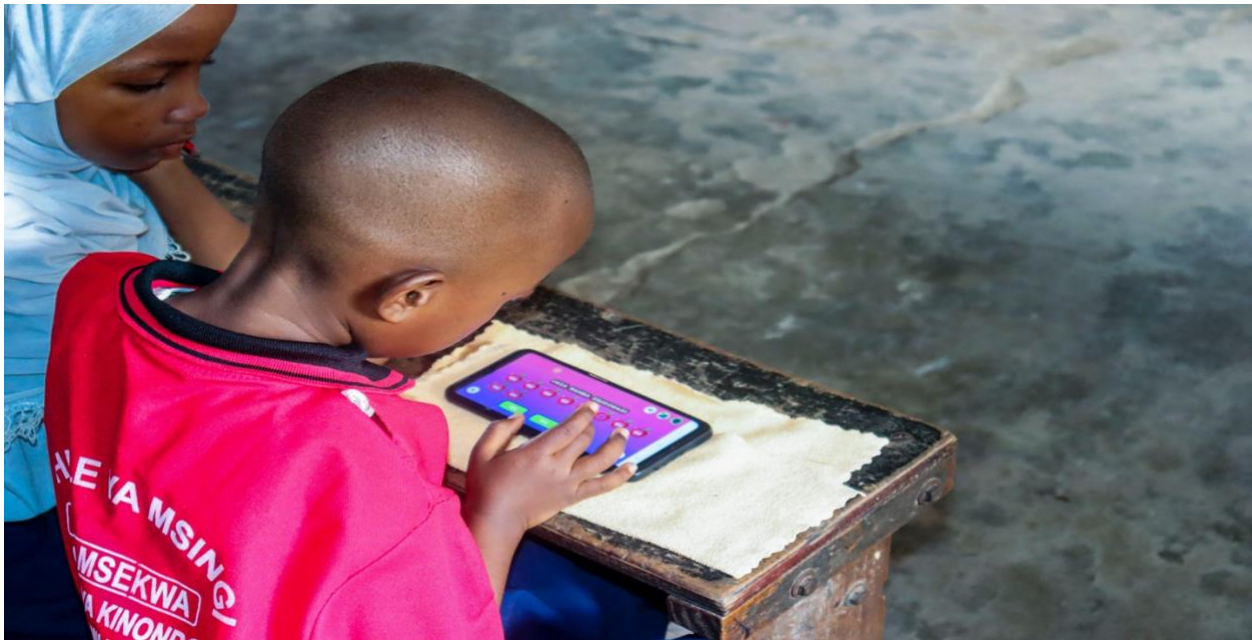
Tabia’s colleagues displayed curiosity and interest in the AI project, with some expressing a desire to join the AI use through the AI Teachers project. She perceives no significant cultural or informal norms within her teaching community that would deter AI adoption, stating, “I don’t think current norms/cultural may affect teachers’ intake to technology.” This indicates a relatively supportive environment, contingent on access to training and resources.

### **Long-Term Outlook**

Tabia’s perception of AI evolved from skepticism to cautious optimism over the project’s duration. She now sees AI as a complementary tool that “provides information and support” to teachers, enhancing rather than disrupting her practice. Looking ahead, she envisions AI driving significant changes in education if challenges like supportive infrastructure are addressed. She believes the teacher’s role as a facilitator will persist, with AI amplifying their efforts rather than diminishing their importance.

Her students’ numeracy improvements—e.g., better recognition of number sequences—reinforce her growing trust in AI’s efficacy. Tabia advocates for sustainable integration through balanced timetables, robust infrastructure, and ongoing training, reflecting a forward-thinking yet pragmatic stance.

*Image 3: Pupils from Pius Msekwa Primary School engaged in learning using the Shule Direct Kids App.*



### **Conclusion**

Tabia Kwegu's journey with the AI TEACHERS project illustrates a teacher navigating the intersection of tradition and innovation. Her behavior shifted from tentative use to targeted application, driven by AI's ability to address student needs, regardless of some infrastructural barriers. Her attitudes blend enthusiasm for AI's potential with a critical awareness of its limits, particularly regarding cultural relevance and skill development. This case underscores the importance of support systems—training, infrastructure, and time—in shaping teacher behaviors toward AI, offering valuable insights for scaling such initiatives in resource-constrained settings.