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Kalulu: Evidence-Based Adapted Phonics Instruction for Literacy Across Languages

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Abstract

Ensuring that all children have access to evidence-based reading instruction requires scalable solutions that respect linguistic diversity (Castles et al., 2018). Kalulu is a fully automated system designed to develop phonics-based reading programs for any symbol-to-sound language. Grounded in cognitive science, it generates instructional materials—including books, paper-based games, and digital applications—tailored to the phonological structure of each language. Leveraging AI, Kalulu analyzes grapheme–phoneme correspondences to build a progression of two mappings per week, enabling 100% decodable texts while integrating reading, writing, and vocabulary instruction.

Initially tested in France with over 1,000 children, Kalulu is now being deployed in Brazil (1,000+), Colombia (500+), and Mayotte (300+), with ongoing expansion into Argentina. This poster outlines the automation pipeline, field implementation strategies, and current cross-linguistic research in collaboration with local school districts and NGOs. We aim to show how cognitive science can accelerate the global scaling of evidence-based literacy instruction—providing free and open-access learning.