

Overview

The Learning Engineering Virtual Institute (LEVI) – a new model for Education R&D developed by Schmidt Futures (Schmidt) and the Walton Family Foundation. LEVI aims to create technology-enabled solutions that can double the rate of low-income, middle school students' math learning.

Aiming to double middle school students' math learning progress, particularly for low-income students, by utilizing AI-augmented teachable agents (ALTER-Math) based on the learning by teaching (LT) framework. These AI agents, integrated with advanced learning science strategies, will engage students by transforming them into proactive teachers. Leveraging UF's HiPerGator supercomputing center and large-scale educational data, ALTER-Math combines in-house and third-party LLMs to enhance math learning. The platform is integrated into Math Nation, Florida's core curriculum, which serves over a million K-12 students annually. Drawing on the proven success of Betty's Brain and rigorous learning science principles, the project will conduct RCT and AB testing to demonstrate that students using ALTER-Math achieve at least 1.4 times the learning gains of traditional methods, contributing to the LEVI goal of doubling student progress.