

**Cavanaugh Proposal to Bill & Melinda Gates Foundation:
Math Nation and Flamingo Research Partnership for Algebra Learning in FL**

The Lastinger Center has built a math content system, Math Nation, and teacher professional learning system, Flamingo Learning, and seeks to instrument these platforms to create an infrastructure for continuous improvement on the cutting edge of learning science and R&D in math content quality. Math Nation (and its Algebra component Algebra Nation) is used by nearly 600,000 students and more than 25,000 teachers across the U.S. each year, with heavy adoption by school districts in Florida. Historically, schools frequently using the platform show a 26-point higher average pass rate on Florida's Algebra 1 End of Course Exam. Expanding on their work with Algebra Nation, the UF Lastinger Center developed Flamingo Learning, a pioneer platform designed specifically for professional learning among teachers. Launched in January 2019, the platform has already successfully supported over 25,000 educators, with the base rapidly increasing. The Flamingo system is designed to be a one-stop hub for educators that connects them to the highest quality, evidence-based courses, resources, support, and networks that are carefully curated and facilitated to provide practical solutions, improve their skills and knowledge, and advance their education and careers. Consistently, educators who complete courses in Flamingo show growth in pedagogical content knowledge of two standard deviations, equivalent to having a personal tutor.

This project would offer researchers access to the learning platform data in Math Nation and Flamingo Learning and enable a data sharing infrastructure. This project would also enable new R&D capabilities critical to understanding math content quality, including (1) implementing robust activity tracking, (2) developing structures for easy access and interpretation of data, and (3) creating a reporting interface directly accessible by internal and external researchers.