

ABSTRACT

Project Title: Massively Open Online Virtual Practice Based Professional Development for Elementary Grade Science Reading Comprehension (MOOV)

Goals: (1) Support the development of 2800 highly effective elementary school teachers with the capacity to deliver strong science reading comprehension and computational thinking instruction to over 70,000 students; 2) Strongly Impact high need fourth and fifth grade students' science reading comprehension and computational thinking outcomes; 3) Create a sustainable community of practice to continuously improve teaching practices with supports for teacher implementation and credentials.

Significance:

Children comprise 23% of the US population, but 32% of children (over 14 million) live in poverty. Most children growing up in poverty, those that are Spanish speaking English learners and American Indians are at high risk for poor performance on important science comprehension skills and dropping out of school due to many factors. Teachers in high need schools have the opportunity to make a big difference in improving the academic and professional trajectories of these children. Therefore this SEED grant focuses on teacher knowledge and capacity to deliver high quality evidence-based instruction on science reading comprehension to upper elementary students in high need schools.

Expected Outcomes:

SEED Purpose and Contributions: MOOV-PBPD addresses: **Absolute Priority 1** through important teacher focused components (a) increases number of teachers who are highly effective in delivery of science reading instruction at high need schools to monolingual and Spanish speaking English learners as well as American Indian students (e.g., causal inference chaining and computational thinking), (b) uses and promotes teaching the text structure strategy that is supported by **strong research and theory as reviewed by the What Works Clearinghouse** (c) prepares school leaders at high need schools to support teachers' use of highly effective instruction (d) provides practice-based professional development to teachers virtually and face-to-face, (e) promotes continues learning and use of highly effective instruction through MOOV-PBPD platform, (f) awards micro credentials and encourages teachers to engage in lifelong learning through seeking advanced degrees; **Competitive Preference Priority STEM** by focusing on science reading comprehension; **Invitational Priority** with micro-credentials. Student learning and affective outcomes are also predicted to increase in the areas of science and reading comprehension.

Policy and Practice: New policies/practices regarding highly effective science reading instruction, new practices of delivering virtual PBPD; new practices regarding highly effective science reading instruction based on RCT; MOOV-PBPD refined and evaluated.

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