

# Project LEAP

## **[LEAP K-2 IES] Project LEAP: Extending a Grades 3-5 Early Algebra Learning Progression into Grades K-2 (2017-2021)**

Algebra is a subject with which students continue to struggle. One recommendation for improving algebra instruction that has gained widespread acceptance has been to adopt a longitudinal, K–12 approach to teaching and learning algebra, rather than waiting until secondary grades to begin students' formal algebra education. To that end, this project will develop and test the potential of a Grades K–2 Early Algebra Learning Progression (EALP) to develop young children's algebraic thinking and build a platform for their success in formal algebra in secondary grades.

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## **[LEAP K-2 NSF] Building a Grades K-2 Early Algebra Learning Progression Prototype for Diverse Populations (2017-2020)**

This project focuses on the design of a Grades K–2 Early Algebra Learning Progression (EALP) that is responsive to culturally and linguistically diverse learners with exceptionalities, including learners with identified mathematics difficulties. Such a model will not only provide a critical roadmap for algebra instruction in elementary grades for our most vulnerable populations of students, it can also inform the design of more forward-thinking algebra learning standards. The project's focus on a diverse population of learners promises to increase the generalizability of the EALP to wider-ranging populations.

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## **[LEAP V] Identifying Effective Instructional Practices that Foster the Development of Algebraic Thinking in Elementary School (2017-2021)**

The goals of the proposed project are twofold: (1) to develop an early algebra classroom observational instrument; and (2) to identify profiles of instructional practices associated with increased student performance in early algebra.

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## **[LEAP 3] The Impact of a Teacher-Led Early Algebra Intervention on Children's Algebra-Readiness for Middle School (2014-2020)**

Early algebra is viewed as a critical means for preparing students for success in a more formal study of algebra in middle and secondary grades. However, this premise has been virtually unexplored. Therefore, the primary purpose of this project is to (1) measure the effectiveness of a teacher-led early algebra intervention, in demographically diverse settings, on children's algebra readiness for middle school and (2) assess the fidelity with which elementary teachers implement the intervention in authentic, intact classrooms.

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## **[LEAP 2 RAPID] Retention of Early Algebraic Understanding (2015-2017)**

This project extends the current NSF-funded research on the impact of a 3-year, longitudinal early algebra intervention on children's algebra readiness for middle grades. The proposed work will allow us to explore students' knowledge of core algebraic concepts once they enter middle grades, one year after their completion of the intervention.

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## **[LEAP 2] The Impact of Early Algebra on Students' Algebra Readiness (2012-2017)**

This project is testing the effectiveness of a comprehensive, longitudinal early algebra intervention in elementary grades 3-5 on middle-school algebra-readiness. This project draws from past project researchers' development of an efficacious grade 3-7 early algebra learning progression, assessments, and professional development model.

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## **[LEAP 1] Developing Algebra-Ready Students for Middle School: Exploring the Impact of Early Algebra (2009-2013)**

This project is developing and testing a curricular learning progression of early algebra objectives and activities for students in grades 3-7. The goal of the work is to provide teachers with curricular guidance, instructional resources, and assessment tools that are useful in preparing students for success in the study of algebra at the middle grade level.

University of Wisconsin-Madison's Project LEAP Website: [algebra.wceruw.org](http://algebra.wceruw.org)

University of Texas-Austin's Project LEAP Website: *coming soon...*