

Your Question:

You asked about research related to connecting kindergarten school readiness with later student outcomes.

Our Response:

“School readiness” refers to multiple dimensions of learning preparedness in the early childhood space. Schools, school districts and states are increasingly using [data and assessments](#) to measure students’ preparedness and evaluate strategies to improve academic outcomes. Additionally, the COVID-19 pandemic has highlighted the need for [accurate and actionable information](#) about students entering kindergarten. Below is an overview of how states have defined school readiness in statute or regulation, a brief summary of national research on school readiness and examples of school readiness tools being used by states.

State Definitions of School Readiness

There is wide variation in how states define school readiness, which makes measurement and assessment across states difficult. At least [16 states and the District of Columbia](#) define school readiness in statute or regulation. Most include multiple domains of readiness and many states align this definition with standards and/or assessments to evaluate readiness. Most definitions focus primarily on the readiness of students and families, but some states also include school and community context. State education agencies and local districts may also participate in broader readiness initiatives. These initiatives may encompass schools and communities that are not included in statutory definitions or requirements. Below are some examples of state readiness definitions.

- **Maryland [regulation](#)** defines school readiness as “the stage of early development that enables an individual child to engage in and benefit from early learning experiences.” The definition encompasses the domains of social and emotional development, cognition and general knowledge, language development, and physical well-being and motor development.
- **Mississippi regulation** defines [school readiness](#) as a “continuum of behaviors rather than an inflexible or narrow set of proficiency skills.” The state adopted definition statements for ready children, families, schools, communities and states.
- **South Carolina [statute](#)** defines readiness as the necessary development for school success in several domains, including physical, emotional and social competencies as well as literacy and math skills. The definition also acknowledges the role of families, schools and communities as well as healthcare providers, caregivers and educators. The state’s public-private early childhood entity, [South Carolina First Steps to Readiness](#), administers several statewide initiatives to improve school readiness.

Additional ECS Resources

Policy Analysis:

[50-State Comparison: State K-3 Policies](#)

[Exploring New Research on Pre-K Outcomes](#)

Overview of National Research

[National research](#) on school readiness focuses on studying the skills and conditions that maximize learning potential in kindergarten and beyond. As with all educational research, isolating and causally connecting specific school readiness variables with school readiness outcomes is very difficult, but there are some large-scale, longitudinal studies that have enabled researchers to draw some conclusions about school readiness. Most notable is the [Early Childhood Longitudinal Study](#), administered by the National Center for Education Statistics in the U.S. Department of Education, which collects data from several cohorts of students beginning in kindergarten through elementary school and beyond. The most recent data was collected from a kindergarten cohort in 2011 and continued through fifth grade, but a new cohort is [scheduled to begin](#) in 2023.

Findings from longitudinal studies suggest that measurable cognitive skills at kindergarten entry are [predictive of later academic success](#), with math skills having the highest predictive power. Additional areas of inquiry include the role of non-cognitive (sometimes referred to as soft skills) such as social and emotional development or [executive function](#), which are difficult to measure but may [play a vital role](#) in school readiness. Other studies suggest smaller but significant effects on later achievement for [fine motor skills](#), attention and [working memory](#), and [temperament](#).

Researchers are also working to understand the interplay of [preschool experiences](#) and early elementary instruction in later achievement. Some studies have shown that children's gains in preschool may slow or "[fade out](#)" in the early elementary years, leading some scholars to hypothesize that high-quality instruction throughout both preschool and early elementary grades are necessary to sustain gains.

School Readiness Assessments

School readiness assessments, also known as kindergarten entry assessments (KEAs), are a valuable tool in designing developmentally appropriate instruction. At least [29 states and the District of Columbia](#) require some form of KEA, and most of those states also specify in statute how the assessment can be used. These assessments are meant to be a low stakes snapshot of students' skills and cognitive development to inform parents and educators, as well as to provide statewide data for analysis. While there are some tools developed by national assessment providers and used by multiple states, these tools are not designed to be used for cross-state comparison.

There are some [best practices](#) derived from evaluative studies of KEAs that can inform their adoption and use.

- **Multiple domains of development.** Many KEAs are designed to measure not just cognitive skills, but also physical, social and emotional development. [These domains](#) attempt to capture the broader understanding that school success is the result of multiple, interconnected facets of development.
- **Intentional use of data.** Depending on how a KEA is designed, the results may be used to determine the individual assets and challenges of students (including diagnosis of learning difficulties) and inform instruction, and/or to create a system-wide snapshot of school readiness to analyze population-level data at the district, county or state level. KEAs are not intended for use as a high-stakes test to evaluate individual schools or interventions, assess educator effectiveness or determine students' kindergarten admission.
- **Accounting for state context.** While most states require a KEA, there is wide variation in how these assessments are selected and administered. Some states adopt a single assessment tool to be administered to all students in the state (e.g., [Georgia](#) or [Illinois](#)), while others allow districts to select from a list of approved assessments (e.g., [Colorado](#) or [Louisiana](#)). Similarly, some states require that all students be

assessed while others require only a percentage of students or allow voluntary participation. These unique state contexts are relevant in KEA development and administration; convening a diverse group of stakeholders and implementing a piloting process can help capture these factors.

Additional Resources

- [Readying Our State: How Kindergarten Readiness Inventories Can Benefit California](#) (First 5 Center for Children’s Policy, 2020): This resource outlines common characteristics of KEAs and best practices for development and administration.
- [School Readiness Reporting Guide](#) (ECDataWorks, 2018): This guide provides an overview of how school readiness data can be used, including metrics for school and community readiness.
- [Exploring State-by-State Definitions of Kindergarten Readiness](#) (REL Northwest, 2016): This scan of state readiness definitions and assessment requirements includes an analysis of definitions that focus on individual student readiness, school and community readiness, or both. Note: this information may differ from Education Commission of the States’ analysis due to its older publication and the source criteria.
- [Statewide KEAs: Best Practices and State Profiles](#) (Economy League of Greater Philadelphia, undated): This report was developed to inform an advocacy effort promoting a statewide KEA in **Pennsylvania**. It includes some detailed state examples and an appendix of state KEA characteristics.