Case Studies of the Early Implementation of Kindergarten Entry Assessments

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Executive Summary

States increasingly are incorporating Kindergarten Entry Assessments (KEAs)[1] into their comprehensive assessment systems with the goal of helping educators identify gaps in children's competencies, target instruction to children's individual needs, engage parents to better support their child's learning, and identify needs for expanding and improving early learning opportunities. In 2010, seven states collected KEA data for the purposes of aggregating data at the state level (Daily, Burkhauser, and Halle 2010). By 2014, 29 states were engaged in development and use of KEAs with support from federal programs such as Race To the Top-Early Learning Challenge (RTT-ELC) grants and Enhanced Assessment Grants (EAG). This descriptive study examines the development and early implementation of KEAs in 12 districts and 23 schools within four RTT-ELC states (Maryland, Oregon, Pennsylvania, and Washington) during the 2014–15 school year. This was the first year of KEA implementation in Maryland and Pennsylvania, the second year of KEA implementation in Oregon, and the third year of KEA implementation in Washington, so findings reflect the early implementation of these assessments. The study is intended to help states learn from the experiences of other states as they work to develop and implement their own KEAs and to use KEAs to improve instruction and learning.

Key Findings

- State officials and stakeholders in all four case study states considered multiple criteria when developing or adopting KEA measures: reliability and validity, appropriateness for all students, usefulness for informing classroom instruction, usefulness for informing early learning policies and program improvement, feasibility of administration by teachers, and cost.
- The four states trained teachers on KEA administration through self-paced webinars, in-person presentations, and train-the-trainer models. A majority of the interviewed teachers said the training prepared them to administer the KEA to students, though many teachers reported that they had difficulty in determining what were appropriate accommodations for English learner (EL) students[2] and students with disabilities[3] and indicated that they needed further assistance.

[1] Some states call these kindergarten entry *inventories* rather than *assessments,* but both terms refer to similar kinds of measures. For simplicity, this report uses the generic term *kindergarten entry assessment* to encompass both kindergarten assessments and inventories. As defined by the RTT-ELC Notice Inviting Applications (NIA), a "kindergarten entry assessment" is an assessment that: is administered to children during the first few months of their admission into kindergarten; covers all Essential Domains of School Readiness; is used in conformance with the recommendations of the National Research Council reports on early childhood (National Research Council, 2008); is valid and reliable for its intended purposes and for the target populations; and is aligned to the state's early learning and development standards. *Essential Domains of School Readiness* means the domains of language and literacy development, cognition and general knowledge (including early mathematics and early scientific development), approaches toward learning, physical well-being and motor development (including adaptive skills), and social and emotional development. Additionally, the NIA states that "results of the assessment should be used to inform efforts to close the school readiness gap at kindergarten entry, to inform instruction in the early elementary school grades, and to inform parents about their children's status and involve them in decisions about their children's education. This assessment should not be used to prevent children's entry into kindergarten or as a single measure for high-stakes decisions."

[2] Interviewers used the term "English learners" when asking respondents about this population, but some respondents preferred the term "dual language learner students" or "DLL students," because in early childhood, all children are learning English. This report uses the term "EL students."

- District officials reported working to reduce the burden associated with KEA data collection and entry by purchasing new technology, providing staffing assistance to teachers with KEA administration, and omitting or delaying other assessments.
- Although the majority of interviewed teachers reported that they had not yet used formal KEA reports to inform their instructional practices, a few teachers said that the impressions they gained while administering the KEA helped them to understand their students' strengths and needs and to assign students to instructional groups.
- District administrators and teachers identified challenges with administering KEAs with EL students and students with disabilities, using KEA results to inform instruction, and sharing KEA data with parents;[4] they suggested that state officials could address these challenges by providing explicit training on these topics, on-site coaching, and tailored reports to help educators use and share the data.

Study Design and Limitations

This study addressed the following questions:

1. How did the four case study states develop or adopt KEAs?
2. How did the four states train teachers to administer KEAs and to what extent did teachers feel prepared to do so?
3. What were the KEA implementation experiences of the 12 case study districts?
4. To what extent did the states, districts, and schools in the study use KEA results to inform policy and practice?
5. What challenges did the case study sites experience with KEAs, and what strategies did sites use or suggest using to address these challenges?

To address these questions, the study team conducted document reviews, telephone interviews with state respondents and preschool directors, and in-person interviews with district administrators, principals, kindergarten teachers, and other KEA assessors.

Data collection. Data collection occurred between January and June 2015 in the four case study states and in the 12 districts and 23 schools in those states. This sample size enabled the study team to explore the range of strategies that these states, districts, and schools were using to implement KEAs. The study team drew a purposive sample of three school districts from each state, stratified as urban, suburban, and rural. Then the study team drew a sample of schools with both high concentrations of poverty and significant concentrations of EL students, as well as schools with lower concentrations of poverty and EL students. Participating preschool programs provided public or private early care and education at or near the selected schools.

The study team completed 201 interviews across the four states — specifically, interviews with 33 state agency representatives, 48 district representatives (including 13 professional development

[3] Interviewers used the term "children with developmental delays or disabilities" when asking respondents about this population. Respondents used other various terms, including "children with special needs" and "children receiving special education." This report uses the term "students with disabilities."

[4] This report uses the term "parents" when discussing schools sharing KEA results because that is the term used in the *Family Educational Rights and Privacy Act* (FERPA); schools may share KEA results with natural parents, guardians, or other individuals acting as a parent in the absence of a parent or guardian under FERPA.

coordinators), 20 principals and one vice principal, 53 kindergarten teachers, five other KEA assessors, and 41 preschool program directors. The study team used structured debrief guides and cross-case analysis meetings to identify themes and verify evidence for findings.

Study limitations. The case study findings in this report are not representative of or generalizable to all districts and schools within or beyond the case study states. The findings are a snapshot in time from fall 2014 and early 2015, and therefore respondents may have reported on activities and circumstances that have since changed. In some cases, interview respondents had not participated in early discussions about the selection or development of KEAs and, therefore, were not able to provide detailed information about their KEAs' historical foundations. Further, the study team did not evaluate the validity or reliability of the selected or developed KEA measures or their administration processes.

Although the state and district experiences described in this study are not generalizable to other sites, state and district policymakers and administrators may use the study findings to inform their own KEA plans by considering the common challenges and potential solutions identified; the tradeoffs of various KEA strategies; and the numerous logistical steps undertaken in adopting, implementing, and using a KEA to inform policy, program improvement, and instruction.

Summary of Findings

Development and Adoption

State officials and stakeholders in all four case study states considered multiple criteria when developing or adopting KEA measures: reliability and validity, appropriateness for all students, usefulness for informing classroom instruction, usefulness for informing early learning policies and program improvement, feasibility of administration by teachers, and cost.

KEA leadership teams in the case study states engaged a wide range of stakeholders in the KEA selection process such as researchers, experts in assessment and psychometrics, experts in assessment and education of students with disabilities and EL students, local administrators, elementary and preschool educators, early learning advocates, and community representatives. Leadership teams worked with stakeholders initially to prioritize the selection criteria for KEA measures and then, in some cases, to review potential measures. Over a multi-year process, these teams continued to examine KEA properties and feasibility, solicit feedback from practitioners, and refine the instrument, its administration, and reporting procedures to support continuous improvement. Recognizing that a single assessment tool may not fully meet all of the desired criteria, decision-makers in all four case study states focused on developing or selecting instruments that were psychometrically sound, aligned with state standards, affordable, and not too burdensome for teachers to administer (see Exhibit S.1 for an overview of the KEA tools used in the four case study states).

In all four case study states, KEA development or adoption began with pilot tests of the selected KEAs to assess the reliability and validity of assessment items, implementation feasibility, and teacher training needs; these studies resulted in revisions of KEA instruments and in modifications to training protocols, procedures, and resources.

Before full-scale KEA implementation, researchers in all case study states conducted pilot tests, field tests (i.e., small-scale studies), or both, with teachers in a subset of schools. In three case study states (Maryland, Oregon, and Pennsylvania), the pilot tests were conducted after the state had developed or selected its KEA. The Washington pilot test involved testing three different instruments to inform the

final selection of the *Teaching Strategies GOLD®* (*GOLD®*) for the whole child assessment component of the state's KEA, followed by a field test of a customized version of the selected assessment. At a minimum, the pilot tests involved teachers assessing students using the selected KEA and providing feedback through surveys, focus groups, or interviews. In addition, researchers in the case study states conducted parent surveys and interviews (Washington), student interviews (Maryland), school administrator surveys (Oregon and Pennsylvania), document reviews (Oregon), and direct observations of KEA administration (Oregon). These studies resulted in revisions to KEA instruments and procedures and in modifications to training protocols and resources.

Exhibit S.1. KEA Information At-a-Glance by State

State	Maryland	Oregon	Pennsylvania	Washington
KEA tool	Kindergarten Readiness Assessment (KRA)	Kindergarten Assessment (KA)	Kindergarten Entry Inventory (KEI)	Washington Kindergarten Inventory of Developing Skills (WaKIDS)
Domains assessed	Language and literacy, social-emotional, math, and physical development	Early literacy, early math, and approaches to learning	Language and literacy, social-emotional, math, approaches to learning, and physical development	Language and literacy, social-emotional, math, cognitive, and physical development
Types of items	Selected response, performance, and observational items developed by state	Selected response and performance items from *easyCBM*; Observational items from *Child Behavior Rating Scale*	Observation based on rubric developed by state	Observation based on rubric from *GOLD®*
Number of items	63	31	34	36

State Support for Teacher Training and Preparation

The four states trained teachers on KEA administration through self-paced webinars, in-person presentations, and train-the-trainer models. A majority of the interviewed teachers said that the training prepared them to administer the KEA to students, though many teachers reported that they had difficulty in determining what were appropriate accommodations for EL students and students with disabilities and indicated that they needed further assistance.

In the four case studies, state staff or state-funded contractors developed and offered trainings for teachers on how to implement their KEAs using carefully scripted training and administration materials and resources. The state-developed trainings for teachers on KEA implementation took different forms—from online self-paced webinars to in-person presentations. These trainings addressed various topics—from detailed administration procedures to data reporting guidelines, but they typically included more focus on administration and data entry than on data use. The majority of interviewed teachers reported feeling prepared for administering the KEA and for using the secure web-based data systems overall, but they wanted more training on assessment strategies for EL students and students with disabilities, access to bilingual assessors and special education experts, and more opportunities for collaboration with colleagues on general KEA implementation and use.

To promote the collection of consistent data, state officials from all four case study states required teachers and other KEA assessors to complete a proficiency exam before administering KEAs.

In Maryland, Pennsylvania, and Washington, teachers completed proficiency exams that compared their own ratings of students' knowledge, skills, and behaviors with experts' ratings. In Oregon and Maryland, teachers also completed a proficiency test of knowledge about the state's KEA assessment. In Oregon and Washington, state officials also reported monitoring teachers' progress toward completing KEA administration tasks by the required deadlines and checking for data anomalies (e.g., teacher reports of extraordinarily high or low scores) in their KEA data systems; however, none of the respondents reported monitoring the actual KEA administration practices of teachers or assessors with students.

Teachers raised concerns about inconsistencies in timing of assessments' administration across classrooms that could result in inaccurate ratings of students' knowledge and skills. Several teachers interviewed who collected KEA data within the first few weeks of school believed this timing may have produced inaccurate results because children were not yet comfortable with their teachers and classrooms to perform their best. Several teachers in Maryland, Pennsylvania, and Washington also reported concerns about variations between results from observational measures collected over a seven- to eight-week window: Students' skills might show dramatic growth between the third and eighth weeks of school, yet their ratings would not reflect this growth.

District Experiences with Early KEA Implementation

KEA participation rates varied across states reaching 95 to 98 percent in the two states that required administration for all kindergarten students, while being much lower in the two states that limited the requirement to certain types of schools (13 percent and 44 percent).

Three case study states (Maryland, Oregon, and Washington) had legislative requirements for districts and schools to participate in the KEA and achieved widespread implementation. Maryland and Oregon, states that required KEA administration for all kindergarten students, achieved KEA participation rates of 98 percent and 95 percent, respectively. In Washington, where the KEA was required only in state-

funded full-day kindergarten classrooms (which represents 44 percent of the state's kindergarteners), 52 percent of the state's kindergarten students participated. In Pennsylvania, the state education department only required Title I focus and priority schools[5] to participate, and 13 percent of the state's kindergarten students participated. Of the 215 public schools whose teachers participated in the KEI, 116 were Title I focus schools or priority schools (54 percent); teachers in some schools that were not Title I focus or priority schools participated as mandated by their district.

District officials reported working to reduce the burden associated with KEA data collection and entry by purchasing new technology, providing staffing assistance to teachers with KEA administration, and omitting or delaying other assessments.

A combination of both state and federal funds supported the development and the majority of the implementation costs (such as training and material costs) of the KEAs in the case study states. School and district respondents, however, reported that they were cognizant of the additional demands that KEA training, administration, and data entry placed on their teachers, so they invested local funding to support teachers with their new responsibilities and to minimize the burden where they could. District officials reported that they used local funds to provide aides to monitor the classroom during KEA administration, coaching support, or technology resources to make data submission easier and faster. For example, the majority of district officials in Maryland and Washington reported purchasing tablets (i.e., mobile personal computers with touchscreen interfaces) for data collection, and IT staff in Maryland, Pennsylvania, and Washington uploaded student demographics (e.g., student identification number, gender, birthdate) into KEA data systems to streamline data entry for teachers. However, respondents reported some challenges with using the technology, such as hardware or software malfunctions or the system lacking capacity to accommodate large numbers of concurrent users.

Teachers across districts in all four case study states reported that having an extra pair of hands in the classroom during administration of the KEA—a teacher's aide or substitute teacher—helped facilitate KEA implementation. A few teachers found it helpful when their district eliminated other kindergarten assessments during KEA administration. Yet the majority of district administrators and teachers interviewed across all districts in all case study states reported continuing with other assessments in addition to their state KEAs, because the assessments were part of district benchmark systems or teachers needed additional information beyond what their state KEA was providing.

KEA Data Use by States, Districts, and Schools

Although the majority of interviewed teachers reported that they had not yet used formal KEA reports to inform their instructional practices, a few teachers said that the impressions they gained while administering the KEA helped them to understand their students' strengths and needs and to assign students to instructional groups.

Authorized district staff and teachers had access to online school, classroom, and student-level reports in Pennsylvania and Washington. Maryland, Oregon, and Washington placed state- and district-level KEA reports and data tables on public websites. However, the majority of district administrators and

[5] Priority and focus schools are schools identified by a State in accordance with its approved request for flexibility under the *Elementary and Secondary Education Act of 1965*, as amended by the *No Child Left Behind Act of 2001* (ESEA flexibility). Generally speaking, under ESEA flexibility, priority schools are the lowest-performing five percent of Title I schools and focus schools are Title I schools with large within-school gaps between high-achieving subgroups and low-achieving subgroups and schools with one or more subgroups with low achievement or graduation rates.

teachers reported obstacles to using KEA results to inform policy and practice. District administrators and teachers reported not using the available data to inform their practices, policies, or programs because they were unaware of the reports, found them difficult to understand and use, or received the reports too late in the school year to be useful. Teachers in states with available real-time reports were either unaware of this capability or did not find the reports meaningful. Respondents in Oregon and Pennsylvania also reported not receiving the results in an easily understandable format and not having the time or skills to analyze the data.

Despite not using KEA reports to inform their instructional practices, a few teachers said that administering the KEA helped them to become acquainted with and group their students. In Pennsylvania and Washington, interviewed teachers also relied on impressions they had from observing students for the KEA (as opposed to using KEA ratings or scores) to group students by ability level for instruction and to identify students who might need additional help with social-emotional skills. In Pennsylvania, a few teachers reported that making observations of students for the KEA helped them become acquainted with their students, with the inventory typically affirming what teachers perceived about their students' entering skills. A teacher in Washington discussed altering her expectations about a students' writing progress after administering the KEA.

Most official communications about KEAs mentioned the explicit intention of sharing KEA results with parents and preschool programs, but district officials and teachers reported delays in receiving results, concerns about data sharing, and a lack of meaningful and usable reports to share with these stakeholders.

Teachers in 11 of the 12 districts reported that they did not share KEA results with parents. Teachers in Maryland and Pennsylvania reported that data were not available in time to share with parents at parent-teacher conferences, but a few teachers in Pennsylvania shared observations they had made during the KEI administration. Despite the intention to share data in the future with parents, the majority of teachers interviewed across districts in Maryland reported that they saw no use in sharing the KEA results with parents, because the KEA did not offer helpful information beyond what teachers shared from other assessments. The majority of interviewed teachers from Oregon had not seen KA results themselves, and one district respondent further reported that the district administration was reluctant to share results with parents in order to avoid an "anti-testing" backlash. Only one district, Washington's urban district, reported sharing summary KEA reports with parents (as their fall report card). These teachers provided parents with the assessment results and discussed the results during fall parent-teacher conferences. A few teachers interviewed in this district, however, reported that parents did not attend these conferences or showed little interest in the KEA findings.

In addition, the majority of the directors of preschool programs associated with the selected case study schools had little or no awareness of the KEAs or their results. Respondents from Head Start or district-operated programs reported greater awareness of the KEAs than interviewed directors from private preschool programs, but directors from all types of programs expressed interest in the KEA and wanted additional information about the results and how they could use them to collaborate with kindergarten teachers. None of the respondents in Maryland, Oregon, or Pennsylvania reported that they had procedures currently in place to involve the preschool community, but a few district and school administrators in Washington reported that initial meetings had occurred between preschool and kindergarten teachers to build relationships and joint professional development opportunities. Although none of the respondents had personally participated in these meetings, one principal in Washington discussed plans to create a feedback loop to include preschool teachers who worked on her school site in sharing KEA data.

Challenges and Potential Solutions

District administrators and teachers identified challenges with administering KEAs with EL students and students with disabilities, using KEA results to inform instruction, and sharing KEA data with parents; they suggested that state officials could address these challenges by providing explicit training on these topics, on-site coaching, and tailored reports to help educators use and share the data.

Teachers in all four states reported feeling confused about the procedural guidelines for using KEAs with EL students, and teachers in three states (Maryland, Oregon, and Pennsylvania) reported feeling unsure about whether and how to provide accommodations during KEA administration to students with disabilities. Teachers suggested that trainers provide more direction on the use of tools meant to help teachers determine accommodations (e.g., decision trees and guidelines), more instruction on administration practices with special populations, and in-class monitoring of and real-time support for KEA administration from experts in assessing EL students and students with disabilities. Even with written guidance about administering KEAs to students from these populations, teachers in Maryland, Oregon, and Pennsylvania reported disagreeing with or having challenges following the provided guidance and decision-making processes for allowable and suitable supports.

Despite the availability of KEA data reports, district administrators and teachers reported not using the data to inform their practices, policies, or programs or sharing them with parents and preschool providers. State officials and trainers suggested that teachers and principals may benefit from explicit training on how to use KEA data to inform instruction. Additionally, KEA data reports should be user-friendly, with the findings closely tied to concrete actions such as specific instructional strategies. District administrators and teachers reported that they needed training to increase their awareness of available KEA data reports and materials that could be useful to share with parents. State and district officials suggested that KEA data reports must be comprehensible and useful to the preschool community for widespread use.

Several district and school respondents expressed uncertainty about the usefulness of the KEA to serve all its intended purposes; they suggested simplifying and strengthening the messages about the purpose of KEAs to build buy-in for statewide administration and use of data by districts, schools, preschools, and parents.

State officials across all case study states communicated multiple purposes of their KEAs. One major purpose was to measure school readiness consistently to inform state-level investments in early learning. Another was to identify students' strengths and needs to inform preschool and kindergarten teachers' professional development and classroom instruction. In addition, in all four states, state officials intended for KEA results to provide parents with information about their children's learning and development. In contrast to the various purposes reported by state officials, district and school respondents in all four states most often reported that the primary purpose of KEAs was to provide a state snapshot of kindergarten entry skills for state-level planning. Teachers in the case study states that mandated participation often viewed it as a compliance task rather than an activity designed to benefit their classroom instruction. For example, in Maryland and Oregon, several interviewed teachers reported that they viewed the KEA as yet one more required assessment in addition to others that were either mandated by district administrators or deemed more useful to educators.

There was a disconnect between the stated objectives of the KEAs and actual practice, especially related to the access of KEA results, interpretation of data, and use of data to inform practice and improve

programs. Respondents in Oregon, Pennsylvania, and Washington suggested that clear communication about expected uses of the KEAs prior to full implementation would have increased buy-in among kindergarten teachers and the preschool community. A couple of Washington state and district officials thought that demonstrating that one tool could serve multiple purposes would bolster the argument for administering it statewide, but two respondents (one at a district and one at the state) reported that overstating the KEA's use to accomplish some purposes may have undermined support within schools. Similarly, several state, district, and school respondents in Oregon suggested that better communication in the initial development and adoption stage about the KEA's purpose and intended uses would have supported teachers' understanding about and acceptance of the KEA. Likewise, state respondents in Pennsylvania suggested that future messages aimed at teachers must be explicit about the KEA's benefits and uses, and reassure teachers that it is not a high-stakes assessment or a teacher evaluation.

Recommendations for Policymakers and Administrators

Interviewed state officials, district administrators, and teachers in the four case study states and 12 districts shared several important lessons they learned from launching a statewide KEA. Researchers analyzed themes that emerged across the sites and developed the following recommendations for states and districts to consider as they work towards a statewide KEA:

- To develop a statewide KEA system, be prepared for a multi-year process and iterative roll-out, including pilot testing and gathering feedback from a wide range of stakeholders (including groups expected to use the data such as representatives from districts, schools, preschools, and parents, as well as individuals with expertise in psychometrics, students with disabilities, and EL students) on KEA selection and later on implementation and reporting.
- To increase buy-in for using KEA results, be clear about how the KEA will and will not be used by early childhood programs, kindergarten teachers, school administrators, and parents, and build structures (e.g., dedicated time for intended users to review findings), training, and reports associated with the intended uses.
- To increase the utility and accuracy of KEA data for all students and to meet federal requirements for assessing students with disabilities participating in state and districtwide assessments,[6] place a high priority on selecting KEA tools that have an adequate developmental range to capture skills of all students and that have been shown to be valid and reliable particularly for EL students and students with disabilities.
- To reduce burden of data collection and entry on teachers, eliminate other kindergarten assessments that inventory the same skills and serve the same purpose of the KEA, and provide assistance with data entry by employing additional staff and technology tools.
- To adequately prepare teachers to administer KEAs with EL students and students with disabilities, provide teachers with explicit training, coaching, and guidance on the administration of KEAs with these populations, including appropriate accommodations consistent with federal regulations,[7] as well as access to bilingual assessors and special education experts.
- To support the use of KEA results to inform instruction, develop user-friendly and timely reports closely tied to instructional decisions.

[6] *Individuals with Disabilities Education Act* (IDEA; 34 CFR §300.16).
[7] Ibid.

- To support the use of KEA results with parents, develop timely reports that teachers can share with parents that describe children's strengths and identify particular skills that parents and other family members can support at home.
- To support the use of KEA results in preschool programs, include preschool practitioners in the development of KEA reports that identify instructional areas in which early learning programs could help children be better prepared for kindergarten; reports should also provide data that can inform state and district investments to increase access and the quality of early learning programs, such as identifying geographic areas where students who demonstrate gaps in preparedness reside.
- Provide training and coaching to teachers, district and school administrators, and preschool directors with information on the use of relevant KEA reports, and make sure they are aware of and able to access reports.

1. Introduction

Children begin kindergarten with a range of skills and abilities, whether they transition from preschool programs, family child care arrangements, or directly from home. Many children from low socioeconomic status groups, however, enter kindergarten with fewer school readiness skills than their more advantaged peers (Lee and Burkam 2002), and gaps in early numeracy, early literacy, and social-emotional skills at school entry predict difficulties in later academic performance (Duncan et al. 2007). States increasingly are incorporating Kindergarten Entry Assessments (KEAs)[1] into statewide comprehensive assessment systems with the goal of helping educators identify gaps in children's competencies, target instruction to children's individual needs, engage parents to better support their children's learning, and identify needs for expanding and improving early learning opportunities. In 2010, seven states collected KEA data for the purposes of aggregating data at the state level (Daily, Burkhauser, and Halle 2010). By 2014, 29 states were engaged in development and use of KEAs with support from federal programs such as Race To the Top-Early Learning Challenge (RTT-ELC)[2] grants and Enhanced Assessment Grants (EAG).[3]

Although many states have begun to develop and adopt KEAs, adopting and implementing a KEA is a complex, multiyear undertaking. Most states continue to work on improving implementation procedures and systems for using KEA data and could benefit from learning from the experiences of other states. Therefore, the U.S. Department of Education (ED) and the Department of Health and Human Services (HHS) used RTT-ELC national activities funds to finance this study to better understand the development and early implementation of KEAs in four states: Maryland, Oregon, Pennsylvania, and Washington. All four states are RTT-ELC grantees and Maryland leads a consortium of EAG states.[4]

The RTT-ELC program defines "Kindergarten Entry Assessment" as an assessment that:

- Is administered to children during the first few months of their admission into kindergarten;
- Covers all Essential Domains of School Readiness;[5]
- Is used in conformance with the recommendations of the National Research Council reports on early childhood (National Research Council, 2008); and
- Is valid and reliable for its intended purposes and for the target populations and aligned to the state's early learning and development standards.

Accordingly, the RTT-ELC Notice Inviting Applications states that "results of the assessment should be used to inform efforts to close the school readiness gap at kindergarten entry, to inform instruction in

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1 Some states are developing kindergarten entry *inventories* rather than *assessments* but both terms refer to similar kinds of measures. For simplicity, this report uses the generic term *kindergarten entry assessment* to encompass both kindergarten assessments and inventories.

2 2011 RTT-ELC Notice Inviting Applications, 76 FR 53563, available at https://www.gpo.gov/fdsys/pkg/FR-2011-08-26/pdf/2011-21756.pdf

3 EAG KEA Notice Inviting Applications, 78 FR 31359, available at https://www.gpo.gov/fdsys/pkg/FR-2013-05-23/pdf/2013-12212.pdf

4 No state using a KEA without an RTT-ELC grant met all of the selection criteria for inclusion in this case study, as explained in the Study Design and Methodology section of this report.

5 As defined by the RTT-ELC Notice Inviting Applications, *Essential Domains of School Readiness* means the domains of language and literacy development, cognition and general knowledge (including early mathematics and early scientific development), approaches toward learning, physical well-being and motor development (including adaptive skills), and social and emotional development.

the early elementary school grades, and to inform parents about their children's status and involve them in decisions about their children's education. This assessment should not be used to prevent children's entry into kindergarten or as a single measure for high-stakes decisions."

When implementing assessments—including KEAs—districts and schools must comply with Title VI of the *Civil Rights Act of 1964*, the federal civil rights law that prohibits discrimination on the basis of race, color, or national origin by recipients of federal financial assistance.[6] Additionally, districts and public schools must comply with Section 504 of the *Rehabilitation Act of 1973* (Section 504) and Title II of the *Americans with Disabilities Act* (Title II), the federal civil rights laws that prohibit discrimination on the basis of disability, by recipients of federal financial assistance in the case of Section 504, and by public entities, in the case of Title II, regardless of receipt of federal funds.[7] States and school districts also must comply with Part B of the *Individuals with Disabilities Education Act* (IDEA), the federal law that provides assistance to states, and through them to local school districts, to assist in providing special education and related services to eligible students with disabilities.[8]

Expert research panels and key organizations dedicated to child advocacy and research also have provided guidance for states in selecting and using assessments to help ensure they will produce useful information for their intended purposes and populations based on evidence and wisdom from the field (Council of Chief State School Officers 2011; Division for Early Childhood 2014; National Research Council 2008; Snow 2011). State and district administrators can use KEA results to shape early learning policies and programs. For example, policymakers and early learning administrators can use KEA results about specific learning domains, subgroups of students, or early learning programs to direct investments and improvements in early learning programs (e.g., professional development to improve instructional quality or expansion of high-quality preschool programs) so that more children will arrive at school with the desired skills. Elementary principals and kindergarten teachers can use KEA results to target instruction to children's strengths and needs and to enlist parents and other family members in supporting children's learning of particular skills (Schilder and Carolan 2014). Like all assessments of young children, KEAs are valuable only to the extent that they provide valid and useful data for

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[6] As to English learner (EL) students, for example, in order to comply with Title VI, school districts and schools must take affirmative steps to ensure that EL students can meaningfully participate in their educational programs and services. To meet these obligations, school districts must use appropriate and reliable evaluation and testing methods that have been validated to measure EL students' English language proficiency and knowledge of core curricula. Additional information about districts' and schools' obligations to EL students is available in a 2015 Dear Colleague Letter on EL students and limited English proficient parents, jointly issued by the Department of Education and the Department of Justice (available at http://www2.ed.gov/about/offices/list/ocr/letters/colleague-el-201501.pdf).

[7] Section 504 and Title II require that students with disabilities be afforded an opportunity to participate in an aid, benefit, or service, such as a KEA, that is equal to that afforded to individuals without disabilities, including with any needed accommodations.

[8] IDEA 20 U.S.C. 1400 et seq. The regulations for Part B of the IDEA are in 34 CFR part 300. Under IDEA, a free appropriate public education (FAPE) must be made available to each eligible child with a disability beginning at the child's third birthday. FAPE includes the provision of special education and related services, at no cost to parents, in conformity with an individualized education program (IEP). IDEA also requires that all children with disabilities be included in all general state and districtwide assessment programs, including assessments described in section 1111 of the ESEA, with appropriate accommodations and alternate assessments where necessary and as indicated in their respective IEPs. 20 U.S.C. 1412(a)(16) and 34 CFR §300.160. Accordingly, IDEA-eligible students must be included in statewide or districtwide kindergarten entry assessment programs, with appropriate accommodations and alternate assessments where necessary. See also 20 U.S.C. 1414(d)(1)(A)(i)(VI) and 34 CFR §300.320(a)(6).

stakeholders (e.g., parents,[9] teachers, administrators, and policymakers) (Council of Chief State School Officers 2011). Therefore, teachers and administrators require training and resources to accurately implement KEAs. Teachers and administrators also need training on how to use the results to improve classroom instruction.

Thus, KEA results can be used to improve early learning programs and to engage parents of young children attending these programs so that more children start kindergarten prepared to succeed, to help identify and target instruction for children who are behind in the essential domains of school readiness, and to identify needs for expanding and improving early learning opportunities. In addition, elementary school principals and kindergarten teachers can use KEA results to target instruction to children's learning and development needs and to engage parents and other family members in supporting children's learning of particular skills.

State officials may opt to use or adapt existing KEA measures or to develop their own KEAs, and they may choose among various approaches for teachers or other school staff to collect KEA data, such as by conducting direct assessments, interviewing parents, observing children in natural or structured settings, and analyzing student work (see Exhibit 1 for a sample of the skills and items included in the KEA measures of the four case study states). Appendix C presents all of the specific skills and items used to measure children's proficiency by the four case study states.

This report discusses the experiences of state officials, district administrators, and educators in four states that were early adopters of KEAs and had implemented them in fall 2014. This was the first year of KEA implementation in Maryland and Pennsylvania, the second year of KEA implementation in Oregon, and the third year of KEA implementation in Washington, so findings reflect the early implementation of these assessments. At the time of the study these states were still in the process of refining implementation procedures and had not yet begun to use the KEA data on a wide scale. Understanding how these states' officials, district administrators, and educators developed, implemented, and used the results of KEAs, including the challenges they encountered and their strategies for overcoming them, will be invaluable for the many state KEA leadership teams engaged in or interested in implementing KEAs. Thus, state and district leaders considering developing or revising a KEA may be interested in the challenges and potential solutions case study respondents identified.

[9] This report uses the term "parents" when discussing schools sharing KEA results because that is the term used in the *Family Educational Rights and Privacy Act* (FERPA), which is the federal privacy law that applies to education records maintained by public schools and school districts at the elementary and secondary level; the term "parent" in FERPA is defined to mean a natural parent, a guardian, or an individual acting as a parent in the absence of a parent or a guardian. Schools must obtain written parental consent to share a child's KEA results with other individuals, unless an exception to the requirement of written parental consent applies.

Exhibit 1. Example Skills Measured and Items Used on KEAs by School Readiness Domains

School Readiness Domain	Example Skill, Ability, or Disposition	Example Items
Physical well-being and motor development (including adaptive skills)	• Physical abilities (e.g., gross and fine motor skills) • Physical development (e.g., growth patterns of height and weight) • Health status (e.g., the ability to see and hear)	Teacher rating of the student's ability to: • Demonstrate locomotor skills with control, coordination, and balance during active play (e.g., running, hopping, jumping). • Use a three-finger grasp of dominant hand to hold a writing tool.
Social and emotional development	• Knowledge of personal feelings and those of others • Ability to develop positive relationships • Interpersonal skills needed to maintain positive relationships with adults and peers	Teacher rating of student's ability to: • Demonstrate awareness of self and one's own preferences. • Express emotions appropriately to adults and peers. • Distinguish between appropriate and inappropriate ways to resolve conflict.
Approaches to learning	• Self-control/self-regulation • Persistence • Attention to task • Reflection • Interest in learning	Teacher rating of the student's ability to: • Complete work effectively. • Show curiosity and motivation. • Attend to tasks, activities, projects, and experiences for an extended period of time, even if challenging and despite interruptions.
Language development and early literacy	• Expressive speech (e.g., communication) • Receptive skills (e.g., listens and understands others, vocabulary) • Early literacy skills (e.g., print awareness, phonological awareness, letter recognition, text comprehension)	Teacher rating of the student's ability to: • Express thoughts, feelings, and ideas, speaking clearly enough to be understood by most audiences. • Act upon or responds to dominant spoken language showing understanding of intent. • Write name. Direct assessment: • The student has 60 seconds to identify as many letters as he or she can.
Cognition and general knowledge	• Cognitive competencies like early mathematical skills (e.g., number sense, classification, discriminating shapes and colors, simple patterns, size, location, and time) • Basic problem-solving skills (e.g., acknowledging similarities and differences)	Teacher rating of the student's ability to: • Directly compare and describe two objects with a measurable attribute (e.g., length, size, capacity, and weight) in common, using words such as "longer"/"shorter." Direct assessment: • The student counts the number sequence to 20. • The student uses number cards arranged in a line to count and then determines what number comes before or after a specific number.

Study Questions

This study addressed the following questions:

1. How did the four case study states develop or adopt KEAs?
2. How did the four states train teachers to administer KEAs and to what extent did teachers feel prepared to do so?
3. What were the KEA implementation experiences of the 12 case study districts?
4. To what extent did the states, districts, and schools in the study use KEA results to inform policy and practice?
5. What challenges did the case study sites experience with KEAs, and what strategies did sites use or suggest using to address these challenges?

Study Design and Methodology

In consultation with ED and HHS, the study team used the following criteria to identify states for inclusion in the study:

1. The state's KEA is comprehensive and covers all or most of the five essential domains of school readiness as defined in the RTT-ELC program: (a) language and literacy development; (b) cognition and general knowledge, including early mathematics and early scientific development; (c) approaches toward learning; (d) physical well-being and motor development, including adaptive skills; and (e) social and emotional development.
2. The state KEA leadership team was implementing its KEA at the beginning of kindergarten and not at the exit of preschool.
3. The state KEA leadership team was planning full implementation of its KEA by fall 2014.

In addition to meeting these fundamental criteria, ED and HHS further recommended that at least one of the selected states represent each of the following:

4. a Race To the Top-Early Learning Challenge (RTT-ELC) grantee state;
5. a non–RTT-ELC grantee state;
6. an Enhanced Assessment Grant (EAG) state;
7. a user of a commercially available KEA assessment tool; and
8. a user of a KEA assessment tool developed by the state KEA leadership team and/or associates.

Maryland, Oregon, Pennsylvania, and Washington met all the fundamental criteria. None of the states that met the fundamental criteria was a non–RTT-ELC state. Although all four case study states were RTT-ELC grantees, they were from different RTT-ELC cohorts. Two of the states were part of an EAG consortium: Maryland had an EAG with a consortium of seven states. Oregon was part of a nine-state consortium with North Carolina, but the Oregon KEA leadership team implemented a KEA developed independently of the consortium in 2014. Finally, KEA leadership teams in Oregon and Washington used commercially available assessment tools, whereas KEA leadership teams and associates in Maryland and Pennsylvania developed their own assessment tools. The variation among the selected states on the

many key KEA design elements enabled the study team to learn about a wide array of strategies and implementation experiences.[10]

To address the study questions, the study team conducted document reviews, telephone interviews with state respondents and preschool directors, and in-person interviews with district administrators, principals, kindergarten teachers, and other KEA assessors.

Data collection occurred between January and June 2015 in the four case study states and in the 12 districts and 23 schools in those states. This sample size enabled the study team to explore the range of strategies that states, districts, and schools were using to implement KEAs. The study team drew a purposive sample of three school districts from each state, stratified as urban, suburban, and rural. Then the study team drew a sample of schools with both high concentrations of poverty (i.e., schools with more than 75 percent free or reduced-price lunch program enrollment) and significant concentrations of English learner (EL) students (i.e., schools with more than 30 percent EL enrollment),[11] as well as schools with lower concentrations of poverty and EL students. Participating preschool programs provided public or private early care and education at or near the selected schools. Through this stratification method, districts and schools were identified that served students with diverse characteristics that would be of interest to ED and HHS.

The study team completed 201 interviews across the four states — specifically, interviews with 33 state agency representatives, 48 district representatives (including 13 professional development coordinators), 20 principals and one vice principal, 53 kindergarten teachers, five other KEA assessors, and 41 preschool program directors. Structured debrief guides and cross-case analysis meetings were used to identify themes and verify evidence for findings. Appendix A presents additional information about the study design, methodology, and analyses.

Wherever possible, the study team indicated the proportion of respondents sharing particular viewpoints either by specifying quantities (e.g., one or two respondents) or by using general terms according to the following definitions: a "few" applies to at least three respondents or a small minority of respondents (e.g., four of 30); "several" applies to at least seven respondents out of a large sample pool (e.g., 30 respondents); and the "majority" applies to more than half of the respondents within a respondent group.

The study team shared excerpts of the state snapshots (Chapter 2) with officials of each participating state in May to June 2016, who reviewed these portions of the draft report for accuracy and provided clarification as needed.

[10] For full disclosure, Oregon is part of the North Carolina Kindergarten Entry Assessment-Enhanced Assessment Grant (KEA-EAG) consortium. SRI International, the principal researcher for this study, is helping North Carolina and its nine partner states enhance their KEA as part of the KEA-EAG project. Oregon implemented an independent KEA in 2013 and 2014, so the activities reported here are those of its independent KEA. To avoid a potential conflict of interest, this document does not report on the KEA the North Carolina KEA-EAG partners developed.

[11] Interviewers used the term "English learners" when asking respondents about this population, but some respondents preferred the term "dual language learner students" or "DLL students," because in early childhood, all children are learning English. This report uses the terms "EL students."

Limitations of This Report

This is a descriptive study based on self-reported data from interviews with purposively selected personnel at purposively selected sites and information gathered from publicly available documents. Findings from the selected sites are not representative of or generalizable to all districts and schools within or beyond the case study states. Further, the findings are a snapshot in time from fall 2014 and early 2015, and therefore respondents may have reported on many activities and circumstances that have since changed. In some cases, interview respondents had not participated in early discussions about the selection or development of KEAs and therefore were not able to provide detailed information about their KEAs' historical beginnings. Further, the study team did not evaluate the validity or reliability of the selected or developed KEA measures (for use in the general population or with special populations) or their administration processes. Finally, the inclusion of a description of school or district practices in this report does not signify that ED and HHS have approved these practices.

Still, state and district policymakers and administrators can use the study findings to inform their own KEA plans by considering the common challenges and potential solutions identified, the tradeoffs of various KEA strategies, and the numerous logistical steps undertaken in adopting, implementing, and using a KEA to inform policy, program improvement, and instruction.

Overview of the Report

This report provides findings related to the selection and early implementation of KEAs across Maryland, Oregon, Pennsylvania, and Washington. Chapter 2 provides snapshots of the case study states' experiences with their KEA. Then the report covers cross-site findings related to the study questions: (1) development and adoption of a KEA at the state level; (2) state support for teacher KEA training; (3) district officials' and teachers' KEA implementation experiences; (4) state, district, and school use of KEA data; and (5) challenges in KEA adoption, implementation, and use and potential solutions. Chapters 3 through 6 include several callout boxes with "Practice Highlights" to emphasize examples of practices undertaken in case study states that may be helpful to consider when planning for statewide implementation of a KEA. The last chapter presents conclusions, including key findings, recommendations, and ideas for additional research that could further inform KEA efforts.

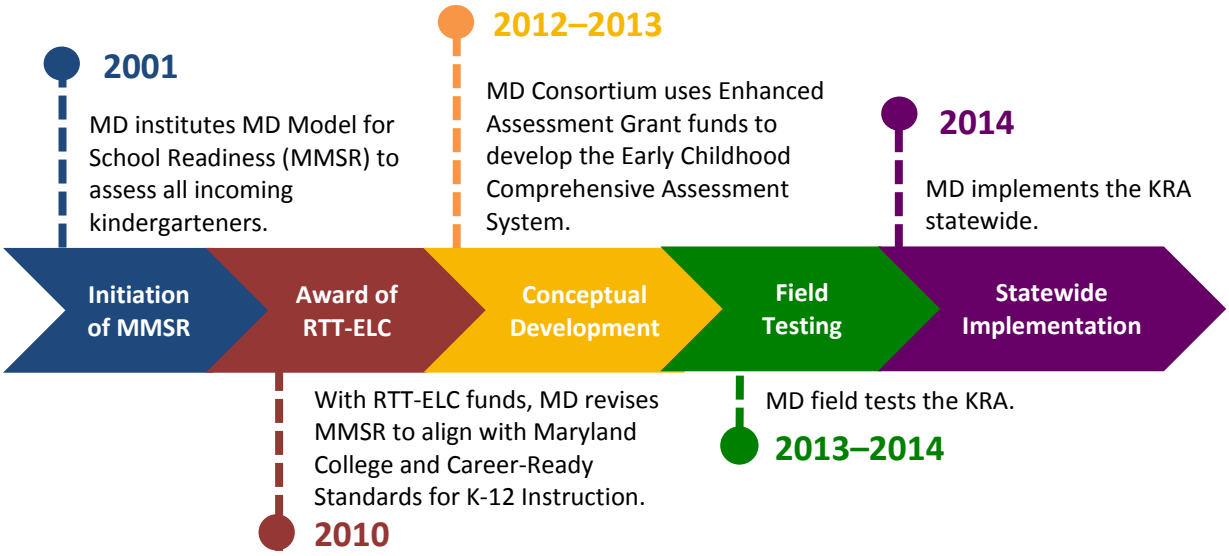
2. State KEA Snapshots

The development and adoption of KEAs, their implementation, and the use of KEA results were situated in states' unique experiences with early learning programs and assessments and their local needs. The state snapshots describe the unique contexts and experiences of each of the case study states. A summary at the end of this chapter presents characteristics of KEAs across states.

Maryland

This snapshot begins with a broad timeline depicting the development and implementation of Maryland's KEA, called the Kindergarten Readiness Assessment (KRA) (Exhibit 2), followed by background information on the kindergarten students in Maryland and in the sampled districts and schools. The snapshot then reports on how Maryland officials developed the KEA and trained teachers to collect KEA data, how district administrators and teachers implemented the KEA, and on communication and the early use of KEA findings.

Exhibit 2. Maryland (MD) KRA Timeline



Maryland Student Characteristics

Maryland serves more than 67,000 kindergarten students, half (51 percent) of whom are eligible for free or reduced-price meals. The population of students is diverse. Forty-one percent of the elementary school population identifies as White, followed by Black (35 percent), Hispanic (14 percent), and Asian (6 percent) (Appendix B).[12]

This case study included three Maryland school districts, one urban, one rural, and one suburban. Among the case study districts, the majority of students were eligible for free or reduced-price meals in both the urban (75–100 percent) and rural (50–75 percent) districts. A majority of students in the urban

[12] Throughout this report, Black or African American students are denoted as "Black" and Hispanic or Latino students are denoted as "Hispanic."

district was Black (75–100 percent). In each district, 5–20 percent of students were students with disabilities.

Within each district, the study team selected two schools according to the criteria discussed in the "Selecting Districts and Schools Within the Four Case Study States" section of Appendix A. Although on average none of the three district populations had a significant number of students designated as EL students (i.e., each had fewer than 5 percent), the two suburban schools specifically selected for the study had a significant percentage of EL students; in one school, more than 30 percent of students were EL students, and in the other, 5–30 percent of students were EL students. In both urban schools, 75–100 percent of students were Black, and in both suburban schools, 25–50 percent of students were Hispanic. Each school also served students with disabilities (5–20 percent). Appendix B presents additional information about kindergarten student characteristics in Maryland statewide and in the selected case study districts and schools.

Maryland Kindergarten Readiness Assessment Background

Maryland teachers have implemented a state-mandated KEA since 2001.[13] In 2012, with support from an RTT-ELC grant and in collaboration with the Ohio Department of Education, a leadership team in the Maryland State Department of Education began developing a statewide comprehensive early childhood education assessment system. This system, named Ready for Kindergarten (R4K), included both a formative Early Learning Assessment for children ages 36 to 72 months and the Kindergarten Readiness Assessment (KRA), a summative snapshot of children's school readiness levels at kindergarten entry. The state departments designed the KRA to include both direct and indirect assessment, to align with the Maryland College and Career-Ready Standards, and to be supported by technology (i.e., tablets and touch-screen technology).

In 2013, with support from an EAG and in partnership with a consortium of five other states, staff from the Maryland State and Ohio Departments of Education enhanced the R4K by aligning it with the standards from the other states, refining the technology components, and improving the professional development resources offered within the system.

Purpose of Maryland's KRA

The purpose of the KRA is to support and advance children's early learning and academic achievement. The intended purposes of the KRA findings are to:

- Inform prior early education and care stakeholders.
- Identify individual children's strengths and needs and recommended supports for children.
- Assist teachers in data-driven instructional decision making at the school and classroom levels.
- Provide families with information about their children's learning and development.

Source: Maryland State Board of Education 2015a.

[13] The Judith P. Hoyer Early Care and Education Enhancement Program established the Maryland Model for School Readiness (MMSR), the original statewide KEA, in 2000. The legislative bills are available at http://mgaleg.maryland.gov/2000rs/fnotes/bil_0009/hb1249.PDF and http://mgaleg.maryland.gov/2000rs/fnotes/bil_0003/sb0793.pdf

The KRA assesses four domains: language and literacy, social foundations, mathematics, and physical well-being and motor development. The KRA comprises three types of assessment items: selected response items, performance task items, and observational-rubric items. The KRA administered in fall 2014 had 63 items aligned with the Maryland College and Career-Ready Standards (Appendix C).

In fall 2014, teachers administered the KRA to almost all (98 percent) of Maryland's more than 67,000 kindergarten students.

Development and Adoption of the KRA

Officials from the Maryland State and Ohio Departments of Education involved multiple stakeholders (including contracted researchers, national experts, local school system leaders and teachers, and staff from the Maryland State Department of Education divisions of special education, curriculum and assessment, and EL students) in the process of developing and field-testing the KRA, creating technology-supported platforms for training and administration, and disseminating information about school readiness results. These stakeholders participated in various working groups, such as a Sensitivity and Bias working group, a Content working group, and a Technical Advisory working group.

Officials from the Maryland State Department of Education employed independent researchers to conduct interviews with teachers and students to gather feedback on implementation, a pilot test, and a field test of the first version of the KRA in 2013.[14] Officials of the Maryland State Department of Education used this feedback to develop and refine the KRA items, the online reporting system, and the training process for statewide administration in fall 2014. Principles of universal design guided the development of the KRA. When researchers evaluated the final KRA items for difficulty, discrimination, and internal consistency, they found the tool had "excellent" overall internal consistency: Cronbach's alpha for the overall KRA was .94, and Cronbach's alphas for the domains ranged from .78 to .91 (Maryland State Board of Education 2015b). The KRA developers also reviewed and omitted items with cultural bias.

State Training of Teachers to Collect KRA Data

Staff from the Maryland State Department of Education met with officials in each of Maryland's 24 school districts to introduce the KRA and offer guidance about technological needs for implementing the system. Officials at the Maryland State Department of Education adopted a train-the-trainer model to prepare kindergarten teachers for administering the KRA. District trainers attended a three-day, state-hosted KRA training at which they completed their certification; subsequently, they provided two days of face-to-face training (or blended face-to-face and online training) and follow-up support to teachers in their local districts, including an online learning community portal and other digital teacher resources. The majority of teachers interviewed for the case study reported that the training was adequate, even though neither the finalized instrument nor configured tablets were available before training. The Maryland State Department of Education required teachers to complete and pass a content exam and to meet a minimum cut-score on a rating simulator before they were certified to administer the KRA; state and district officials reported conducting minimal monitoring of KRA administration.

[14] Additional information about the pilot and field tests of Maryland's KRA is available at http://marylandpublicschools.org/stateboard/boardagenda/10282014/Tab%20K1_K2_K3_RTTT_LearningChallengeGrantMemo.pdf

To support teachers in administering the KRA to students with disabilities[15] or EL students, staff at the Maryland State and Ohio Departments of Education developed a tiered decision-making process for identifying and implementing individualized supports. According to the states' guidelines, "level the field" supports (e.g., braille, sign, or gestural language) can be used to address the unique requirements of an EL student and a student with disabilities and to assist them in demonstrating their knowledge and skills, but level the field supports do not necessarily include *all* supports outlined in the student's IEP. KRA administration guidelines do not allow teachers to sight translate the KRA into other languages or for students to respond in languages other than English, but they do allow for other supports for EL students, such as pointing at items to provide clarification.

District and School Implementation of the KRA

The majority of teachers across the visited districts reported completing the KRA in fall 2014 by the eighth or tenth week of school. The Maryland State Department of Education required teachers to complete the KRA by October 30, but respondents in the three case district districts reported receiving a week-long extension because KRA materials, including tablets, arrived late. District administrators reported that not all teachers needed the extra time to complete the KRA. Teachers interviewed across all three districts reported spending up to 1.5 hours per student to administer and score the KRA, with data entry considered the most time-consuming part. Consequently, teachers reported that finding the amount of time needed to conduct the KRA early in the school year was challenging. However, a few teachers reported that KRA administration provided them with valuable one-on-one time with their students.

Interviewed teachers reported that when districts had the capacity to offer aides and substitute teachers in their classrooms, the KRA administration process was more manageable. Respondents in the suburban and rural districts reported that they replaced or delayed other assessments that were also typically administered during the beginning of the school year in an effort to reduce additional burdens.

District and teacher respondents reported that using tablets increased student engagement in the KRA tasks and eased some aspects of administration; however, they also reported technological problems including unreliable Wi-Fi connections and log-in difficulties.

A few interviewed district administrators and teachers across all three districts shared the belief that the KRA was difficult to administer with students with disabilities, because the KRA administration guidelines prohibited certain accommodations (e.g., simplifying the language of the script or providing prompts). Educators in the urban and suburban districts noted that the KRA results might inaccurately portray a student with language differences as delayed in their skill development.

Communication and Use of the KRA

In May 2015, the Maryland State Board of Education released a public data report, available on its website, which summarized the results from the first year of KRA implementation statewide and by county (Maryland State Board of Education 2015a). Staff at the Maryland State Department of Education issued the KRA data after state officials and kindergarten teachers from Maryland and Ohio established cut scores (i.e., the number of correct items required for a student to be considered "ready" in a

[15] Interviewers used the term "children with developmental delays or disabilities" when asking respondents about this population. Respondents used various terms, including "children with special needs" and "children receiving special education." This report uses the term "students with disabilities."

particular domain). (See KRA Results from 2014–15, below, for additional information on defining readiness.)

Respondents from the Maryland State Department of Education reported that they anticipated that the data would be available earlier in subsequent school years, which officials deemed critical for teachers' use of the results.[16] In August 2015, officials at the Maryland State Board of Education released a study report that used data findings from the KRA to assess the kindergarten readiness of students who participated in learning centers associated with designated Title I school zones (Maryland State Board of Education 2015c).

Because data were not available until May, district and teacher respondents had not yet used the results at the time of the case study interviews in April 2015 and had not shared findings with the early childhood education community. However, district respondents reported anticipated uses for the KRA data in future years, including adjusting curricula, identifying professional development areas for teachers, and identifying geographical areas that could benefit from access to additional preschool programs. Teachers reported wanting to share results with parents and engage with preschool programs about entering students' needs and strengths.

KRA Results from 2014–15

The Maryland State Board of Education presented KRA results according to three levels of readiness, defined according to the state's standards for kindergarten. According to a technical report, the state team used a "bookmarking" standard-setting process to establish the criteria for these levels (Maryland State Board of Education 2015b). A panel of teachers and early learning specialists reviewed the KRA items, presented in order of difficulty as determined by student performance in the 2014–15 KRA administration, to identify distinctions between levels of readiness. Panelists placed a bookmark between the two items that they believed separated the skills of students with emerging readiness (i.e., students with limited foundational skills and behaviors that prepare them for the kindergarten curriculum) from those of students with approaching readiness (i.e., students who demonstrate some foundational skills and behaviors that prepare them for the kindergarten curriculum); they placed a second bookmark between the two items they believed separated the skills of students with approaching readiness from those of students demonstrating readiness (i.e., students who demonstrate the foundational skills and behaviors that prepare them for the kindergarten curriculum).

The 2014–15 KRA results revealed that nearly half (47 percent) of all students displayed the foundational skills assessed, demonstrating readiness for kindergarten. More than one-third (36 percent) were approaching readiness and 17 percent of students were assessed as emerging readiness. More than half of White students (57 percent), Asian students (53 percent), and students of two or more races (52 percent) demonstrated full readiness, in contrast to lower percentages of Black students (43 percent), Pacific Islander students (35 percent), and Hispanic students (27 percent; Exhibit 3). Students with disabilities, EL students, and those from low-income families had lower school readiness than Maryland kindergartners as a whole (Exhibit 4). In particular, one-fifth (20 percent) of EL students and one-fifth (20 percent) of students with disabilities demonstrated school readiness. More than one-third (36 percent) of students who came from low-income households demonstrated readiness for

[16] A Maryland state official confirmed during a review of excerpts from this report that the Maryland Department of Education made KRA data available earlier in the 2015–16 school year. Teachers could access individual student reports two weeks after the close of KRA administration, and the department released the public data report in February 2016.

kindergarten (Maryland State Board of Education 2015a). Appendix D presents additional data findings on the readiness of Maryland's students in each of the four domains by student characteristics.

Exhibit 3. Percentages of Maryland Students Demonstrating Kindergarten Readiness

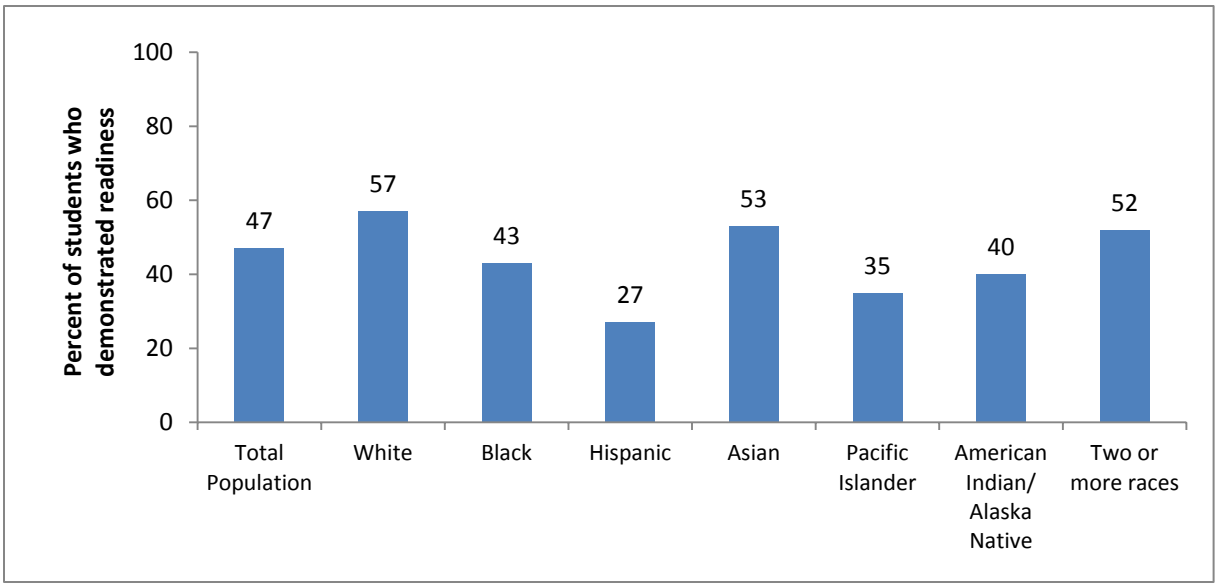


Exhibit Reads: Nearly half (47 percent) of all Maryland kindergarten students demonstrated skills indicating full kindergarten readiness.
SOURCE: Data from Maryland State Board of Education 2015a.

Exhibit 4. Percentages of Maryland Students from Special Populations Demonstrating Kindergarten Readiness

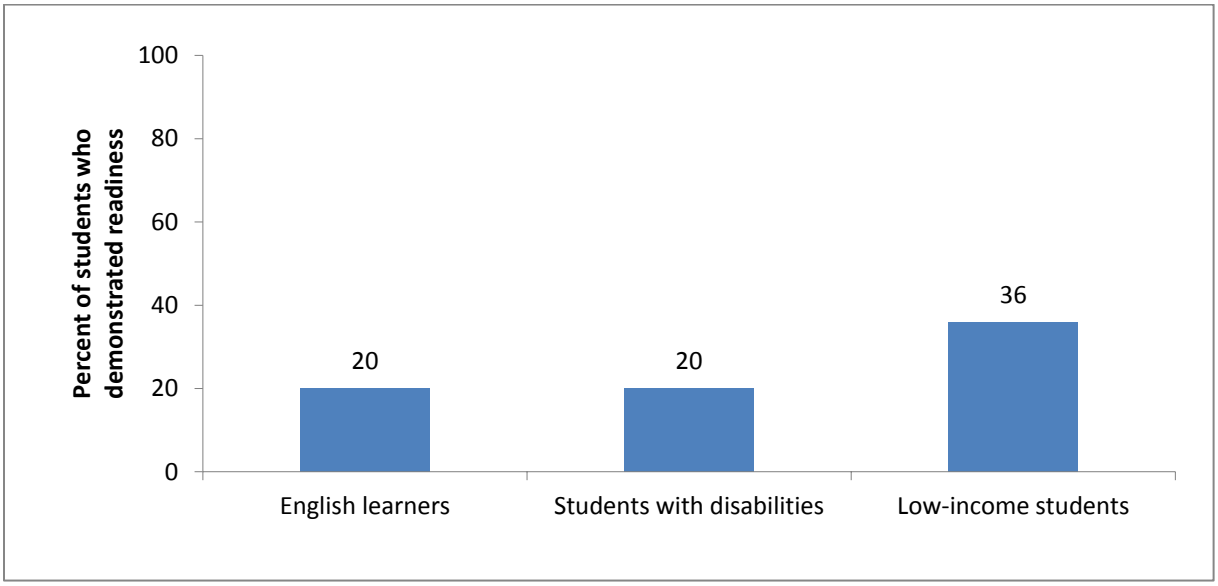
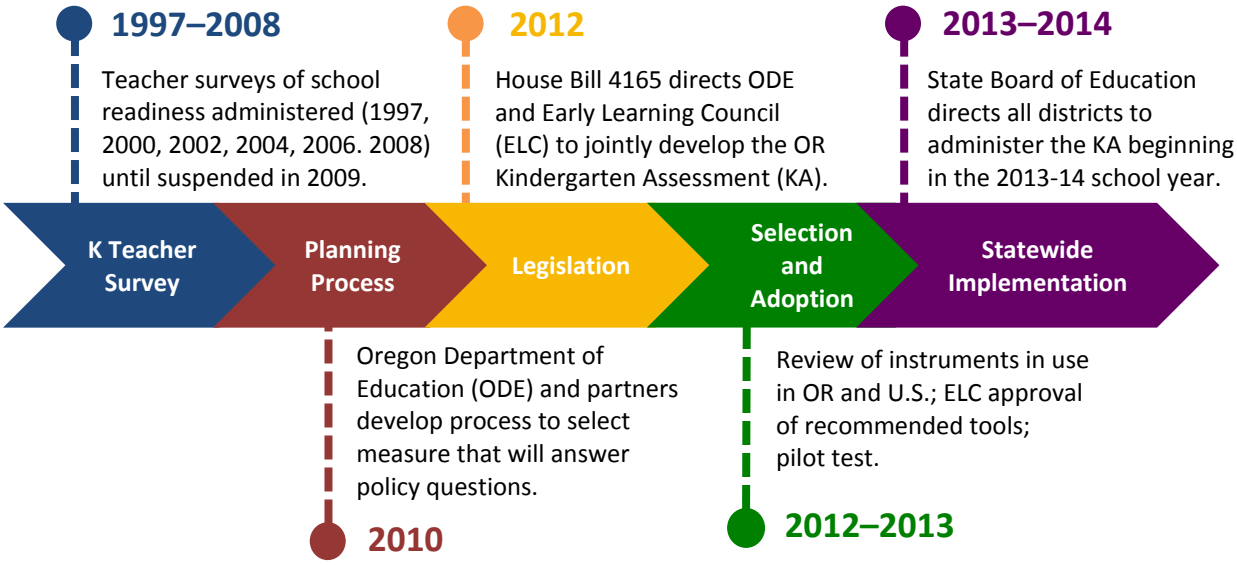


Exhibit Reads: Twenty percent of EL students in Maryland demonstrated skills indicating full school readiness.
SOURCE: Data from Maryland State Board of Education 2015a.

Oregon

This snapshot begins with a broad timeline depicting the adoption and implementation of Oregon's KEA, called Kindergarten Assessment (KA) (Exhibit 5), followed by background information on the kindergarten students in Oregon and in the sampled districts and schools. The snapshot then reports on how Oregon officials adopted the KEA and trained teachers to collect KEA data, how district administrators and teachers implemented the KEA, and on communication and the early use of KEA data.

Exhibit 5. Oregon (OR) KA Timeline



Oregon Student Characteristics

Oregon serves nearly 42,000 kindergarten students, half (51 percent) of whom are eligible for free or reduced-price meals. Across the state, about two-thirds of kindergarten students identify as White (64 percent), and nearly one quarter of students identify as Hispanic (22 percent) (Appendix B).

This case study included three Oregon districts, one urban and two rural. Across the districts, 25–75 percent of students were eligible for free or reduced-price meals. All three districts had student populations who predominately identified as White. In one rural district, Hispanic students identified as the second largest ethnic group (25–50 percent). In the urban district, 5–30 percent of students were EL students, and in each district 5–20 percent were students with disabilities. Within each district, the study team selected two schools according to the criteria in the "Selecting Districts and Schools Within the Four Case Study States" section of Appendix A. The urban schools served significant percentages of EL students (more than 30 percent) and students eligible for free or reduced-price meals (75–100 percent). The urban district and the rural district each had a school serving significant percentages of Hispanic students (25–50 percent). In one suburban school, more than 20 percent were students with disabilities; in the other five schools, 5–20 percent were students with disabilities. Appendix B presents additional information about kindergarten student characteristics in Oregon statewide and in the selected case study districts and schools.

Oregon Kindergarten Assessment Background

A statewide, voluntary teacher survey of school readiness preceded the KA. During several school years between 1997 and 2009, Oregon kindergarten teachers completed a survey, rating each of their students on indicators representing the five essential domains of school readiness. Due to concerns about rigor, validity, response rate (i.e., few districts participated in the survey), and use of the results, state officials discontinued the survey in 2009. In 2012, *House Bill 4165* became law and called for the development, piloting, and implementation of a statewide KEA by fall 2013. The State Board of Education further adopted *Oregon Administrative Rule (OAR) 581-022-2130* in 2013, which mandated administration of the KA to all entering kindergarten students beginning in the 2013–14 school year. [17] Teachers in Oregon schools subsequently implemented the Oregon KA during the 2013–14 and 2014–15 school years to all students enrolled in public kindergarten classrooms.

Supported by state funds and federal Race to the Top funds, and led by the Oregon Department of Education, Oregon's KA has three segments that each focus on Oregon's Early Learning Framework domains and K–12 state standards: early literacy, early math, and approaches to learning. Officials at the Oregon Department of Education adopted early literacy and early math measures from the University of Oregon's easyCBM assessment, which provides benchmarks and progress monitoring for math and literacy skills in kindergarten through eighth grade. The early literacy measure addresses letter names and sounds that can be administered in English or Spanish. The Oregon guidelines state that a student who qualifies for English Language Development services and speaks Spanish should take both the Spanish and the English literacy components of the KA. The early math segment contains multiple-choice items addressing numbers and operations, and assessors can read instructions in English or Spanish. Classroom teachers or other trained assessors can administer the easyCBM any time through the sixth week of school, but the Oregon Department of Education encourages teachers to complete these segments in the first three weeks.

Purpose of Oregon's KA

The intended purposes of the KA findings are to:

- Provide local and statewide information to state-level policymakers, communities, schools, and families about the literacy, math, self-regulation, and interpersonal skills of entering kindergarteners.
- Provide essential information on Oregon's entering kindergarteners' strengths and to identify gaps in key developmental and academic skills to inform early learning and K–12 systems decisions and to target instruction, professional development, resources, and supports on the areas of greatest need.
- Provide a consistent tool to be used across the state to identify opportunity gaps in order to inform schools, districts, early learning hubs, communities, and policymakers about how to allocate resources to the communities with the greatest need and to measure progress in the years to come.

Source: Oregon Department of Education 2015a.

[17] The KA legislation is available at https://olis.leg.state.or.us/liz/2012R1/Downloads/MeasureDocument/HB4165/Enrolled. The *Oregon Administrative Rule* is available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0ahUKEwjggd3Pnp7NAhVS6mMKHcqGAf8QFghEMAY&url=http%3A%2F%2Fwww.ode.state.or.us%2Fsuperintendent%2Fpriorities%2F2013-march-8-kindergarten-readiness-assessment-oar.doc&usg=AFQjCNFO8F7yREYGI-oPxpYxCqSodkWWIQ&sig2=xL-db_uGbeZ9Rxik8V87Cw&bvm=bv.124272578,d.cGc

To assess children's approaches to learning, Oregon teachers complete an observational assessment adapted from the Child Behavior Rating Scale (Bronson, Goodson, Layzer, and Love 1990) during the first six weeks of school. This measure includes items on behavioral self-regulation and interpersonal skills that correspond with the approaches to learning and social and emotional domains of the state's early learning framework (Oregon Department of Education 2015a) (Appendix C).

During the 2013–14 and 2014–15 school years, teachers completed the KA with more than 40,000 kindergartners each year, representing about 95 percent of entering public school kindergarten students.

Development and Adoption of the KA

According to state respondents, members of the governor's administration drove the initial discussion for a KA in 2011 in an effort to show the need for increased investments in early childhood education. Goals for a KA also included collecting information on students' strengths and needs to inform classroom instruction, identifying early achievement gaps, and using a consistent measure of school readiness to inform statewide investments and policy.

In 2012, members of the Oregon Department of Education's Early Learning Council appointed a Kindergarten Readiness Assessment (KRA) work group to identify and recommend a KA for statewide administration in fall 2013. Two university researchers (one from Oregon State and one from the University of Oregon) conducted initial psychometric reviews of nearly 30 potential KEA instruments, including assessment of the instruments' reliability, predictive validity for third-grade outcomes, and validity with culturally diverse populations. Based on their review, these researchers made recommendations to the KRA work group, which then got feedback from a broader group of stakeholders on the recommended scales. Stakeholders included preschool and kindergarten teachers, district administrators, researchers, and members of children's advocacy groups.

The KRA work group and researchers selected the composite assessment approach (comprising the easyCBM and adapted Child Behavior Rating Scale) over a portfolio assessment approach because of its predictive value for future academic success, psychometric rigor, and appropriateness for all children, including EL students and students with disabilities. Practical considerations included cost, potential burden on teacher and student time, and alignment with current practices in Oregon kindergartens. The easyCBM is a progress monitoring tool designed for ongoing use with students in kindergarten through eighth grade.

In 2012, the Ford Family Foundation funded a pilot test of the KA that included school observations of KA administrations in schools, document reviews, and teacher feedback (Furrer and Greene 2013). As a result of the study, the KRA work group oversaw adaptations to the instrument and implementation procedures and developed additional resources for assessors. After the 2013 and 2014 administrations, Oregon Department of Education advisors examined KA implementation and results and made further recommendations, such as piloting other early literacy measures.[18]

State Training of Teachers to Collect KA Data

Officials at the Oregon Department of Education developed and implemented a train-the-trainer model for the KA. District test coordinators used an Oregon Department of Education-developed web-based

[18] During the review of the report excerpts, an Oregon state official confirmed that a pilot study of alternative early literacy measures was done in fall 2015.

training module to train teachers in their respective districts during the professional development days preceding the start of school. The training topics covered an overview of the KA, administration details, decision trees to determine eligibility for accessibility supports for students with disabilities and EL students, and security practices. After completing the online module, the test coordinators completed a proficiency test. After training, district test coordinators and regional help desks provided ongoing support for teachers and other assessors.

Officials at the Oregon Department of Education created a decision tree to help KA assessors provide the appropriate supports for EL students and students with disabilities. If an EL student qualified for English Language Development services and spoke Spanish, the student took both the Spanish and the English literacy components of the KA. Students who spoke a language other than English or Spanish had to take the KA in English. Students with disabilities that had specific supports on their Individualized Education Programs (IEPs)[19] received those accommodations during KA administration, but an IEP was not necessary for consideration of additional supports if a teacher believed a student might need additional supports. Administrators could provide any students for whom a need had been indicated by an educator or team of educators with appropriate accessibility supports to reduce or eliminate their learning challenges as specified in the decision tree, such as simplifying language in the directions or pointing to each answer choice.

District and School Implementation of the KA

Interviewed school and district staff reported that the KA was quick and easy to administer, that support staff were available to assist with the literacy and math assessment components, and that the approaches to learning segment aligned well with current teaching practices and interests. However, interviewed teachers and administrators across districts expressed concerns about the timing of administration of the literacy and math assessments, conducted upon first arrival at school. The majority of interviewed teachers reported administering the math and literacy components of the KA when families visited during the three to five transition days that proceeded school or during the first week of school. They reported that this was a poor introduction for students who may be nervous about interacting with their teachers and peers, which may affect their ability to perform their best.

Several interviewed teachers and a few school administrators also expressed concerns about the appropriateness of administering and the accuracy of the KA results with EL students and students with disabilities, and they reported needing more training and supports to provide the recommended accommodations (e.g., simplifying the language of the script or providing prompts).

KA assessors submitted paper forms with individual students' results to school or district staff, who then submitted the data electronically to the Oregon Department of Education. All staff at the district and school levels reported minimal monitoring of KA implementation and minimal concerns about administration irregularities.

[19] IDEA's IEP requirements are in 34 CFR 300.320-300.324. Among other required information, each child's IEP must include a statement of the special education and related services and supplementary aids and services to be provided to the child, or on behalf of the child, to enable the child to advance appropriately toward attaining his or her annual goals and to be involved and make progress in the general education curriculum, or for preschool children participation in appropriate activities. 34 CFR 300.320(a)(4). With regard to participation in assessments, each child's IEP must include a statement of any individual appropriate accommodations that are necessary to measure the student's academic achievement and functional performance on State and districtwide assessments, consistent with IDEA section 612(a)(16). 34 CFR 300.320(a)(6)(i).

Communication and Use of the KA

State administrators with the Oregon Department of Education made the KA data available on its website, in the state's longitudinal data system, and to districts. According to a state administrator, the Oregon Department of Education published and distributed KA results in early 2015. However, none of the respondents (including state, district, and school staff and preschool directors) reported understanding how to use the data to explore policy or demographic trends or to inform instruction. Respondents said they found the data difficult to use in the provided Microsoft® Excel files and had not received training on how to use the data.

The majority of interviewed teachers reported that they used other assessment results they felt were more useful than the KA results for informing instruction and tracking progress. Several teachers and preschool teachers who were familiar with the KA reported that they found its content inappropriate developmentally and academically for incoming kindergartners, the timing of the KA too early in the school year to collect reliable and accurate data on students' knowledge and skills, or the KA too narrow in focus.

A few staff in the rural districts reported having some preliminary communication with parents about the KA, but interviewed district and school staff across districts said that they had little or no communication about the KA with parents during the implementation phase. Respondents across all districts likewise reported that parents did not receive KA results.

KA Results from 2014–15

Officials at the Oregon Department of Education reported results separately for the three KA segments: approaches to learning, early mathematics, and early literacy (Exhibit 6). On the approaches to learning segment, kindergarten students' scores averaged 3.6 in self-regulation and 3.9 in interpersonal skills, with a total average of 3.7 on a 5-point scale.[20] When compared across racial and ethnic subpopulations, the total average scores on approaches to learning ranged from 3.5 for Black students to 3.9 for Asian students. On the early mathematics segment, students averaged 8.0 correct items out of 16 items across the state. When compared across racial and ethnic subpopulations, the total average scores on early mathematics ranged from 6.9 for Hispanic students to 9.2 for Asian students. On the early literacy segment, students averaged 17.7 items correct on English letter names in one minute and 6.6 items correct on English letter sounds in one minute. EL students averaged 3.0 items correct in Spanish letter names in one minute. When compared across racial and ethnic subpopulations, the total average scores on English letter names ranged from 8.9 for Hispanic students to 28.7 for Asian students, and the total average scores on English letter sounds ranged from 2.8 for Hispanic students to 11.5 for Asian students. The presentation of the 2014–15 KA results on the Oregon Department of Education website did not contain any further interpretation of the scores (Oregon Department of Education 2015b). Suggested

[20] On the 5-point scale for the Approaches to Learning segment, 1 = the child never exhibits the behavior described by the item, 2 = the child rarely exhibits the behavior described by the item, 3 = the child sometimes exhibits the behavior described by the item, 4 = the child frequently/usually exhibits the behavior described by the item, and 5 = the child always exhibits the behavior described by the item. More information about the KA scoring rubric is available in the Oregon Kindergarten Assessment Report Overview (Oregon Department of Education 2015b).

uses for the results of the KA and cautions on interpreting the findings appear in the Oregon Kindergarten Assessment Report Overview (Oregon Department of Education 2015a).[21]

Exhibit 6. Average Scores on Oregon's KA Segments

Subgroup	ATL Self-regulation Average rating (1-5)	ATL Inter-personal skills Average rating (1-5)	ATL Total Average rating (1-5)	EM Numbers and operations Average number correct (0-16)	EL English letter names Average number correct (0-100)	EL English letter sounds Average number correct (0-100)	EL Spanish letter names Average number correct (0-100)
Total population	3.6	3.9	3.7	8.0	17.7	6.6	3.0
White	3.6	3.9	3.7	8.4	20.2	7.7	1.7
Black	3.4	3.7	3.5	7.2	18.5	5.9	[a]
Hispanic	3.5	3.9	3.6	6.9	8.9	2.8	3.0
Asian	3.7	4.1	3.9	9.2	28.7	11.5	[a]
Pacific Islander	3.5	3.8	3.6	7.1	13.3	3.8	[a]
American Indian/ Alaska Native	3.5	3.8	3.6	7.3	14.3	4.5	1.5
Two or more races	3.6	3.9	3.7	8.3	21.1	7.8	[a]
English Learners	3.4	3.9	3.6	6.5	6.7	1.8	2.9
Special Education	3.0	3.4	3.1	6.7	11.5	3.3	1.8
Low Income	3.5	3.9	3.6	7.4	13.2	4.2	3.0

Exhibit Reads: On average, kindergarten students scored 3.6 on a scale of 1 to 5 on the self-regulation items of the approaches to learning segment of the KA.

[a]Sample size equals 0.

NOTE: ATL = Approaches to Learning; EM = Early Mathematics; EL = Early Literacy.

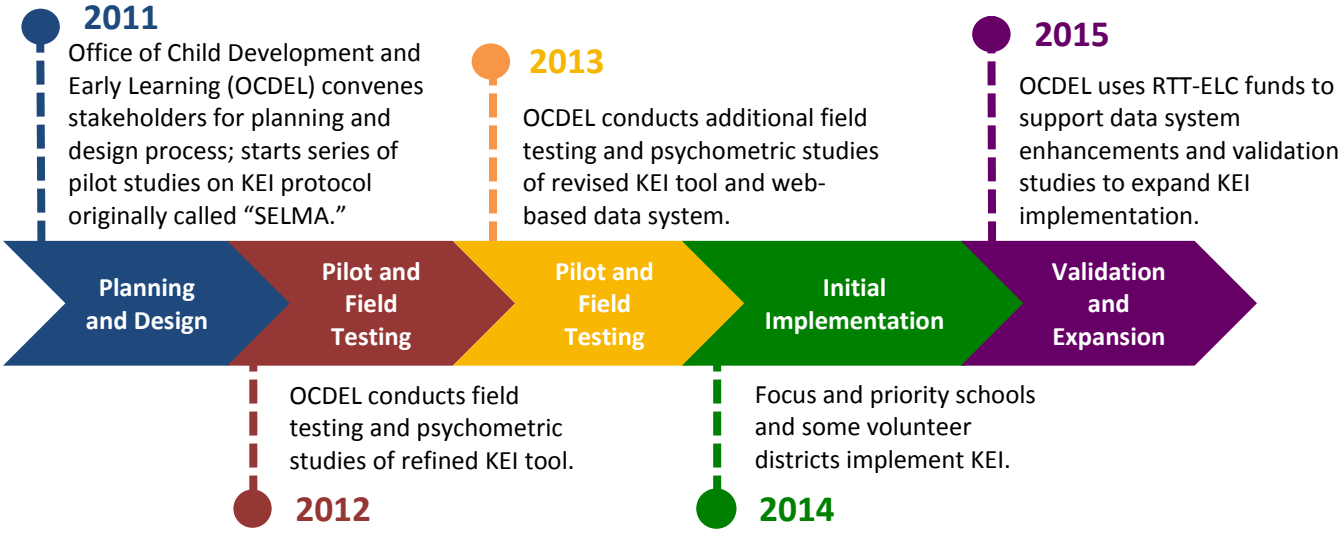
SOURCE: Data from Oregon Department of Education 2015b.

Pennsylvania

This snapshot begins with a broad timeline depicting the development and implementation of Pennsylvania's KEA, called the Kindergarten Entry Inventory (KEI) (Exhibit 7), followed by background information on the kindergarten students in Pennsylvania and in the sampled districts and schools. The snapshot then reports on how Pennsylvania officials developed the KEA and trained teachers to collect KEA data, how district administrators and teachers implemented the KEA, and on communication and the early use of KEA findings.

[21] In fall 2015, after the completion of this case study data collection, Oregon Department of Education and the Early Learning Division convened stakeholders to develop interpretive guidance based on three years of available KA data. They devised a developmental continuum including three benchmark levels to categorize students' skills: Developing, Approaching, and Demonstrating and Above. More information is available in the Executive Summary for Interpretive Guidance and the Overview Report for Interpretive Guidance on the Oregon Department of Education website at http://www.ode.state.or.us/search/page/?=3908

Exhibit 7. Pennsylvania KEI Timeline



Pennsylvania Student Characteristics

Pennsylvania serves more than 126,000 kindergarten students, nearly half (48 percent) of whom are eligible for free or reduced-price meals. The majority of the elementary school population identifies as White (68 percent), followed by Black (15 percent) and Hispanic (10 percent) (Appendix B).

This case study included three Pennsylvania school districts, one urban, one rural, and one suburban. In the urban district, the majority of elementary school students identified as Black (50–75 percent), and almost one in five identified as Hispanic. Nearly all students in the urban district were eligible for free or reduced-price meals (75–100 percent), as were 25–50 percent of students in the suburban and rural districts. More than 20 percent of students in the suburban and rural districts were students with disabilities, as were 5–20 percent of students in the urban district. For the urban and suburban districts, the study team selected two schools according to the criteria in the "Selecting Districts and Schools Within the Four Case Study States" section of Appendix A. In 2014–15, Pennsylvania's KEA, the Kindergarten Entry Inventory (KEI), was voluntary for most of the state's schools, and very few rural districts implemented it; in the rural district selected for the case study, only one school implemented the KEI. In both schools selected from the urban district, 5–30 percent of students were EL students. Also, significant percentages of students in these schools were Hispanic (25–50 percent) and Asian (25–50 percent). More than 20 percent of students in one suburban school were students with disabilities; in the other schools 5–20 percent were students with disabilities. Appendix B presents additional information about kindergarten student characteristics in Pennsylvania statewide and in the selected case study districts and schools.

Pennsylvania Kindergarten Entry Inventory Background

Pennsylvania's Kindergarten Entry Inventory (KEI) is a state-developed inventory that is optional for most schools but mandatory for Title I focus and priority schools.[22] The KEI is not an assessment but

[22] Priority and focus schools are schools identified by a state in accordance with its approved request for flexibility under the *Elementary and Secondary Education Act* of 1965, as amended by the *No Child Left Behind Act* of

rather an observational tool for reporting student outcomes, and it aligns with the Pennsylvania Learning Standards for Early Childhood and the Pennsylvania K–3 Core Standards. A team from Pennsylvania's Office of Child Development and Early Learning led the development of the KEI to collect consistent information on cognitive and noncognitive competencies of students at kindergarten entry. Staff from the Office of Child Development and Early Learning anticipated that such data could aid teachers in providing high-quality standards-based instruction and in curriculum planning and could also inform preschool policies, the professional development of kindergarten and preschool teachers, and parents.

Purpose of Pennsylvania's KEI

The intended purposes of the KEI are to:

- Offer teachers an instructional strategy for understanding and tracking students' proficiency across both cognitive and noncognitive domains at kindergarten entry.
- Align to the Pennsylvania Early Learning Standards and Pennsylvania Core, and therefore complement and help improve existing assessments and teaching practices.

Source: Commonwealth of Pennsylvania Department of Education 2015.

The inventory contains 30 indicators that align with a subset of the standards that developers and researchers deemed to be most relevant to school readiness. These indicators address the following domains: (1) social and emotional development, (2) language and literacy, (3) mathematics, (4) approaches to learning, and (5) health, wellness, and physical development. Teachers use a rubric to mark students' level of mastery on each of the indicators based on observations of their demonstrated behaviors. Four additional health and wellness indicators, not aligned with standards, record the number of days the student has been overdressed or underdressed for the weather, sent to the nurse for illness, absent, or late to school (Pennsylvania Office of Child Development and Early Learning n.d.) (Appendix C).

State funds supported the KEI's original design, piloting, and initial implementation (with minimal support from federal funds from *Elementary and Secondary Education Act* [*ESEA*] Titles I and II during the early design phase). Starting in 2014, a portion of RTT-ELC grant funds supported the development of a data system and technical assistance and will fund a validation study. According to state respondents, the Office of Child Development and Early Learning expects that the KEI will ultimately be sustainable with state resources, without reliance on federal grant money.

The Office of Child Development and Early Learning mandated administration of the KEI only for kindergartens in Title I focus schools and priority schools; staff in other districts participated voluntarily or by the requirement of their district. In 2014, teachers in 215 public schools in 21 districts administered the KEI to approximately 16,000 students, about 13 percent of the state's kindergarten enrollment. Of the 215 public schools that participated in the KEI, 54 percent (*n* = 116) were Title I focus schools or priority schools.

2001 (ESEA flexibility). Generally speaking, under ESEA flexibility, priority schools are the lowest-performing five percent of Title I schools and focus schools are Title I schools with large within-school gaps between high-achieving subgroups and low-achieving subgroups and schools with one or more subgroups with low achievement or graduation rates.

Development and Adoption of the KEI

From 2011 to 2013, staff from the Office of Child Development and Early Learning convened a wide range of stakeholders — staff from Pennsylvania's Department of Education and Bureau of Early Learning Services, national experts, educators, teachers of EL students, and researchers — to develop the KEI (see Exhibit 7 for the KEI timeline). They also convened a kindergarten advisory group (composed of district representatives, kindergarten teachers, administrators, and parents) to discuss the purpose and content of the KEI, surveyed districts to identify assessment tools already in use, and held conferences with tool developers to discuss calibrating instruments with state standards.

Between 2012 and 2014, staff from the Office of Child Development and Early Learning conducted a series of pilot tests on the KEI.[23] The KEI leadership team hired a contractor to conduct psychometric analyses and also gathered iterative feedback from teachers on the KEI content, feasibility, and usability and its data entry system. The leadership team from the Office of Child Development and Early Learning used the findings to refine the indicators, finalize the KEI, and inform training materials. An analyst contracted by the Office of Child Development and Early Learning deemed that the internal reliability of the indicators was acceptable for the overall tool and for all the domains.

State Training of Teachers to Collect KEI Data

Staff from the Office of Child Development and Early Learning developed online KEI teacher training webinars and materials, offered in-person trainings at districts' request, and required teachers to pass proficiency standards before KEI administration. Of the three online webinars in the training series, the majority of case study teachers reported viewing the introductory webinar or the webinar on administration, but none of the interviewed teachers was aware of the third webinar that discussed available KEI reports and how to use findings to guide instruction.

Staff from the Office of Child Development and Early Learning contracted with the Central Susquehanna Intermediate Unit[24] to develop and maintain the KEI data system and provide districts and schools with technical assistance on data entry and reporting. Several respondents reported challenges in working with the data system—primarily related to system navigability and capacity.

In all districts, interviewed teachers reported that they did not receive any specific training on the use of the KEI with EL students or students with disabilities and developmental delays.

School and District Implementation of the KEI

Following state requirements, interviewed teachers reported completing the KEI within the first 45 calendar days of school and data entry within the next seven calendar days. Respondents reported challenges with administering the KEI at a time when teachers were establishing routines and building relationships with students. Interviewed teachers could not estimate specific amounts of time spent

[23] The Office of Child Development and Early Learning's website includes three reports from the pilot tests, detailing the results of psychometric testing, at http://www.ocdelresearch.org/Reports/Forms/AllItems.aspx?RootFolder=/Reports/Kindergarten Entry Inventory %28KEI%29&FolderCTID=&View=%7B5EEC6855-F8A8-486E-B6E0-FE6B9FDEBE2E%7D

[24] Central Susquehanna Intermediate Unit (CSIU) is one of Pennsylvania's 29 Intermediate Units (IU), established in 1971 by the Pennsylvania General Assembly, to operate as regional educational service agencies to provide cost-effective, management-efficient programs to Pennsylvania school districts (Pennsylvania Association of Intermediate Units). See https://www.paiu.org/ius.php

making KEI observations in various authentic settings, but in two districts, teachers entered the KEI ratings into the data system and estimated spending between two and 10 hours per classroom on that task. In one district, an administrative assistant spent approximately four hours per classroom entering the KEI data.

Suburban and urban district and school administrators reported offering additional training and resources to teachers based on the availability of local resources (e.g., optional summer trainings, individualized assistance from expert administrators, teacher tool kit), as well as time for KEI data entry and access to technical assistance. Not all interviewed teachers, however, reported being aware of these additional supports.

Administration guidelines within KEI training materials indicated that teachers' observations could incorporate various sources of evidence including work samples, videos, photographs, assessments, and input from other school staff and parents. Interviewed teachers reported using some input from other professionals but did not engage parents to inform their KEI ratings.

Teachers gathered information for the KEI on EL students and students with disabilities with some adaptations (e.g., providing structured activities to observe particular skills in students with disabilities, using adaptive devices, such as providing students with fidget cushions), but they were not always knowledgeable about resources available from their local districts to support the administration with these special populations. Interviewed administrators and teachers reported minimal monitoring of KEI implementation beyond ensuring that teachers met the KEI deadline.

Communication and Use of the KEI

Across the districts, interviewed teachers reported that they did not receive formal communication or training about their use of KEI data for informing instruction. Rather, teachers reported believing that the KEI's purpose was to provide a statewide snapshot of skills that children had at kindergarten entry. However, a few interviewed teachers reported that, even without using data reports, they benefitted from the process of collecting evidence for the KEI, because it helped them get acquainted with students and informed their initial instructional grouping of students.

Teachers interviewed across all districts reported that they did not collect information from parents specifically to inform the KEI, and that the KEI data reports were not available in time to share with parents at conferences in December. However, a few teachers reported that they used knowledge gained from the KEI administration to communicate with parents about their children's skills, especially those related to social-emotional development.

The majority of preschool directors who were interviewed reported receiving little to no information about the KEI. Those who worked in Head Start or district-funded programs had more awareness of the KEI than private preschool directors.

State, district, and school respondents reported that they had not used reports from the KEI; district and school respondents attributed the lack of data use to not knowing how to access the data in the system and challenges with the reporting format. Staff from the Office of Child Development and Early Learning reported plans for data system enhancements to make data reporting and use easier, and district respondents discussed possibilities for integrating KEI data into local data systems to increase access.

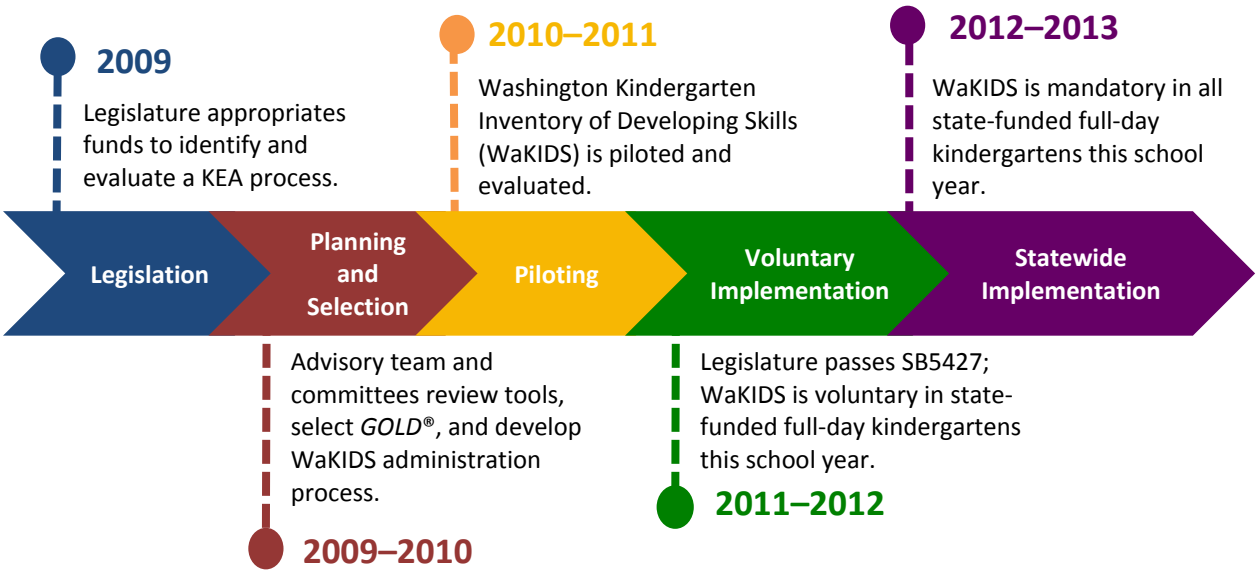
KEI Results from 2014–15

The Office of Child Development and Early Learning did not release results from the 2014–15 KEI implementation but planned to make timely data analysis and dissemination of results a higher priority in future KEI administrations. Likewise, according to the data system vendor, educators from a few schools and districts requested reports of local KEI findings, but district administrators did not release the 2014–15 results publicly.

Washington

This snapshot begins with a broad timeline depicting the development and implementation of Washington's KEA, called Washington Kindergarten Inventory of Developing Skills (WaKIDS) (Exhibit 8), followed by background information on the kindergarten students in Washington and in the sampled districts and schools. The snapshot then reports on how Washington officials developed and adopted the KEA and trained teachers to collect KEA data, how district administrators and teachers implemented the KEA, and on communication and the early use of KEA findings.

Exhibit 8. Washington WaKIDS Timeline



Washington Student Characteristics

Washington serves more than 81,000 kindergarten students, nearly half (46 percent) of whom are eligible for free or reduced-price meals. The majority (57 percent) of the elementary school population identifies as White, and more than one in five (22 percent) elementary school students identifies as Hispanic (Appendix B).

This case study included three Washington school districts, one urban, one rural, and one suburban. In all case study districts, the majority of students were eligible for free or reduced-price meals. In each district, 5–20 percent were students with disabilities, and 5–30 percent of students were EL students. The suburban and rural districts served significant percentages of Hispanic students (25–50 percent). Within each district, the study team selected two schools according to the criteria in the "Selecting Districts and Schools Within the Four Case Study States" section of Appendix A. The urban and suburban

districts included schools with significant percentages of students designated as EL students; in both urban schools and in one suburban school, more than 30 percent of students were EL students. Each district had a school with a large concentration of students who identified as Hispanic (25–50 percent in the urban and rural districts, and 50–75 percent in the suburban district). In one suburban school, more than 20 percent of students were students with disabilities; in the other five schools, 5–20 percent were students with disabilities. Appendix B presents additional information about kindergarten student characteristics in Washington statewide and in the selected case study districts and schools.

Washington Kindergarten Inventory of Developing Skills Background

The 2011 state legislature passed Senate Bill 5427, which required that teachers administer the Washington Kindergarten Inventory of Developing Skills (WaKIDS) in all state-funded full-day kindergarten classrooms beginning in fall 2012.[25] The WaKIDS has three mandatory components: (1) Whole-Child Assessment, an authentic assessment of a broad range of kindergarteners' skills, adapted from Teaching Strategies® *GOLD*® (*GOLD*®); (2) Family Connection, a family meeting for parents and kindergarten teachers to share information at the beginning of the school year; and (3) Early Learning Collaboration, activities to promote connections between preschool and kindergarten teachers. The customized fall 2014 WaKIDS version of the *GOLD*® had six domains (social-emotional, physical, language, cognitive, literacy, and mathematics), composed of 19 objectives with 36 dimensions. Kindergarten teachers observe a student in the classroom, usually on an ongoing basis in the first two months of school, while the students are performing a variety of specific tasks in individual, small, and large group settings (as appropriate). Teachers then rate the child's skill levels on a developmental progression on the *GOLD*® assessment system (State of Washington Office of Superintendent of Public Instruction, n.d.) (Appendix C).

Purpose of Washington's WaKIDS

The intended purposes of the Whole-Child Assessment component (i.e., *GOLD*®) of WaKIDS are to:

- Help kindergarten teachers plan classroom instruction and individualize educational supports for each student.
- Engage, welcome, and partner with families and inform them about children's learning strengths and needs.
- Inform decisions about early learning and K–12 education policy and investments at the community, district, and state levels.
- Inform early childhood education providers about children's learning strengths and needs.

Source: Washington Kindergarten Inventory of Developing Skills n.d.

The state legislature, the federal RTT-ELC grant, the Washington Department of Early Learning, the Gates Foundation, and Thrive Washington collectively funded the administration of WaKIDS since the 2012–13 school year. The Gates Foundation has also provided funds to the Educational Service Districts and to three selected school districts for WaKIDS implementation, training, ongoing teacher support, and data-sharing sessions.

[25] The WaKIDS legislation is available at http://apps.leg.wa.gov/billinfo/summary.aspx?bill=5427&year=2011

In 2014–15, kindergarten teachers administered WaKIDS to more than 43,000 students, 52 percent of all kindergarteners in Washington, representing almost all kindergarteners in state-funded full-day kindergarten classrooms (who account for 44 percent of Washington's kindergartners) and additional kindergartners from other classrooms (i.e., not full-day) in several districts and schools that volunteered to participate in WaKIDS.

Development and Adoption of WaKIDS

The political and educational impetus for the KEA began in 2009. The selection and piloting process took about two years to complete.

A state leadership team, including representatives from Washington's Department of Early Learning and Office of Superintendent of Public Instruction, involved many stakeholders in formulating the WaKIDS framework, piloting multiple KEA tools, and selecting the *GOLD*® instrument for the Whole -Child Assessment component. Stakeholders included parents, preschool administrators and specialists, K-1 teachers, EL and content (mathematics and reading) specialists, district assessment coordinators, members of tribal nations, foundation staff, cultural specialists, principals, child development and reading specialists, researchers, and teacher union representatives. Stakeholders participated in planning committees that led components of the design and implementation process, including the Oversight Committee, Work Team, State Advisory Team, Theoretical Advisory Committee, and Technical Advisory Committee.

According to state respondents, the primary factors that drove Washington's selection of *GOLD*® were that (1) many early learning programs were already using it, (2) it was aligned with Washington's Early Learning Guidelines and the Essential Domains of School Readiness, and (3) it had an emphasis on the whole child, with special emphasis on social-emotional skills. Teachers rate students on the *GOLD*® according to developmental progressions that enable them to categorize the skills of children on a broad continuum, inclusive of students with disabilities.

In pilot tests, researchers from the University of Washington confirmed its high content validity but also identified administration issues related to interrater reliability with the customized WaKIDS' version of *GOLD*®, especially for EL students.[26]

State Training of Teachers to Collect WaKIDS Data

Administrators from the Office of Superintendent of Public Instruction provided training and technical assistance for kindergarten teachers through a statewide regionally based network of WaKIDS trainers located at Washington's nine Educational Service Districts. Training comprised a mandatory two-day training for teachers new to WaKIDS and an optional one-day training for returning teachers. The training covered conducting observational assessments within normal classroom time, rating student skills on the *GOLD*® developmental progression, gathering and uploading evidence to the online system, and understanding and sharing results with parents.

[26] The WaKIDS website presents additional information about the pilot tests, including a preliminary pilot report and a secondary pilot report, which are available at http://www.k12.wa.us/WaKIDS/pubdocs/WaKIDS_UW2010PreliminaryReport.pdf and at http://www.k12.wa.us/WaKIDS/pubdocs/WaKIDSUWReport2011.pdf

District and School Implementation of WaKIDS

All district officials reported that they monitored the KEA data system for teachers' compliance in meeting the annual October 31 submission deadline. State and district officials also reported checking the data system for data anomalies, such as extraordinary high or low scores, but no respondents reported monitoring the in-class administration processes of teachers.

Teachers in all case study districts actively implemented Family Connection meetings, and all sources verified that this component was effective in engaging parents in discussions about their children's strengths and needs and ways to support learning at home and at school.

The majority of interviewed teachers across the districts reported that the length of the *GOLD*® tool, the requirement to complete it in the first seven weeks of school, and the continued use of other local assessments made implementation challenging. Teachers reported that *GOLD*® administration took a significant portion of their instructional days to complete during the first seven weeks of school, and data entry required at least one to two full days. The teachers needed to establish classroom and behavioral management routines, and it was difficult to concentrate on one student or a small group of students and leave the others working independently during this orientation and administration period.

Interviewed teachers felt the *GOLD*® was appropriate for students with disabilities because the tool's wide span of developmental levels allowed teachers to observe and rate students with sufficient accuracy on their level of abilities without having to provide accommodations. However, these teachers did not necessarily have experience yet in administering *GOLD*® to the full continuum of students with disabilities. The majority of teachers questioned the accuracy of *GOLD*® in assessing the skills of EL students; teachers indicated a concern that the students' capacities to comprehend directions and adequately perform queried tasks hampered their ability to demonstrate their true skills. Furthermore, only a few teachers reported having access to translators.

District staff and teachers reported uneven levels of comfort with using the *GOLD*® online data entry and reporting system. Two of the three case study school districts purchased tablets so that their teachers could use the *GOLD*® web-based application, but the majority of interviewed teachers reported that they still preferred to use pencil and paper to record their observations.

Communication and Use of WaKIDS

Although a primary purpose for selecting the *GOLD*® was to inform classroom instruction, the majority of the interviewed teachers recalled only minimal training on the use of data. Teachers interviewed thought the primary use of the data was to inform state early learning efforts and policymaking, not to inform their classroom instructional practices. However, a few interviewed teachers found utility in the *GOLD*® assessment for their curriculum planning.

GOLD® results were available in a variety of reports in an online system, but several teachers reported not accessing reports, and the majority of interviewed principals examined a limited number of reports, if any, because they found the online system to be complicated and time-consuming to use.

Teachers from Washington's urban district used *GOLD*® reports (the *Diagnostic Summary Report*) as the kindergarten students' first (fall) report cards, replacing the standard report cards. The report showed parents which skills their children had at school entry and what activities would help the students meet the end-of-the-year standards. A few interviewed teachers reported that their students' parents showed little interest in the *GOLD*® findings at parent-teacher conferences. Teachers interviewed in the

suburban and rural districts reported that they infrequently shared results with parents or did so in an abbreviated way because they felt the reports were too overwhelming or not useful.

The Early Learning Collaboration component of WaKIDS (i.e., activities to promote connections between preschool and kindergarten teachers) has been the least actualized of the three components, largely because of logistical and legal challenges. State and district officials who were interviewed reported that certain federal privacy laws and regulations[27] and other data access and confidentiality restrictions hampered the state's and districts' abilities to link and share individual preschool and kindergarten student *GOLD*® data.

WaKIDS Results from 2014–15

For each item on the *GOLD*®, assessment developers identified certain levels along the developmental progress that correspond to widely held expectations for each age or grade level, including kindergarten readiness levels. These specific item levels are then converted into score ranges on each of the six domains of the WaKIDS customized version of the *GOLD*® that correspond to expectations for kindergarten readiness.[28] The *GOLD*® data system provides "Readiness Benchmark Reports" based on these calculations—and these reports form the basis for WaKIDS results released on the Office of Superintendent of Public Instruction Washington State Report Card website.[29]

The 2014–15 WaKIDS results revealed that approximately 40 percent of all entering kindergarten students displayed the foundational skills across all six domains of the *GOLD*®, indicating they were fully ready for school. An additional one-third (32 percent) of students demonstrated readiness in four or five of the six domains. A higher percentage of Asian students (43 percent), White students (49 percent), and students of two or more races (47 percent) demonstrated full readiness, in contrast to a lower percentage of Hispanic students (25 percent), American Indian or Alaska Native students (34 percent), and Black students (39 percent; Exhibit 9). Students with disabilities, EL students, and those from low-income families demonstrated lower school readiness than Washington kindergartners as a whole (Exhibit 10). In particular, about one-fifth of students with disabilities (17 percent) and EL students (21 percent) demonstrated full school readiness, and less than one-third (31 percent) of students from low-income households demonstrated full school readiness (State of Washington Office of Superintendent of Public Instruction n.d.). Appendix D presents additional data findings on the readiness of Washington's students in each of the six domains by student characteristics.

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[27] Namely the *Family Educational Rights and Privacy Act* (FERPA), 20 U.S.C. § 1232g and 34 CFR Part 99.

[28] Additional information about established cut-scores on the *GOLD*® is available at http://www.k12.wa.us/WaKIDS/Materials/pubdocs/WaKIDSCutScoresFAQ_TSGOLD2015.pdf

[29] The OSPI Washington State Report Card is available at http://reportcard.ospi.k12.wa.us/WaKidsDetailPage.aspx?domain=WaKIDS&year=2014-15&wakidsyr=2013-14&schoolId=1&waslCategory=1&numberOrChart=1&yrs=2014-15%29

Exhibit 9. Percentages of Washington Students Demonstrating Kindergarten Readiness

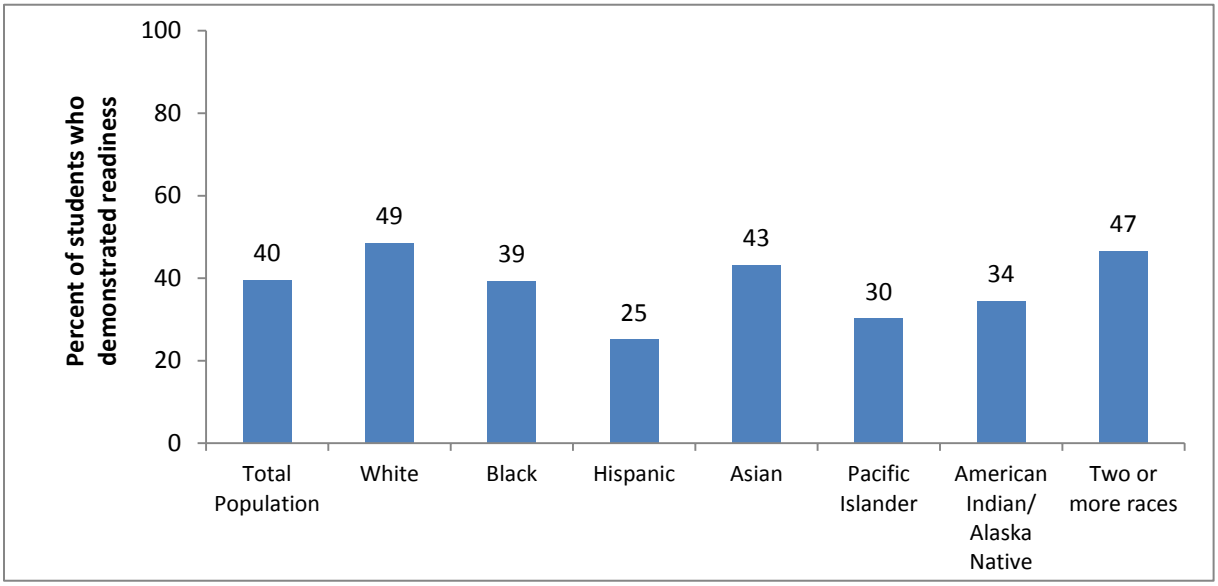

Exhibit Reads: Forty percent of all Washington kindergarten students demonstrated skills indicating full kindergarten readiness.
SOURCE: Data from State of Washington Office of Superintendent of Public Instruction n.d.

Exhibit 10. Percentages of Washington Students from Special Populations Demonstrating Kindergarten Readiness

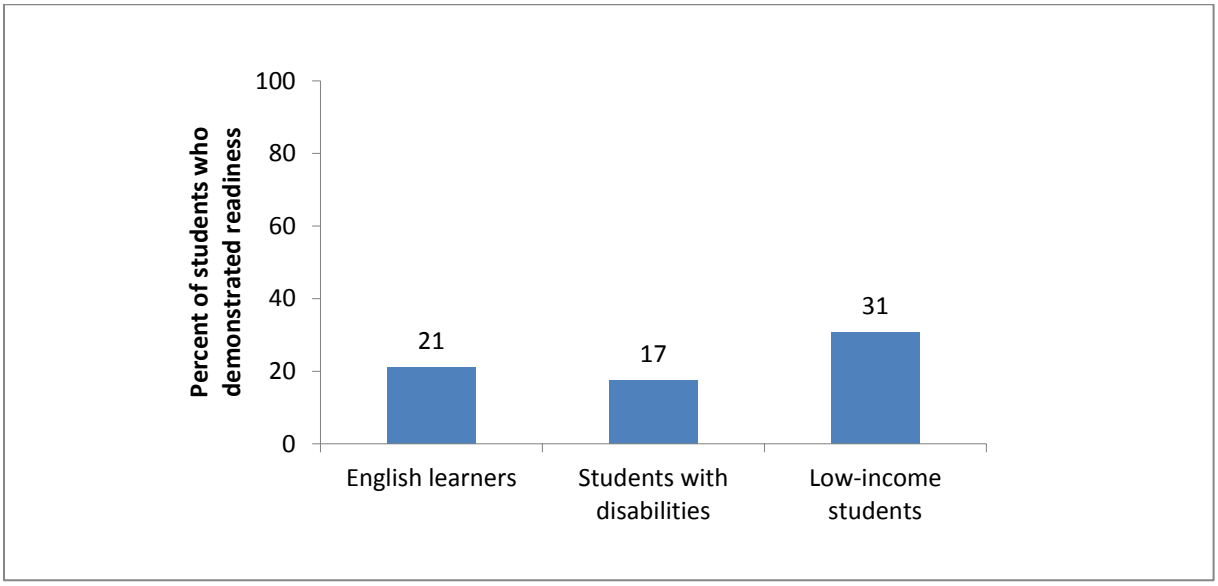

Exhibit Reads: Twenty-one percent of EL students in Washington demonstrated skills indicating full school readiness.
SOURCE: Data from State of Washington Office of Superintendent of Public Instruction n.d.

KEA Characteristics in Summary

The selected KEA leadership teams in the case study states provided variation in the types of KEA systems they adopted and key features of implementation (see Exhibit 11). KEA leadership teams in the case study states began implementing their KEAs in different years. The 2014–15 school year was the first year of implementation in two states and the second or third year in the other two states. State leadership teams also varied according to whether they made their KEAs mandatory or optional; legislation in two states required that the KEA be conducted with all kindergarten students, one state legislature required that it be conducted with close to half its kindergarten students (those enrolled in state-funded full-day classes), and in one state the KEA was optional except for the small percentage of students in Title I focus and priority schools. In three states, federal funding from RTT-ELC supported development, refinement, and implementation of KEAs, but KEA leadership teams also relied on other sources of state and federal funding.

KEA leadership teams in the case study states chose different assessment tools: KEA leadership teams in two states chose to use commercially available assessment tools that they slightly modified, and leadership teams in the two other states decided to develop their own assessment tools. In all the case study states, KEAs assessed early literacy, math, and social-emotional skills; KEAs in three of the states also assessed language, cognitive approaches to learning, and physical health and development.

KEA leadership teams in all states considered the psychometric properties of the adopted instruments. Leadership teams in the two states selecting commercially available assessment tools reviewed vendor documentation and research reports on the internal reliability, criterion validity, construct validity, and predictive validity (i.e., the ability of the instrument to predict academic performance in third grade) prior to selecting their instruments. KEA leadership teams in all four states used pilot test data to examine the psychometric rigor of the instruments when administered in a sample of schools in their states, including examining internal reliability, item difficulty, item-to-total correlations, and dimensionality of the measures. In the next chapter, the section “Pilot Testing and Field Testing KEAs” discusses how state teams used findings from these psychometric analyses to refine the KEA instruments.

KEA leadership teams in the four states used different combinations of assessment methods; in two states they heavily relied on observation methods, in one state they relied equally on both observation and direct assessment, and in one state they relied mostly on direct assessment but included a social-emotional observation measure. In three of the states, KEA leadership teams aimed to have most of their KEA assessments done by the sixth week of the school year or later; in one state, district administrators encouraged teachers to collect data on an earlier timetable. It was difficult for teachers who conducted observations to estimate the amount of time it took them over the multiple-week observation window to complete the assessments, but the estimates varied from 15 minutes per child to more than an hour per child. The states’ leadership teams and assessment administrators also used technology differently: In one state KEA assessors used technology solely for data entry, in one state they used technology to gather data as well as enter data, and the data system in two states had the capacity to provide real-time access to reports once data were entered.

In two of the states, KEA leadership teams used train-the-trainer models to provide professional development to their KEA administrators, whereas in one state, training was primarily by regional trainers, and in another state it was primarily online. Finally, KEA leadership teams in three of the states selected assessment tools that could be conducted in Spanish if the teacher or another KEA assessor at the school had the appropriate language skills.

Exhibit 11. Summary of State KEA Characteristics

	Maryland	Oregon	Pennsylvania	Washington
Name of KEA system	Kindergarten Readiness Assessment (KRA)	Kindergarten Assessment (KA)	Kindergarten Entry Inventory (KEI)	Washington Kindergarten Inventory of Developing Skills (WaKIDS)
Year first implemented statewide	2014	2013	2014	2012[a]
Optional or mandatory	Mandatory for all public school kindergarten classrooms	Mandatory for all public school kindergarten classrooms	Optional for most schools; mandatory for Title I focus and priority schools	Mandatory for all state-funded full-day kindergarten classrooms; optional for half-day kindergarten classrooms
Number (percentage) of kindergarten children in state assessed in fall 2014	67,000 (98%)	40,000 (95%)	16,000 (13%)	43,000 (52%)
Funding sources	RTT-ELC and EAG	State funds, RTT-ELC	State funds, ESEA Titles I and II funds, RTT-ELC	State funds, private funds, RTT-ELC
Developer of assessment	Developed by Maryland State and Ohio Departments of Education with support from WestEd	Modified easyCBM assessment and Child Behavior Rating Scale	Developed by Pennsylvania educators and stakeholders	Modified *GOLD*®
Domains assessed[b]	Language and literacy, mathematics, social foundations, and physical well-being and motor development	Early literacy, early mathematics, and approaches to learning	Language and literacy, mathematics, approaches to learning, social and emotional, and health, wellness, and physical development	Language, literacy, mathematics, cognitive, social emotional, and physical development
Method of assessment	Observation and direct assessment	Observation and direct assessment	Observation only	Observation only
Types of items	Selected response items, performance task items, and observational-rubric items	Multiple-choice items and teacher checklist	Teacher observational ratings on a rubric	Teacher observational ratings on a rubric

Exhibit 12. Summary of State KEA Characteristics, Continued

	Maryland	Oregon	Pennsylvania	Washington
Number of Items	63	31	34	36
Timing of KEA Completion	First 8–10 weeks	First 3–6 weeks	First 6.5 weeks	First 7 weeks
Teacher time spent on data collection and entry per class	30–45 hours (1–1.5 hours per child)	6–10 hours (15–20 minutes per child)	Observations of students in large groups, small groups, and one-on-one sessions in authentic settings over 45 days. Estimated two to ten hours for data entry.	Observations of students in large groups, small groups, and one-on-one sessions during typical classroom day over seven weeks. Estimated one to two days required for data entry.
Technology uses	Data collection and data entry	Data entry	Data entry, online real-time reports	Data entry, online real-time reports
Training model	Train the trainer	Train the trainer	Online training and webinars and in-person trainings by request	Regionally based network of trainers and Teachers on Special Assignment in large districts
KEA can be administered in Spanish	No	Yes	Yes (for most indicators)	Yes

[a]Washington's WaKIDS was mandatory in all state-funded full-day kindergarten classes beginning in fall 2012. In 2014–15, 44% of kindergarten students attended full-day state-funded kindergarten classes. In 2015–16, expanded funding for full-day kindergartens resulted in required WaKIDS administration to 72% of kindergarten students. In 2016–17, 100% of kindergarten students will be eligible to receive state-funded full-day kindergarten, which will increase the number of WaKIDS participants by 23,000 students.

[b]The case studies states' KEAs differ somewhat in how they define domains. For example, Oregon's KA includes social-emotional skills and self-regulation under the approaches to learning domain, but the Pennsylvania KEI includes social-emotional skills as a separate domain from approaches to learning.

3. Development and Adoption

The process for developing or adopting KEAs across all four case study states involved multiple activities, including gathering input on the purpose and content of KEAs, prioritizing selection criteria, and field testing and pilot testing selected assessment tools. Legislation in three of the case study states supported state teams in achieving widespread KEA implementation.

Gathering Stakeholder Input about KEAs

In all four case study sites, state officials sought the input of stakeholders such as researchers, experts in assessment and psychometrics, local administrators and educators, early learning advocates, and community representatives in the selection of KEAs.

Recognizing that KEAs are useful only to the extent that they provide meaningful data for stakeholders, leadership teams in the case study states involved a wide range of stakeholders in the development and adoption process. In all case study states, participating stakeholders included elementary and preschool educators, university and other researchers, experts in assessment and psychometrics, experts in assessment and education of students with disabilities[30] and EL students, and representatives from advocacy and child interest groups. In Oregon, Pennsylvania, and Washington, community members, including parents, contributed to early discussions about the design or adoption of a KEA. In addition to within-state stakeholders, Maryland officials partnered with officials at the Ohio Department of Education and collaborated with five other states during the development of the KRA.

Highlighted Practice

Stakeholders (including elementary and preschool educators, researchers, community group members, and other experts) collaborated with state KEA leadership teams to review and provide ongoing feedback on KEA content, appropriateness, administration feasibility, and adaptations.

In all case study states, stakeholders collaborated with state KEA leadership teams (usually staff from state early learning or early education departments) in committees or work groups. State teams in Maryland and Washington convened stakeholders in multiple working groups that concentrated on specific content areas or tasks. For example, Maryland stakeholders participated in a Sensitivity and Bias working group, a Content working group, and a Technical Advisory working group. In Washington, stakeholders participated in planning and advisory committees including a WaKIDS Work Team, State Advisory Team, Oversight Committee, Theoretical Advisory Committee, and Technical Advisory Committee.

Stakeholders' roles included identifying relevant research findings, assessing the tradeoffs associated with various KEA approaches (e.g., developmental appropriateness of observational measures, efficiency and consistency of direct measures), making recommendations for specific tools and item content, and assessing the feasibility of proposed KEAs. In three case study states (Maryland, Oregon, and Washington), stakeholders reviewed existing assessment instruments (including content and

[30] Interviewers used the term "children with developmental delays or disabilities" when asking respondents about this population. Respondents used various terms, including "children with special needs" and "children receiving special education." This report uses the term "students with disabilities."

psychometric properties) and made recommendations for potential assessment scales and items. In contrast, stakeholders in Pennsylvania helped design a new instrument by identifying the state standards most relevant to school readiness and drafting associated indicators for a kindergarten readiness inventory. In each case study state designated stakeholders reviewed items for appropriateness and cultural sensitivity. Likewise, in all four case study states, school administrators and teachers participated in pilot tests, surveys, or focus groups, providing input on topics such as which assessments they were currently implementing and the feasibility of particular assessment approaches.

Despite these stakeholder engagement efforts in the initial selection process, the majority of district and school respondents in all the case study states reported being unaware of the stakeholder involvement in KEA selection and development. Rather, local respondents typically perceived the process as a top-down directive, with little input from local educators. In contrast, educators who participated in pilot tests in Pennsylvania felt included in the process of KEA development and advocated for their district to participate voluntarily.

Prioritizing KEA Selection Criteria

> **Officials and stakeholders in all four case study states considered multiple criteria during the development or adoption of their state's KEA, including the reliability and validity of the measure, appropriateness of the measure for all students, usefulness for informing classroom instruction, usefulness for informing early learning policies and program improvement, feasibility of administration by teachers, and cost.**

Across case study states, early discussions among state leadership teams and stakeholders about KEAs emphasized selecting or adopting an assessment that could provide information to inform instruction, professional development, and early learning policy. Respondents in all case study states also reported that having an objective and psychometrically sound KEA was of utmost importance. Accordingly, Oregon and Washington stakeholders eliminated measures that were not objective and psychometrically sound. Maryland and Pennsylvania developers pilot-tested and revised newly developed measures to ensure satisfactory reliability. Likewise, stakeholders sought and chose measures that were aligned with state early learning standards (Oregon, Pennsylvania, and Washington) or K–12 standards (Maryland), and stakeholders in two states considered the ability of measures to predict third-grade or future academic performance (Oregon and Maryland).

State respondents in Maryland and Washington further reported the use of developmentally appropriate practices as a priority, and state respondents in Pennsylvania and Washington discussed the need for a KEA to emphasize the whole child—particularly social-emotional skills.

State respondents in all the case study states expressed concern that the selected KEA be appropriate for diverse populations within their state, and researchers in three case study states (Oregon, Pennsylvania, and Washington) specifically included special populations, such as EL students or students with disabilities, in pilot tests. No state respondents, however, reported that effective use of the KEA with special populations was ultimately a top priority in selecting and adopting the KEA. Documentation on the two commercially available KEAs (selected by Washington and Oregon) did not specify the expected performance of students with disabilities on these measures, but the *GOLD*® (adapted for use in Washington) includes a broad range of developmental capacities that allows teachers to account for emerging skills, including those of students with disabilities.

Practical considerations in the selection and adoption of KEAs included cost, burden, and teachers' approval. For example, in Pennsylvania, state respondents reported that they were committed to offering a free or low-cost inventory to support sustainability and create buy-in for a kindergarten entry inventory that would be voluntary for most schools. The KEAs in Oregon and Washington included measures that teachers in those states already used and endorsed. For example, Washington officials reported that they ultimately opted for the standardized instrument *GOLD*®, in part, because teachers and parents gave it favorable reviews during a field test and it was in widespread use in Washington's preschools. Oregon state officials reported that, in addition to requiring fundamental technical characteristics, they prioritized the feasibility of administration (e.g., a brief assessment) and cost over other criteria, such as having a more comprehensive assessment that went deeper into assessed domains or covered additional domains.

Decision-makers in all four case study states recognized that a single assessment tool could not meet all criteria fully. They opted to develop or select a KEA instrument that was psychometrically sound, aligned with state standards, affordable, and not too burdensome for teachers.

Pilot Testing and Field Testing KEAs

In all four case study states, researchers conducted pilot tests of the KEAs to assess the reliability and validity of assessment items, implementation feasibility, and teacher training needs.

Before full-scale KEA implementation, researchers in all case study states conducted pilot tests, field tests (i.e., small-scale studies), or both, with teachers in a subset of schools. In three case study states (Maryland, Oregon, and Pennsylvania), the pilot tests were conducted after the state had developed or selected its KEA. The Washington pilot test involved testing three different instruments to inform the final selection of the *GOLD*®, for the whole child assessment component of the state's KEA, followed by a field test of a customized version of the selected assessment.

In 2013, the Maryland State Department of Education conducted a pilot test of the KRA with 23 teachers in 16 schools and a field test with 80 teachers in 28 schools. The Ford Family Foundation funded a pilot test of Oregon's KA in 2012, which included the participation of educators in 16 schools. To inform the design of its Kindergarten Entry Inventory, Pennsylvania's Office of Child Development and Early Learning oversaw a small preliminary study and three pilot tests between 2012 and 2014, with numbers of participating educators ranging from 27 to 219. In 2010–11, researchers from the University of Washington's Department of Childcare Quality and Early Learning collected data on three assessment instruments from participants from 115 classrooms in 63 schools and then conducted a field test of the selected *GOLD*® instrument involving 54 teachers from 42 schools.

At a minimum, pilot test activities involved teachers assessing students using the KEA and providing feedback through surveys, focus groups, or interviews. In addition, Washington researchers conducted parent surveys and interviews, researchers in Maryland collected student input by using a think-aloud method (i.e., cognitive interview) while conducting assessments, and researchers from Pennsylvania and Oregon collected feedback from school administrators. The Oregon pilot test also included document reviews and direct observations of KEA implementation in schools. Finally, officials in Maryland and Pennsylvania sought teachers' feedback specifically on their use of technology to collect or record data.

These studies resulted in revisions to KEA instruments and procedures and in modifications to training protocols and resources. Researchers in all case study states used pilot test data to examine the

psychometric properties (e.g., reliability and validity) of the KEAs and to refine the instruments or training procedures accordingly. For example, in Washington, researchers documented the KEA's high content validity but also uncovered an issue related to interrater reliability: teachers rated typically developing native English-speaking students more reliably than students who were non-native English speakers or not typically developing. As discussed in the next chapter, Washington's Office of the Superintendent of Public Instruction subsequently provided additional written guidance for teachers on assessing EL students (State of Washington Office of Superintendent of Public Instruction 2015). Pennsylvania researchers used results of internal reliability analyses to revise the KEI's health, wellness, and physical development items, finding acceptable reliability of the revised domain in a subsequent pilot test. In Oregon, analyses of item difficulty prompted the elimination of items that were considered too advanced for entering kindergartners. Oregon officials also noted considerable variability across schools in the timing of the assessment, which threatened its validity as a measure of kindergarten entry skills; consequently, they established a statewide requirement for the KA administration time frame.

Pilot test reports from three states (Pennsylvania, Oregon and Washington) documented that participating educators generally expressed satisfaction with the feasibility of administration and potential usefulness of the KEA, but teachers' feedback also prompted changes to instruments and procedures. For example, teachers in Washington's pilot test reported concerns about the length of the full original *GOLD*® and the burden to collect so much data in the early weeks of school; therefore, work group members abbreviated the tool before the 2012 implementation, excluding several domains and objectives. Pennsylvania's pilot test participants similarly reported concerns about the length of the instrument, prompting developers to eliminate indicators from the final version.

In all case study states, teacher feedback also informed the modification and addition of training protocols and resources. For example, Maryland officials revised the training protocol after the pilot test and before the 2014 implementation. Similarly, Oregon officials developed additional resources to support the use of the KEA with EL students and increased teacher training opportunities and requirements.

Enacting Legislation to Support Widespread KEA Implementation

Three case study states (Maryland, Oregon, and Washington) had legislative requirements for districts and schools to participate in the KEA and achieved widespread implementation.

Respondents in three case study states (Maryland, Oregon, and Washington) reported that the legislative basis for the identification and administration of their KEA was a primary factor in its widespread implementation. In Maryland[31] and Oregon,[32] legislation required all teachers statewide to

[31] The legislation establishing Maryland's statewide KEA is available at http://mgaleg.maryland.gov/2000rs/fnotes/bil_0009/hb1249.PDF and http://mgaleg.maryland.gov/2000rs/fnotes/bil_0003/sb0793.pdf

[32] The KA legislation is available at https://olis.leg.state.or.us/liz/2012R1/Downloads/MeasureDocument/HB4165/Enrolled. The *Oregon Administrative Rule* adopted by the State Board of Education, is available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0ahUKEwjggd3Pnp7NAhVS6mMKHcqGAf8QFghEMAY&url=http%3A%2F%2Fwww.ode.state.or.us%2Fsuperintendent%2Fpriorities%2F2013-march-8-kindergarten-readiness-assessment-oar.doc&usg=AFQjCNFO8F7yREYGI-oPxpYxCqSodkWWIQ&sig2=xL-db_uGbeZ9Rxik8V87Cw&bvm=bv.124272578,d.cGc

administer the KEA. In contrast, in Washington, the KEA was mandatory only in state-funded full-day kindergarten classes (which served about 44 percent of all kindergarten students in Washington at the time).[33] Pennsylvania did not enact legislation, but the Office of Child Development and Early Learning mandated administration of the KEI in fall 2014 for kindergarten students in Title I focus and priority schools. In 2014, about 13 percent of Pennsylvania's kindergarten students participated in the KEI, including students in the Title I focus and priority schools, students in schools of districts that required participation, and students in schools that participated voluntarily.

In Oregon and Washington, state legislation (enacted in 2012 and 2009, respectively) required the development and pilot testing or evaluating of a state KEA. An Oregon administrative rule adopted by the State Board of Education further specified that the KA must be appropriate for all children, including EL students and students with disabilities, and that it must align with Oregon's early learning standards and the K–12 state standards.

In addition to ensuring the development and adoption of a state KEA, legislation also promoted related activities to align with or support the KEAs, such as revamping early childhood services, adopting early learning frameworks, and supporting family partnerships and training infrastructure. Maryland's legislature adopted its original KEA, the Maryland Model for School Readiness,[34] in 2000 to promote early learning standards, offer guidance on instruction for all early learning and development programs, support assessment of children's development and learning, provide consistent and high-quality professional development, and engage families in preparing their children to enter kindergarten with critical skills and knowledge. The Oregon legislature passed legislation in March 2012 that charged the Oregon Early Learning Council, in addition to developing and pilot testing a KEA, with revamping the coordination of early childhood services and aligning them with the P–20 system. In Washington, KEA legislation included support for regional KEA teacher trainings and the use of three school days for kindergarten teachers and students' families to meet.

A larger proportion of kindergarteners participated in KEAs in the case study states with legislative mandates than in the state for which participation was mostly optional. State respondents reported that having legislation helped with district and school participation and compliance, but they noted that building buy-in and providing timely and useful data to districts were also necessary to develop broad support. State officials in both Washington and Oregon, for example, reported a need to build buy-in from educators by improving and expanding communication and training, providing useful data to the districts and teachers, and aligning the data explicitly with teacher needs.

In Pennsylvania, the Office of Child Development and Early Learning purposefully expended resources to create buy-in among districts and schools to encourage their voluntary participation; however, state respondents reported that these efforts needed to expand in future KEI administrations. State staff and stakeholders produced communication campaigns, videos, a statewide listserv and newsletter, and informational flyers and brochures intended for educators and parents, but the majority of interviewed teachers reported having had no introduction to the KEI before their training. Several Pennsylvania teachers reported sentiments similar to those of teachers in the other case studies states with legislated mandates—that the KEI was primarily a compliance task. As in the other case study states, Pennsylvania state and district respondents also reported a need to dedicate additional resources to provide data in usable formats immediately to districts and to help teachers understand how to use the data.

[33] The WaKIDS legislation is available at http://apps.leg.wa.gov/billinfo/summary.aspx?bill=5427&year=2011

[34] Maryland Model for School Readiness assessment was a 30-item portfolio assessment tool that used work samples and teacher observations to assess children's skills in seven domains at kindergarten entry.

4. State Support for Teacher Training and Preparation

Leadership teams in the four case study states supported their school districts in implementing KEAs by building infrastructure and resources to train teachers to administer KEAs and promoting teachers' collection of consistent data through certification or reliability tasks.

Building KEA Training Models to Prepare Teachers

State staff or state-funded contractors developed and offered trainings for teachers on how to implement their state KEAs.

The state-developed trainings for teachers on KEA implementation took different forms—from online self-paced webinars to in-person presentations—and addressed various topics—from detailed administration procedures to data-reporting guidelines. District staff in two states (Oregon and Maryland) participated in KEA train-the-trainer sessions and subsequently facilitated teacher trainings in their local districts and schools; teachers in these states also had access to state-funded webinars and regional help desks or other in-person support to assist with KEA administration procedures. In Washington, a statewide regional structure of trainers offered in-person trainings to kindergarten teachers, with the support of districtwide coaches funded by some larger school districts to provide guidance on KEA implementation. Pennsylvania state staff produced online KEA webinars for use by all teachers in participating schools and offered additional in-person trainings at district request. Pennsylvania teachers could self-train online at any time before the school year began.

To identify and support a cadre of trainers and technical assistance providers, case study state representatives reported that they called on existing state and local resources. For example, the Maryland State Department of Education asked every district to identify staff who had prerequisite skills and knowledge in assessment of young children and adult learning strategies. These nominated trainers then attended a three-day state-hosted KRA training session, and upon completion, state funds supported their provision of two days of face-to-face training (or blended face-to-face and online training) and follow-up support to teachers in their districts. Similarly, the staff from the Oregon State Department of Education provided training on KA administration to district test coordinators of each of Oregon's 197 school districts through a web-based module. Then district test coordinators facilitated the training of their local teachers during the professional development days preceding the start of school using the same web-based training module. In Washington, the Office of Superintendent of Public Instruction contracted with *GOLD®* to assist state staff in offering professional development to state-funded trainers organized across all nine Educational Service Districts, in addition to Teachers on Special Assignment[35] funded by some large school districts. These Educational Service District staff and Teachers on Special Assignment then provided the WaKIDS training (in the summer) and follow-up and technical assistance support (throughout the school year) for kindergarten teachers in their respective regions or districts.

Contractors (e.g., Johns Hopkins University Center for Technology in Education contracted by Maryland), state staff (e.g., Oregon Department of Education and Pennsylvania Office of Child Development and

[35] According to the district's collective bargaining agreement, teachers on Special Assignment are licensed teachers who are assigned to perform duties other than classroom instruction. The assignment may include (among other activities) working on special programs, instructional coaching, and/or curriculum development. The term of assignment (i.e., one year or less or more) is based on the nature of the project, program, and/or funding.

Early Learning staff), or a combination of the two (e.g., *GOLD*® in collaboration with Washington's Office of Superintendent of Public Instruction staff) developed the KEA training content and modules. Main topics typically were (1) reviewing the purpose of the KEA, (2) discussing how to administer the KEA, and (3) interpreting and using KEA data, including a small amount of information about communicating assessment results to parents. The duration of the training varied across case study states, participants (i.e., new or veteran teachers), and format (i.e., in-person or online modules), but typically teachers participated in training for one or two days. In Washington, the Office of Superintendent of Public Instruction provided the districts a flat-rate stipend to support teachers' participation in the training. In Maryland, district funds supported teachers' participation, usually by offering the training during one of the designated district professional development days before the start of school. The majority of teachers across the participating districts also reported that they had access to additional assistance after training. For example, case study states funded the support of regional help desks staffed by administrators who were experienced with the KEA, or local districts provided coaches to answer questions by email and phone about administration procedures.

The majority of teachers interviewed in the case study reported that the state-provided training prepared them to implement the KEA, but that additional training and support could improve teachers' consistency and efficiency.

The majority of teachers interviewed across the participating school districts reported that the training content was comprehensive, adequately explained the purpose and domains of the KEA, and provided them with the opportunity to walk through the steps of KEA administration. However, trainers in two Maryland districts held trainings in spring 2014 before the finalization of assessment materials and technology applications, and teacher respondents from these districts reported their dissatisfaction with not being able to rehearse their administration with actual items or with preprogrammed touch screens.

The majority of interviewed teachers also reported that although they were generally well prepared to administer the KEA with typically developing students, they struggled with providing appropriate and equitable accommodations for students with various needs, such as EL students and students with disabilities. Given those challenges, teachers reported wanting more training on assessment strategies for EL students and students with disabilities and more opportunities for collaboration with colleagues around KEA implementation and use with those populations. Interviewed teachers offered some suggestions for strengthening the trainings, such as trainers providing additional examples of allowable accommodations for students with disabilities and providing well-tested strategies for accurately measuring the skills of EL students. This report more fully discusses teachers' suggestions in the Challenges and Potential Solutions chapter.

State officials, district administrators, and teachers across Pennsylvania and Washington also expressed a desire for more opportunities during training sessions for educators to ask questions, discuss methods and strategies, and collaborate with their colleagues. Similarly, Oregon state respondents reported that the online training for teachers was convenient but not sufficient to ensure proficiency and fidelity to assessment protocols. Finally, trainers in all four case study states offered spring and summer training sessions, and district respondents in all the states reported challenges with this timing, particularly with finding resources and time to train newly hired or reassigned kindergarten teachers in the fall.

Promoting Consistent Collection of KEA Data

To promote consistent collection of KEA data, state officials from all four case study states and other KEA assessors required teachers to complete a proficiency exam before administering KEAs.

State officials in both Oregon and Pennsylvania reported that they instructed assessors to complete a proficiency test before administering the KEAs. Maryland and Oregon's training modules both included a 10-item proficiency test of KEA knowledge; the Pennsylvania exam compared teachers' KEI ratings on two case study vignettes with expert ratings. In Maryland and Washington, teachers completed certification exams via online video clips of student performances, where their own ratings of the students' knowledge, skills, and behaviors were compared with experts' ratings on the KEA domains.

5. District Experiences with Early KEA Implementation

This chapter includes findings from interviews in 12 districts and 23 schools about KEA implementation, including findings related to district monitoring of KEA administration, the timing of the KEA, administering the KEA to special populations, avoiding duplicative assessments, and using technology to gather and enter KEA data.

Collectively across the case study states, district officials and teachers reported a relatively smooth implementation of the KEAs, facilitated by the use of existing assessment policies and training practices, carefully scripted training and administration materials and resources, and secure web-based data systems. Consequently, teachers and assessors across the four case study states successfully gathered data on thousands of kindergarten children (67,000 in Maryland, 40,000 in Oregon, 16,000 in Pennsylvania, and 43,000 in Washington).

Meeting State KEA Participation Requirements

KEA participation rates varied across states, reaching 95 to 98 percent in the two states that required administration for all kindergarten students, while being much lower in the two states that limited the requirement to certain types of schools (13 percent and 44 percent).

Three case study states (Maryland, Oregon, and Washington) had legislative requirements for districts and schools to participate in the KEA and achieved widespread implementation. Maryland and Oregon, states that required KEA administration for all kindergarten students, achieved KEA participation rates of 98 percent and 95 percent, respectively. In Washington, where the KEA was required only in state-funded full-day kindergarten classrooms (which represents 44 percent of the state's kindergarteners), 52 percent of the state's kindergarten students participated. In Pennsylvania, where the state education department only required Title I focus and priority schools[36] to participate, 13 percent of the state's kindergarten students participated. Of the 215 public schools whose teachers participated in the Pennsylvania KEI, roughly half were Title I focus schools or priority schools (116 schools, or 54 percent); some districts required all of their schools to participate in the KEI.

Monitoring KEA Data Completion

The majority of district officials monitored, via their KEA data systems, teachers' progress toward completing KEA tasks by the required deadlines, but none reported monitoring or evaluating the KEA administration practices of teachers with their students.

[36] Priority and focus schools are schools identified by a State in accordance with its approved request for flexibility under the Elementary and Secondary Education Act of 1965, as amended by the No Child Left Behind Act of 2001 (ESEA flexibility). Generally speaking, under ESEA flexibility, priority schools are the lowest-performing five percent of Title I schools and focus schools are Title I schools with large within-school gaps between high-achieving subgroups and low-achieving subgroups and schools with one or more subgroups with low achievement or graduation rates.

All district officials in Maryland and Washington and one district in Pennsylvania reported that they monitored their KEA data systems for teachers' progress toward completing and submitting data collection by the required deadlines. Furthermore, in Oregon and Washington, state and district officials also reported checking for data anomalies (e.g., teacher reports of extraordinarily high or low scores) in their data systems. One Washington district official reported that this helped them to identify some teachers' misunderstanding of *GOLD*®'s developmental progression rating system; as a result, district officials convened a regional WaKIDS meeting and identified a need for teacher training on the concept of a developmental continuum and how to measure students' skills accurately on an observational tool. However, none of the case study district respondents reported that they monitored or evaluated the assessors' KEA administration practices that actually occurred in schools.

Highlighted Practice

District officials monitored KEA data for anomalies, such as extraordinarily high or low scores.

Assessing Kindergarten Students During Their First Weeks of Schooling

Several teachers expressed concerns that the early time frame affected the accuracy of the KEA results and that the amount of time required interfered with their efforts to establish classroom routines and positive relationships with students; however, a few of these teachers also said that administering the KEA provided valuable one-on-one time with each student and helped them identify students' individual knowledge and skills early in the school year.

Teachers in all four case study states reported completing their KEAs within the first two months of the school year. The Maryland State Department of Education required teachers to administer the KRA between the first week of school (late August) and the end of October; teachers in all of the case study districts received a one-week extension because KRA materials, including tablets (i.e., mobile personal computers with touch-screen interfaces), arrived at schools late. Oregon assessors completed the KA within three to six weeks from the start of school, depending on the KA component. Pennsylvania teachers completed the KEI in the first 45 calendar days of the school year and data entry within the next seven calendar days; teachers in one selected district received an extension for data entry. In Washington, teachers administered the *GOLD*® within the first seven weeks of school, with a data entry submission deadline of October 31.

Teachers reported that this administration timeline was challenging because the assessments often came before they had a chance to establish positive relationships with students that they felt were important to ensuring the accuracy of the KEA results. For example, the majority of Oregon teachers reported that they believed the administration timetable for the KA was not conducive to promoting a positive early school experience or optimal performance on the assessment, especially for students who had not attended preschool or were nervous in their initial interactions with teachers or peers. Several teachers in three case study states (Maryland, Pennsylvania, and Washington) reported that children's skills changed during the observation assessment window and expressed concern that this made the data less accurate in assessing current levels of ability, depending on when the snapshot of the students' skills occurred.

Similarly, district respondents in Maryland, Pennsylvania, and Washington reported that observing and rating students required significant teacher time during a critical period when teachers were establishing classroom and behavioral management routines. Furthermore, several teachers reported

that they found it difficult to focus on one student or a small group of students and leave the others working independently during this orientation period. For example, one Maryland teacher from the urban district questioned:

Why are we as kindergarten teachers faced with giving this test when it's measuring how they were prepared? We are taking up our instructional time and our routine setting and getting the children ready for school, giving an assessment that doesn't give us any data or drive our instruction.

In contrast, a few teachers in Maryland, Pennsylvania, and Washington reported that administering the KEA provided them valuable one-on-one time with each student; in turn, that helped them to get acquainted with their students and identify their new students' individual knowledge and skills early in the school year. One teacher interviewed in the rural Pennsylvania district described how administering the KEI early in the school year affected her classroom instruction:

> *[The KEI] helped me in my teaching because I know…[after] week one who knows what letters, who doesn't...you have a road map, really, for the entire year of where you need to go based on individual children.*

Making Suitable Accommodations for Students from Special Populations

Teachers in all four states reported feeling confused about the procedural guidelines for using KEAs with EL students, and teachers in three states (Maryland, Oregon, and Pennsylvania) reported feeling unsure about whether and how to provide accommodations for students with disabilities.

By 2014, leadership teams in three of the case study states (Maryland, Oregon, and Pennsylvania) provided guidance on administering KEAs with EL students. Maryland's tiered decision-making process[37] and Oregon's decision tree[38] both applied to EL students. The Maryland instructions encouraged KRA administrators to collaborate with the student's English for Speakers of Other Languages teacher to identify the student's level of English proficiency and associated need for supports. For example, students with lower levels of English proficiency were allowed to respond to the KRA with gestures and to answer questions with only one or two words in English. Students with higher levels of English proficiency were expected to be able to respond without these supports. The Oregon guidelines stated that an EL student who qualified for English Language Development services and spoke Spanish should take both the Spanish and the English literacy components of the KA. All other students (i.e., those who spoke English or another language other than Spanish) took only the English version of the literacy component. Pennsylvania's written instructions[39] provided guidance about the KEI's use with EL students, including allowing students to demonstrate competence through nonlanguage strategies for some indicators; all but three KEI indicators related to the English alphabet and conventions of language could be assessed in students' home languages.

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[37] Maryland's Guidelines on Allowable Supports for the KRA are available at: http://pd.kready.org/data/ck/sites/116/files/MD_KRA%20Guideline%20final%20rv.pdf

[38] Oregon's Accessibility Decision Tree for the 2014-15 KA is available at http://www.ode.state.or.us/wma/teachlearn/testing/admin/ka7_decision_tree_20130522.pdf. Oregon's Accessibility Manual is available at http://www.ode.state.or.us/teachlearn/testing/admin/alt/ea/updates/oregonaccessibilitymanual.pdf

[39] A Guide to Using the Pennsylvania KEI is available at: https://www.csiutg.org/kei_manual.pdf

Similarly, officials from these same three states developed written guidelines for administration of the KEA with students with disabilities. For example, the Maryland State Department of Education developed a tiered decision-making process for identifying and implementing individualized supports for students with disabilities. According to these guidelines, "level the field" supports (e.g., braille, sign language, or gestural language) could be used to address the unique needs of students with disabilities and assist them in demonstrating their true knowledge and skills. Similarly, the Oregon Department of Education created a decision tree to help KA assessors provide the appropriate supports for students with disabilities. The decision tree indicated that students with specific vision, hearing, or language or communication needs should receive accommodations (e.g., sign language, simplified directions, or large print versions) during KA administration. Although an IEP was not necessary for Oregon teachers to provide additional supports during the KA, Pennsylvania's KEI administration guidelines stated that teachers should provide accommodations that were specified in students' IEPs and Section 504[40] plans, and a few teachers reported designing activities specifically to observe students with disabilities on KEI indicators. In Maryland, the level the field supports that teachers could offer did not necessarily include all supports outlined in students' IEPs.

Still, even with written guidance, several interviewed teachers in the selected Maryland, Oregon, and Pennsylvania districts reported disagreeing with or having challenges following the provided guidance and decision-making processes for allowable and suitable supports. Respondents expressed concerns that inconsistent administration practices and a lack of access to translators and use of accommodations could jeopardize the tool's accuracy of findings with these populations. For example, interviewed teachers in Maryland expressed concern about accuracy of the KRA findings given that KRA administration guidelines did not allow teachers to sight translate the KRA into other languages or for students to respond in languages other than English. Multiple interviewed teachers across Maryland also expressed concern that the KRA was not accurate for some students with disabilities, because there were limited allowable supports for KRA administration compared with supports provided by their IEPs. Interviewed teachers in Oregon also reported that they struggled with providing appropriate and equitable accommodations for students with various needs and that there was a lack of bilingual assessors available to administer the Spanish version to eligible students. In Pennsylvania's urban district, two interviewed teachers reported using few accommodations because students were not typically identified for special education until second grade. These teachers also reported confusion and concern about differentiating students' language differences from developmental delays.

None of the interviewed teachers in Washington recalled any attention devoted in their training or instructions to administering *GOLD*® with students with disabilities or EL students, and only a few interviewed teachers reported access to additional in-class supports (e.g., translators) to assist with assessing EL students. Even without training or instructions on administering the *GOLD*® to students with disabilities, all interviewed teachers in Washington reported that they believed the *GOLD*® was appropriate for that population because of the *GOLD*®'s comprehensive and standardized measure of students' capabilities. Teachers rate students on the *GOLD*® developmental progressions, which allow them to indicate a broad range of students' skill levels, including those of students with disabilities, without necessarily having to provide accommodations. However, the majority of the interviewed teachers felt that the *GOLD*® was difficult to use with EL students, and that it resulted in scores that were probably not accurate reflections of students' true abilities. Teachers indicated a concern that the

[40] School districts often record the elements of an individual student's free appropriate public education under Section 504 in a document, typically referred to as a "Section 504 Plan." A Section 504 Plan often includes the regular or special education, related aids and services, and accommodations a student needs, and the appropriate setting in which the student should receive those services.

students' capacities to comprehend directions and adequately perform queried tasks hampered their ability to demonstrate their true skills, and only a few teachers reported having access to translators. For example, a school administrator in an urban district reported that translation support is needed, but she was unsure it was universally available:

> *I want to know if a kid can count to 10, and I don't care if it's in English or Spanish. Kids should be allowed to use their first language so we can get at certain skills. But this requires administering the test in children's home language. We have that support in this school, but I don't know how universal that is.*

Washington state respondents reported that resources and supports for the use of *GOLD*® with EL students and students with disabilities would become a greater focus after the basic components of their KEA system had been rolled out. Washington's Office of the Superintendent of Public Instruction released additional written guidance on assessing EL students in spring 2015.[41]

Highlighted Practice

District officials offered support for teachers administering the KEA to EL students and students with disabilities, such as consultation with ESL and special education teachers.

Despite the availability of guidelines and resources, the majority of interviewed teachers across all four case study states reported a desire for more support for administering the KEAs with EL students and students with disabilities, including training and having access to translators and special education resource teachers. Although a few case study district officials reported that they offered support to teachers of EL students and students with disabilities (e.g., consultation from bilingual counseling assistants or English as a Second Language [ESL] teachers, coaches with expertise in special education), few interviewed teachers knew about or made use of these resources.

Avoiding Duplication in Kindergarten Assessments

State officials in the case study sites reported that to minimize burden, they encouraged district administrators to omit or delay other district-mandated assessments that were duplicative of the KEAs, but district administrators continued to require the administration of other assessments in addition to the KEAs.

The majority of district administrators and teachers across all districts in all case study states reported continuing with other assessments in addition to their state KEAs, because the assessments were part of district benchmark systems, or because teachers needed additional information beyond what their state KEA was providing to inform their instruction.

Although administrators in Maryland's suburban district and Oregon's urban district eliminated the fall administration of the Dynamic Indicators of Basic Early Literacy Skills® (DIBELS®), district and school

[41] The Office of the Superintendent of Public Instruction-WaKIDS website includes a resource page (http://www.k12.wa.us/WaKIDS/Materials) that posted a revised document in May 2015 titled "Guidance for WaKIDS Teachers Working with English Language Learners." The two-page flyer listed six major guidelines, including (1) observe students in multiple opportunities using their home language, (2) seek assistance from someone who the district has verified to be fully proficient in the student's home language to assist with activities and interpret responses, and (3) observe physical skills first and language-based skills later in October.

respondents noted that teachers still administered DIBELS® in the winter and spring academic periods. A few interviewed teachers reported that they found it helpful when their district eliminated duplicative assessments such as DIBELS® during KEA implementation period. The majority of interviewed teachers in these states, however, reported that they continued to administer other curriculum-based or portfolio assessments repeatedly throughout the year because they felt the findings were more useful than the KEA snapshot, which could only provide short-term instructional guidance. Teachers reported that progress monitoring and curriculum-based measures that were used multiple times throughout the year were useful for informing instruction, creating instructional groups, setting goals for teacher evaluations, and tracking student progress. Interviewed teachers in Oregon reported that having a brief and highly focused assessment such as the KA was not useful for informing instruction.

Highlighted Practice

District officials omitted duplicative assessments and synchronized other assessments conducted in addition to the KEA.

Similarly, across all case study districts in Pennsylvania, teachers reported continuing to use assessments such as DIBELS® and locally developed curriculum-based math and literacy tools, and a few teachers reported using the results from those assessments to inform KEI ratings. However, because the deadline to complete the KEI was early in the school year, teachers reported that only other assessments conducted within the first weeks of school could inform KEI ratings.

In Washington, district officials in all case study sites continued to require the use of other assessments, such as standards- or curriculum-based direct assessments (e.g., DIBELS®, Measures of Academic Progress®, portfolio assessments), either simultaneously with the *GOLD*® or subsequently in the following academic periods. Urban district officials made concerted efforts to synchronize and align the *GOLD*® with their Kindergarten Portfolio assessment, which tracked student growth according to Washington state K-12 Learning Standards after the fall *GOLD*® administration. Still, according to teachers across all the case study districts, the serial administration of different assessments was onerous and made it difficult for them to attend to and use the *GOLD*® results, because their focus had to be shifted immediately to conducting other assessments.

Using Technology to Inform KEA Observations and for KEA Data Entry

In three of the states (Maryland, Pennsylvania, and Washington), teachers and administrators reported having some challenges with technology and with the significant time needed to enter data, and the majority of teachers chose not to use digital evidence (e.g., videos, sound clips, and photographs) to inform KEA ratings.

Teachers and assessors in all four case study states successfully gathered and entered data on thousands of kindergarten children using secure web-based data systems. In two states (Maryland and Washington), teachers entered all KEA data into statewide data systems. A few teachers interviewed in these states had access to tablets to facilitate data collection and entry, but this technology did not always work reliably, and teachers reported varying levels of comfort with technology. All interviewed district officials in Oregon and one in Pennsylvania reported that they had school or district staff available to enter KEA data into state data systems on behalf of teachers. However, in all states, entering data into online systems took significant time, with estimates varying from a total of 15 hours

for one entire rural district in Oregon to two to 10 hours per classroom in Pennsylvania and Washington to one hour per assessment in Maryland.

To minimize burden of data entry on teachers as well as to support KEA administration, the majority of Maryland and Washington district administrators in the case studies provided teachers with tablets for KEA data collection. In Maryland, teachers could submit KRA data from the tablets directly to the state's online reporting system (the system also automatically saved KRA responses that students recorded on tablets), but teachers reported that this feature did not work reliably during the first year of implementation. In addition, the data system lacked the capacity to accommodate large numbers of concurrent users, sometimes causing system outages and requiring teachers' reentry of the data. Teachers whose districts did not provide tablets for data collection and teachers whose tablet applications malfunctioned reported that they recorded students' responses on paper and entered KEA ratings data at a later time.

In Washington, two out of three case study school districts purchased tablets so that their teachers could use the *GOLD*® web-based application to gather evidence for their students' ratings (e.g., take photographs or videos) and to minimize later data entry; however, the majority of teachers still preferred to use pencil and paper to record their observations, which they later entered into the online system. A few teachers noted specific difficulties using aspects of the *GOLD*® online system, but they also consistently reported that the state vendor resolved any technology issues in a timely manner.

As noted above, Oregon and Pennsylvania district or school personnel other than teachers entered KEA data into statewide data systems. In each of the six visited schools in Oregon, KA assessors submitted paper forms with individual students' results to district or school staff (such as a district test coordinator or an administrative assistant), who then entered and submitted the data electronically to a web-based data entry system — either separately for each student or through a mass upload of aggregated data. In Pennsylvania's suburban district, a district administrative assistant compiled the teachers' ratings from paper forms and entered them into the KEI database.

Highlighted Practice

To reduce administration burden, district officials employed other school or district staff to enter KEA data on behalf of teachers.

In Maryland, Pennsylvania, and Washington, teachers completed some or all of their own KEA data entry. In Pennsylvania's selected rural and urban districts, teachers entered their ratings into the KEI data system directly, and teachers resorted to using some personal time to complete this task. State respondents as well as several teachers and administrators interviewed from Pennsylvania's urban district reported that the data system had insufficient capacity to accommodate more than 100 concurrent users, and teachers experienced repeated incidents of the system crashing, particularly during districtwide dedicated teacher preparation periods. Maryland teachers in all three districts reported that data entry was the most time-consuming part of administration and that glitches with the web-based system sometimes hampered the process. Washington teachers received a release day to enter *GOLD*® ratings, but several teachers interviewed across districts reported that data entry still ran into their instructional preparation or personal time.

In Pennsylvania and Washington, teachers could use digital evidence to inform their KEA ratings, but the majority of teachers chose not to do so. In Washington, teachers could collect a variety of evidence to justify skill ratings, including photographs, sound clips, and videos. Likewise, Pennsylvania's KEA training materials allow for a variety of evidence sources to inform teachers' ratings, including videos and

photographs. However, the majority of interviewed teachers across the Washington case study districts indicated that they rarely submitted more than work samples along with the required observation note explaining why they selected a particular rating for each student. Interviewed teachers in Pennsylvania reported relying mainly on their own observations in school for evidence and occasionally on feedback from support staff and other teachers; none reported including digital media as part of the KEA observations.

Using Local Funding to Reduce KEA Burden

State funding covered most costs associated with KEA implementation in all four case study states, but officials in the majority of case study districts reported that local funds were used to reduce burden on teachers by providing aides to monitor the classroom during KEA administration, coaching support, or technology resources to make data submission easier and faster.

As described in Chapter 2, State KEA Snapshots, a combination of both state and federal funds supported the development and the majority of the implementation costs (such as training and material costs) of the KEAs in the case study states. School and district respondents, however, reported that they were cognizant of the additional demands that KEA training, administration, and data entry placed on their teachers, so they invested local funding to support teachers with their new responsibilities and to minimize the burden where they could.

For example, all of the case study districts in Maryland and two in Washington purchased tablets for data collection and entry, and IT staff in Maryland, Pennsylvania, and Washington uploaded student demographics (e.g., student identification number, teacher, gender, birthdate) into KEA data systems to streamline data entry for teachers.[42] The interviewed urban district administrators in Pennsylvania also reported using local funds for development and printing of additional KEI resource materials for teachers and for compensation for teachers who trained peers.

The majority of Maryland, Oregon, and Washington district staff reported that they used classroom aides or substitute teachers to provide classroom supervision and release time for teachers while they administered or entered KEA data. Interviewed teachers across districts in all four case study states reported that having an extra set of hands in the classroom during administration of the KEA — a teacher's aide or substitute teacher — was very helpful, if not instrumental, to the success of KEA implementation. For example, when teachers administered items one-on-one with students, aides could monitor and support the rest of the class so that teachers could seamlessly administer KEAs without interruption.

[42] Maryland districts were responsible for 60 percent of the cost of tablets and the Maryland State Department of Education paid the rest.

6. KEA Data Use by States, Districts, and Schools

State officials provided access to KEA results using different methods, including posting public reports on websites, sending data files to district administrators, and supporting online data systems that generated real-time classroom and student-level reports for teachers. Administrators across the states and districts reported that in the early phases of KEA implementation, only a few held preliminary discussions about the use of KEA results to inform policy and practices. Respondents in all case study states reported barriers to using the results systematically, including variations in timing of the data release and obstacles to sharing KEA results with parents and preschool programs.

Accessing and Using Public and Internal KEA Reports

The public could access state- and district-level KEA reports and data tables on public websites in three of the four case study states (Maryland, Oregon, and Washington), and authorized district staff and teachers could access online school, classroom, and student-level reports in two of the states (Pennsylvania and Washington).

State officials in three of the case study states (Maryland, Oregon, and Washington) made results from the 2014 KEA available widely through data tables on public websites or reports. In May 2015, the Maryland State Department of Education released a KRA public data report (Maryland State Department of Education 2015a) that summarized the results of the KRA statewide by student subgroups and for each of the state's 24 school districts. In December 2014, the Oregon Department of Education posted to its website Microsoft® Excel tables displaying KA results statewide and for each district and school and by student gender and ethnicity. In spring 2015, the Oregon Department of Education further provided district and school data files to district administrators, and in October 2015 the Oregon Department of Education posted to its website additional KA results on economically disadvantaged students, EL students, and students with disabilities (Oregon Department of Education 2015b). Similarly, Washington's Office of Superintendent of Public Instruction provided statewide WaKIDS data online that could be disaggregated by district and student characteristics (e.g., gender, race/ethnicity, EL and special education status, low income), as well as a fact sheet summarizing the results (State of Washington Office of Superintendent of Public Instruction n.d.). Administrators from the case study's urban and suburban districts in Washington provided *GOLD*® data on district websites that could be disaggregated by school, region, and student characteristics (e.g., gender, race/ethnicity, special education status).

Highlighted Practice

State websites provided summary reports of KEA findings that could be disaggregated by student characteristics (e.g., race/ethnicity, economic disadvantage, or special education).

In contrast, as of December 2015, the Pennsylvania Office of Child Development and Early Learning had not published results from the 2014 KEI. In January 2015 state respondents reported that the focus of the first year of the KEI was on administration, but that they expected to put greater emphasis on data use and dissemination in future years. The state contractor provided KEI data findings to districts and schools on request, though the state contractor reported that very few districts and schools requested reports.

In addition, authorized district officials and teachers had access to real-time reports in Pennsylvania and Washington. The online KEA data entry systems used in those states had the capacity to provide a variety of real-time reports including student- and classroom-level data.

The majority of district administrators and teachers interviewed across the selected states reported several obstacles to using the KEA results, one being that they could not easily access or interpret the data in a timely manner for instructional decisions.

Respondents in two states (Maryland and Oregon) discussed the impact of timing on the limited use of KEA data by educators. In Maryland, state officials issued the KRA data after state officials and kindergarten teachers from Maryland and Ohio established cut scores (the number of correct items required for a student to be considered "ready" in a particular domain) for the new KRA tool. The delay led a few Maryland teachers to question the value of using KRA data to inform curriculum and instructional decisions or sharing results with parents late in the school year; teachers received reports on individual students in May and June of 2015. With cut score standards established, Maryland state respondents anticipated that the data would be available earlier in subsequent school years.[43] Likewise, according to a state administrator, the Oregon Department of Education made a concerted effort to distribute 2014 KA results soon after the fall administration, because teachers had expressed frustration with the timing of the release of the KA results from the 2012–13 school year, which occurred in spring 2013, and made the data irrelevant for current classroom practices. Despite the earlier release of the 2014 data, the majority of case study respondents in Oregon did not use KA findings.

Respondents in two states (Oregon and Pennsylvania) also reported not having staff who could analyze the KEA raw data and confusion about interpreting and using data tables. The Oregon Department of Education's website provides a Kindergarten Assessment Report Overview with suggestions for how state, district, school, and student-level data can be used. Respondents across the selected Oregon districts, however, expressed a lack of understanding of how to use KEA data to examine demographic trends, to inform instruction, or to consider policy implications. Interviewed district staff in both Pennsylvania and Oregon further reported difficulty in using the data in the provided format (Microsoft® Excel tables), as well as the unavailability of staff with skills to assist in analyzing and interpreting the data files. According to a respondent from a Pennsylvania district that had requested and received a data file,

> *Not having a team here to deal with data, we did not use the results. It was an implementation year and tools came too late in a not-usable format. We're looking at it now to make long-term decisions. The big challenge is not having the state design canned reports ahead of time—I think that was a lost opportunity.*

Washington teachers in one case study district used reports from the online *GOLD*® system as the students' fall reports cards to discuss during parent-teacher conferences. However, the majority of interviewed teachers in case study states that had

Highlighted Practice

One district used KEA reports as the students' fall report cards to discuss during parent-teacher conferences.

[43] A Maryland state official confirmed during a review of excerpts from this report that the Maryland Department of Education made KRA data available earlier in the 2015–16 school year. Teachers could access individual student reports two weeks after the close of KRA administration, and the department released the public data report in February 2016.

online real-time reports (i.e., Pennsylvania and Washington) reported that they were unaware of the reports, unfamiliar with data system navigation processes or uses for the data, or that the systems or data were not operational when they needed the information (e.g., in time for parent conferences).

A few teachers also expressed confusion about expected uses of the data, especially in the midst of all other data collection efforts. As one teacher in Washington explained,

> *I've never looked at the results. I can't remember if anyone ever told me to do so. Am I supposed to look at how my kids measure up against other kids?...I didn't think about using WaKIDS data because, as soon as it ends, I need to start collecting report card data.*

All interviewed principals in Washington knew that the *GOLD*® online system could provide abundant data and reports; however, the majority of interviewed principals used the system only to monitor teachers' completion of data submissions. They reported challenges with the data format and a lack of time for other analyses.

District respondents in Oregon and Pennsylvania further reported that their local district data systems provided data in a more useful format than the statewide KEA data systems. An administrator in Oregon suggested that the KA data would be more useful if it were represented in the district's data dashboard and if the results were compatible with the local data system that contains additional assessment results. A district administrator in Pennsylvania likewise reported that the local district data system provided faster aggregated results and better graphing capabilities than the KEI data system.

Using KEA Results to Inform Future Policy and Program Decisions

One case study state (Washington) had begun to analyze KEA data and hold preliminary discussions about how the findings could inform policy and resource allocation.

State and district officials in Washington had preliminary discussions about some of the implications of their WaKIDS results. For example, a state respondent reported having used an examination of *GOLD*® results disaggregated by race/ethnicity and region to illustrate issues of racial equity and gaps in access to preschool experiences across districts. Based on WaKIDS results, state officials deployed statewide professional development resources to preschool and kindergarten teachers and education materials to parents. One case study district communicated the findings of WaKIDS to their school board and parent community to illustrate students' local achievement profiles and district resource needs.

State officials in the other three case study states reported not having yet used KEA results for informing policies and practices, but respondents in all four states shared their plans to use KEA data to identify needs for additional preschool programming. For example, a few district respondents interviewed across the selected sites in Maryland reported their intentions to use KRA data to identify geographical areas in the district where children could benefit from access to additional preschool programs. In Oregon, a few state respondents reported that the KA could eventually help guide decisions about early learning investments and resources as well as curricula to support students' needs. Washington state respondents shared that they planned to develop a WaKIDS Feedback Report that will share aggregate level WaKIDS data with early learning providers. Similarly, Pennsylvania state respondents indicated that they planned to produce state-level data reports and use KEI data to improve programming in kindergartens and preschool programs and migrate KEI data into the statewide longitudinal data system to enable examination of long-term benefits of preschool on later school outcomes. As one state official reported,

The KEI focuses all of our office's initiatives, it's the hinge between the 0–5 and K–3 worlds. It gives an opportunity at the state and local level to bridge gaps and have discussions from the P–3 context.

Using KEA Results to Understand Individual Student Needs

Although the majority of interviewed teachers reported that they had not yet used formal KEA reports to inform their instructional practices, a few teachers said that the impressions they gained while administering the KEA helped them to understand their students' strengths and needs and to assign students to instructional groups.

A few teachers in three states (Maryland, Pennsylvania, and Washington) discussed benefits of administering a KEA early in the school year as they were getting to know their students. For example, a few teachers interviewed in the selected suburban and rural districts in Maryland reported that administering the KRA gave them one-on-one time with each student that helped them to identify students' individual knowledge and skills early in the school year.

A few teachers reported that administering the KEA changed or affirmed their understanding of individual students' strengths and needs. In Pennsylvania, a few teachers reported that making observations of students for the KEI helped them become acquainted with their students, with the inventory typically affirming what teachers perceived about individual students' entering skills.

An urban teacher in Washington articulated how she used information gained early in the year from WaKIDS to tailor instruction for an individual student:

I had one child who couldn't hold a pencil when he walked in the door. He couldn't apply pressure. It was good for me to use WaKIDS to see where he was and what his next steps would be as he developed. It reminded me that I couldn't expect him to start writing the week after I gave him instruction. I made plans for this child based on his data. When we did centers, I made sure he was at the Play-Doh table, practicing manipulation.

In two states (Pennsylvania and Washington), interviewed teachers also reported using evidence gathered for the KEA to group students by ability level for instruction and to identify students who might need additional help with social-emotional skills.

In contrast, the majority of interviewed district and school staff in Oregon, who typically assessed students before or during the first week of school, reported that they had not gained any useful knowledge from conducting the KA. In fact, a few of the interviewed teachers reported that the one-on-one, highly structured nature of the KA felt uncomfortable to them, and that they preferred assessing students while playing informally with them as they do with other assessments.

Avoiding Misuses of KEA Results

State and district administrators and teachers interviewed in all four case study states reported a clear understanding of how KEA findings should *not* be used, such as to prevent children from entering kindergarten, to determine special education eligibility, or to evaluate the quality of specific preschool programs.

Highlighted Practice

State officials developed training protocols that clearly and concretely instructed KEA users about the potential misuses of KEA data.

Across the four case study states, nearly all interviewed teachers and administrators reported understanding that the KEA was a tool for identifying students' competencies at kindergarten entry, rather than a screening or diagnostic tool or one that could prevent students from entering kindergarten. Provisions for RTT-ELC and EAG-KEA grants also state that results should not be used to prevent children's entry into kindergarten or as a single measure for high-stakes decisions. To promote consistency and clarity of purpose, the Oregon Department of Education developed training protocols and materials with clear instructions about avoiding potential misuses of KA data — namely, to screen students or to evaluate preschool programs. Across the three selected Oregon districts, interviewed educators reported strictly following these guidelines.

Similarly, almost all interviewed Washington teachers and administrators readily identified that *GOLD*® results should be used as one piece of observational data that captures students' needs for additional services and supports. These teachers and administrators affirmed, however, that the assessment results could identify areas of concern for individual students that teachers should be aware of, work on individually with the student, and possibly discuss with parents.

Sharing KEA Information and Results with Parents

The majority of interviewed teachers reported that they did not share KEA information or results with parents because of the delayed release of the KEA findings and concerns about how they might perceive the assessment and the results.

The majority of interviewed teachers across three of the states (Oregon, Maryland, and Pennsylvania) reported providing little or no introductory information about their KEAs to parents. In Oregon, teachers in two of the selected districts provided introductory information about the KA, such as pamphlets or letters describing the KA as a standardized assessment of baseline skills, or presented information at family advisory meetings or during informal discussions with parents during transition days before the start of school. In contrast, interviewed teachers in Maryland and Pennsylvania generally reported sharing no introductory information about their KEAs with parents.

In contrast, Washington's WaKIDS process includes a Family Connection component, and all case study teachers reported meeting with parents early in the school year to discuss how they would be measuring students' strengths and needs using *GOLD*®. However, teachers in 11 of the 12 districts reported that they did not share KEA results with parents. Teachers in Maryland and Pennsylvania reported that data were not available in time to share at parent-teacher conferences, but a few teachers in Pennsylvania shared observations they had made during the KEI administration.

Even when results were available, respondents reported not wanting to share KEA findings in their communication with parents. Maryland's KRA training protocol included a focus on communicating results to parents, and district respondents reported their intention to share KRA results at conferences to engage and make plans with parents to support their children's education. Yet the majority of Maryland teachers across districts reported that they saw no use in sharing the KRA results with parents, because the KRA did not offer helpful information beyond what teachers shared from other assessments. As discussed above, the majority of interviewed teachers from Oregon had not seen KA results themselves, and one district respondent further reported that the district administration was reluctant to share results with parents in order to avoid an "anti-testing" backlash.

Across the case study states, teachers in only one district, Washington's urban district, reported sharing summary KEA reports with parents, as their fall report card. These teachers provided parents with the assessment findings printed from the *GOLD*® online system and discussed the findings with them if they attended the fall parent-teacher conferences. A few teachers reported in their interviews that many of their parents did not attend these conferences or showed little interest in the *GOLD*® findings.

Sharing KEA Results With Preschool Programs

Even though most official communications about KEAs mentioned the explicit goal of sharing KEA results with preschool programs to inform program improvements, the majority of the directors of preschool programs associated with the selected case study schools had little or no awareness of the KEAs or their results.

In all four case study states, the majority of interviewed preschool program directors reported receiving little to no information about the KEAs. In three states (Oregon, Pennsylvania, and Washington), interviewed directors of district-funded preschool or Head Start programs were more likely than interviewed directors of private preschool programs to have some knowledge of their respective KEAs, such as its purpose to create linkages between early childhood programs and kindergarten and to educate parents about expectations for school readiness. In contrast, the majority of private preschool program directors had not heard of their state's KEA before being contacted for the case study.

Despite varying levels of awareness, preschool program directors interviewed in all four states expressed interest in learning more about their state's KEA and its usefulness to the preschool community. Interviewed kindergarten teachers in Maryland and Pennsylvania reported an interest in using KEA data in the future to promote dialogue with the preschool- to third-grade community and inform professional development.

In contrast, a few preschool program directors in Oregon and Washington questioned the validity or usefulness of the KEA data. One interviewed Head Start director in Oregon suggested that the KA may be less valid than other assessments used in the state, citing lower scores for students on the KA's early literacy and math components than on comparable *GOLD*® measures administered in preschool. Other preschool program directors in Oregon who were familiar with the KA reported that it was too academic to use at the beginning of kindergarten and that the administration of the KA did not align with the early childhood community's philosophy of developmentally appropriate practices. Similarly, in Washington a few directors of state-funded preschool programs reported that they were aware of the use of *GOLD*® in kindergartens but were skeptical about its results adding value beyond the *GOLD*® data collected by state-funded preschool programs at the end of preschool.

District administrators, principals, and kindergarten teachers mentioned challenges they faced when trying to connect with preschool program directors around KEA activities and results, including finding meeting locations, lack of alignment of content and standards (i.e., early learning standards versus K–12 standards), and a lack of a reporting format that presented data in ways that were useful to both preschools and elementary schools.

State and district respondents in Washington further reported their unsuccessful efforts to date to link the *GOLD*® individual student data collected in preschool and kindergarten. They reported that the *Family Educational Rights and Privacy Act* (FERPA)[44] and other data access and confidentiality restrictions hampered their abilities to connect and act on the data to inform and improve early education.

None of the respondents in Maryland, Oregon, or Pennsylvania reported that they had procedures currently in place to involve the preschool community, but a few district and school administrators in Washington reported that in the planning phase of the Early Learning Collaboration component of WaKIDS, initial meetings had occurred between preschool and kindergarten teachers to build relationships and joint professional development opportunities. Although none of the respondents had personally participated in these meetings, one principal from the urban district in Washington discussed plans to create a feedback loop to include preschool teachers who worked on her school site in sharing *GOLD*® data.

[44] The *Family Educational Rights and Privacy Act* (20 U.S.C. § 1232g; 34 CFR Part 99) is a federal law that protects the privacy of student education records. The law applies to all educational agencies and institutions that receive funds under an applicable program administered by the U.S. Department of Education. For more information see http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html

7. Challenges and Potential Solutions

State officials, district administrators, school staff, and preschool directors identified a number of challenges and potential solutions in KEA adoption, implementation, and use of results. Educators in states, districts, and schools planning to implement KEAs may benefit from considering the challenges and potential solutions identified in this exploratory case study.

Engaging in a Continuous Improvement Cycle Informed by Stakeholders

> ***Challenge*: State respondents reported that the KEA adoption, implementation, and use of the results were iterative processes that required continuous adjustments.**

> ***Potential solution*: State respondents reported that careful planning, review, and feedback that engaged various stakeholder perspectives was a critical process in KEA rollout that required dedicated infrastructure and funding.**

Officials in the state departments charged with leading the KEA efforts in all four case study states reported that their KEA content or administration process changed each year based on experiences and stakeholder feedback. Just as state officials began their KEA selection process by engaging a variety of stakeholders in articulating KEA priorities and reviewing potential KEA tools and processes, they reported continuing to ask stakeholders, including district staff, teachers, and assessment experts, for feedback to refine their assessment items, training, administration processes, data entry procedures, and reports.

Before implementation, state officials engaged technical experts to help reduce the length of the assessment tools and identify items that might be problematic, in terms of sensitivity or bias. For example, prior to statewide administration in fall 2014, the Maryland State and Ohio Departments of Education leadership team worked with assessment experts, researchers, technology staff, and professional development providers to review the first version of KRA items with the goal of reducing administration burden while maintaining valid and reliable results. The team eliminated KRA items deemed too difficult, time intensive, and less critical to the evaluation of kindergarten readiness.

State officials also systematically gathered feedback from district and school staff after each year of implementation. Maryland officials reported that as a result of teacher feedback from surveys and focus groups after the fall 2014 KRA, the KEA leadership team planned to provide additional training on the use of data, reduce the length of time between KRA administration and receipt of results, and consider shortening the length of the KRA again.

Similarly, Pennsylvania's Office of Child Development and Early Learning hosted in-person focus groups in December 2014 to gather feedback from participating teachers and administrators about the first full KEI implementation. Pennsylvania's Office of Child Development and Early Learning also surveyed district administrators via email about KEI implementation and supports. Feedback included suggestions that the state KEA leadership team was considering, such as improving the usability of the data entry system, collecting additional student demographic information (e.g., home language, preschool experience), and providing more guidance for use of the KEI with EL students.

Likewise, after the 2013 and 2014 administrations of the KA, the Oregon Department of Education sought feedback and recommendations from a Kindergarten Assessment Content and Advisory Panel,

which included educators, administrators, early learning professionals, Oregon Department of Education staff, and researchers. The panel issued a number of recommendations including improving the current measure to address a "floor" effect (i.e., most students' assessment ratings fell in the very low ranges), pilot testing a new literacy component in fall 2015, developing and implementing a new data system in 2016–17, and providing detailed guidance for data interpretation. Additionally, in February 2015, a subset of the panel's members convened a Kindergarten Spanish Literacy Workshop, which reviewed the content, administration, and scoring procedures of the Spanish version of the KA, offering recommendations to make the content and instructions more developmentally appropriate. As a result of the panel's input, officials in the Oregon Department of Education reported that they planned to field test four other early literacy measures in 2015–16.[45]

Washington's Office of Superintendent of Public Instruction convened a committee with the directive to recommend changes to the objectives assessed within the 2014 WaKIDS version of the *GOLD*®. To help the committee select the objectives and dimensions to be included in the fall 2015 version, the state surveyed teachers and asked them to rank each *GOLD*® objective and dimension based on its value in guiding instruction. Similarly, Office of Superintendent of Public Instruction staff ranked each objective and dimension based on its connection to the Washington State K-12 Learning Standards. Based on this information, the committee added new objectives and dimensions to the WaKIDS *GOLD*® in the social emotional, language, and cognitive domains, and omitted other objectives and dimensions across all six domains — modifying the WAKIDS version from a total of 19 objectives with 36 dimensions to 20 objectives with 31 dimensions. Because adaptations may affect the measure's validity and the comparability of results across years of administration, the Office of Superintendent of Public Instruction reported that two psychometricians reviewed the recommended slate of objectives and dimensions before final approval to ensure that the 2015 WaKIDS assessment would still be reliable and valid for the intended purposes and populations.

Clarifying and Communicating the Intended Purposes of the KEA

> ***Challenge:*** **Several district and school respondents and a few preschool directors expressed uncertainty about the usefulness of the KEA to serve all its purposes for all the intended audiences.**
>
> ***Potential solution:*** **State officials realized it was critical to simplify and strengthen their messages about the purpose of their KEAs to increase buy-in for statewide administration and use of data by parents and staff in districts, schools, and preschools.**

State officials across all case study states communicated multiple purposes of their KEAs. One major purpose was to measure school readiness consistently to inform state-level investments in early learning. Another was to identify students' strengths and needs to inform preschool and kindergarten teachers' professional development and classroom instruction. In addition, in all four states, state officials intended for KEA results to provide parents with information about their children's learning and development.

In contrast to the various purposes reported by state officials, district and school respondents in all four states most often reported that the primary purpose of KEAs was to provide a state snapshot of

[45] During the review of the report excerpts, an Oregon state official confirmed that a pilot study of alternative early literacy measures was done in fall 2015.

kindergarten entry skills for state-level planning. Teachers in the case study states that required participation often viewed it as a compliance task rather than an activity designed to benefit their classroom instruction. For example, in Maryland and Oregon, several interviewed teachers reported that they viewed the KEA as yet one more required assessment in addition to others that were either mandated by district administrators or deemed more useful to educators.

Issues also arose in Washington over the tension between the concurrent desires to use WaKIDS results for a statewide snapshot and to use them to inform classroom instruction, because the different purposes implied different data collection practices. A few respondents at the state, district, and school levels of the Washington sites advocated for the administration of the *GOLD*® a second time during the school year to help teachers assess student growth and adapt instruction, but other research and district staff disagreed about the use of data for that purpose. Reported reasons for their concerns included the unsuitability of the tool to assess growth on the Washington State K–12 Learning Standards (i.e., *GOLD*® age bands only run to 72 months and are intended to show kindergarten readiness, not year-end achievement), the subjective nature of the administration (i.e., it is conducted by the classroom teacher), and the time commitment and burden for even a single administration of the *GOLD*®.

Respondents in Oregon, Pennsylvania, and Washington suggested that clear communication about expected uses of the KEAs prior to full implementation would have increased buy-in among kindergarten teachers and the preschool community. A few Washington state and district officials thought that demonstrating one tool could serve multiple purposes would bolster the argument for administering it statewide, but two respondents (one at a district and one at the state) reported that overstating the KEA's use to accomplish some purposes may have undermined support within schools. After the initial implementation in fall 2014, Washington state officials documented a simple and clear message about the expected uses of the *GOLD*® on the Office of Superintendent of Public Instruction's website: "WaKIDS provides a snapshot of where Washington's kindergartners are in their development early in the kindergarten school year. These data help inform state and district-level decisions about education policy and investments, and classroom decisions about individualized learning."[46]

Several state, district, and school respondents in Oregon suggested that better communication in the initial development and adoption stage about the KA's purpose and intended uses would have supported teachers' understanding about and acceptance of the KA. Similarly, although staff from the Pennsylvania's Office of Child Development and Early Learning used multiple methods to communicate with districts and schools about the KEI (e.g., communications through a statewide listserv and newsletter, informational flyers and brochures, and participation of state staff at conferences and educational forums), state respondents suggested that future messages aimed at teachers must be explicit about the KEI's benefits and uses, as well as reassuring to teachers that it is not a high-stakes assessment or a teacher evaluation. In Washington, an urban school administrator suggested that teachers needed communication to understand the difference between testing students for accountability and observing students' skills for instructional purposes:

> *Testing is villainized in early learning, but people don't seem to understand that GOLD® isn't about testing — it's about observation. Addressing this misconception is important.*

[46] The Office of Superintendent of Public Instruction's website is at http://www.k12.wa.us/WaKIDS/About/default.aspx

Reducing Burden of KEA Implementation

> ***Challenge:*** **Several local educators reported that KEA administration and data entry were time consuming.**
>
> ***Potential solution:*** **District administrators reduced burden on teachers by changing administration schedules of other assessments, providing teacher aides to supervise classrooms while teachers focused on assessing children, and providing technology tools to assist with data entry.**

State, district, and school respondents in all four case study states suggested that it was important to clarify expectations about the roles, responsibilities, and required time commitments of district administrators and teachers in administering KEAs.

Additionally, district respondents recognized that teachers needed graduated support to become familiar with their new roles and responsibilities, and that with time and experience, the burden usually decreased. For example, a few interviewed teachers in Pennsylvania who had administered the KEI in pilot tests and urban district officials in Washington recognized that the burden had lessened as teachers became more experienced with their KEA. A few of these respondents suggested assuring teachers that administration would become less time intensive as teachers became more familiar and comfortable with the assessment. Pennsylvania district administrators discussed the importance of also communicating to principals about the potential burden that KEI administration placed on teachers so that the principals could provide helpful support and resources.

District officials reported that they used several strategies that teachers reported were helpful with reducing their burden, such as coordinating schedules with other kindergarten assessments, dropping duplicative kindergarten assessments, providing classroom aides or coaches who could keep students productive while teachers focused on one-on-one assessments, and purchasing tablets to support more efficient data collection and entry.

Involving Teachers as Trainers and Experts to Build Buy-in and Local Expertise

> ***Challenge***: **Teachers reported the need for on-site and real-time support with KEA administration.**
>
> ***Potential solution:*** **Across the case study states, teachers and district administrators who were experienced with the KEAs promoted the benefits of the assessments with less involved peers, provided on-site training and implementation tips, supported continuous quality improvement, modeled how to use data, and advocated for sustaining the KEAs' use.**

State teams who provided teachers and district administrators with leadership roles in pilot tests and training reported that this strategy promoted buy-in and built local capacity, including on-site expertise. For example, Pennsylvania and Washington teachers who participated in the KEA pilot tests created a knowledgeable team of teacher leaders who could promote buy-in for the purposes of the KEA and provide useful suggestions for KEA implementation within local districts and schools. A few interviewed teachers in Washington reported that teachers had formed informal support networks within the school to exchange activity ideas or materials that could be used to administer *GOLD*®, and they cited this as a

supporting factor in their efficient implementation of *GOLD*®. Also, teachers at two Washington schools where a former teacher was employed as a trainer communicated more clear and consistent expectations and had greater buy-in for KEA implementation than teachers interviewed at the four other Washington school sites. The on-site support offered by the *GOLD*®-trainer (i.e., the former teacher in two schools) encompassed in-class support, customized materials, mentorship, and facilitation of support networks with other teachers. In two Pennsylvania districts, teachers who had participated in pilot tests personally led the effort to implement the optional KEI in their schools, and interviewed teachers in these schools reported having opportunities to collaborate with peers and being satisfied with the KEI implementation in general.

The train-the-trainer models used in Maryland and Oregon were also effective for providing teachers with on-site support from their own colleagues. Further, state and district administrators across the case study sites reported that the teachers were the most credible advocates, the most informative critics, and the most effective providers of relevant supports to other teachers in ways that could sustain implementation efforts and build local capacity.

Developing Tools and Guidelines to Help Ensure Consistent KEA Administration

> ***Challenge*: School respondents raised concerns about the timing of assessments and inconsistencies in the KEA administration schedules across classrooms.**
>
> ***Potential solution:* Teachers suggested the development and use of prescriptive KEA administration guidelines to increase consistency in observation timing.**

Several teachers across the case study states mentioned that they believed the data they collected within the first few weeks of school may have produced inaccurate results because children were not yet comfortable with their teachers and classrooms to perform their best. This concern was particularly strong in Oregon, where teachers administered some components of their KA during transitional days before the official start of school. Administrators and teachers across districts suggested that delaying administration of the KEA until students and teachers had established comfortable classroom routines and relationships, and specialists had identified language and accessibility needs and accommodations, could increase the validity of the assessment results.

Case study teachers also reported concerns about variations between results from observational measures collected over a seven- to eight-week window: Students' skills might show dramatic growth between the third and eighth weeks of school, for example, yet their ratings collected in the first or second week would not reflect this growth. Teachers and the district trainer in the urban district of Washington suggested the use of weekly administration calendars, which could support teachers to implement a similar timeline for observing students' skills on each of the KEA domains, thereby creating more consistency in the focus and timing of observations across classrooms. Interviewed teachers suggested, for example, that the calendar could specify activities to assess the *GOLD*® literacy domains in the first few weeks of school, followed by activities to support the assessment of the math domains in the next week, and so on.

Improving Guidance, Training, and Resources for Implementing KEAs with Special Populations

> ***Challenge*: Teachers reported they did not have the training and resources needed to ensure accurate KEA results for EL students.**
>
> ***Potential solution:* Teachers suggested that trainers provide more direction on how to determine the language of assessment, more instruction on administration practices with EL students, and real-time support for KEA administration from bilingual assessors.**

As discussed in earlier chapters, the extent to which the KEA was proven valid and appropriate to use with special populations was not the top priority in selection and adoption of the KEAs. However, state and district administrators in the case study states, recognizing the challenges of KEA administration with diverse populations, offered teachers guidelines and some supports for implementation of KEAs with EL students. In all the case study states, however, interviewed teachers reported that they did not fully understand the EL guidelines, and a majority were uncertain about assessment procedures with EL students. The case study teachers communicated a desire for more support, including explicit instruction during KEA trainings about administering KEAs with EL students and additional on-site administration support from bilingual teachers.

Respondents in all four case study states mentioned that they lacked access to translators or Spanish-speaking assessors when those supports were allowed. None of the Washington teachers reported receiving training on administering *GOLD*® with EL students. Teachers in Maryland reported concerns about the accuracy of the KRA for EL students, because teachers provided instructions only in English, and students were expected to respond only in English. One Maryland teacher recommended additional training on use of the KRA with EL students:

For schools that do have a high EL [population], there should have been a more intensive training, maybe examples with those students. Like they did with the computer, they showed us a video of a girl doing the assessment and taught us how to score it. It would've been great to see that with [EL] students.

State officials discussed efforts to improve the clarity of guidelines and availability of resources. For example, state respondents in Washington reported that resources and supports for the use of *GOLD*® with EL students would become a greater focus after the basic components of their KEA system had been rolled out. The Office of Superintendent of Public Instruction released additional written guidance on assessing EL students in spring 2015 (State of Washington Office of Superintendent of Public Instruction 2015). The two-page flyer provided guidelines that directed teachers to (1) observe students in multiple opportunities using their home language, (2) seek assistance from someone who the district has verified to be fully proficient in the student's home language to assist with activities and interpret responses, and (3) observe physical skills first and language-based skills later in October.

> ***Challenge*: Teachers reported they did not have the training and resources needed to ensure accurate KEA results for students with disabilities.**
>
> ***Potential solution:* Teachers suggested that trainers provide more direction on the use of tools to determine appropriate accommodations (e.g., decision trees and guidelines), more explicit instruction on administration practices with students with disabilities, and real-time support of KEA in-class administration from experts in special education.**

Despite the availability of decision trees in Oregon, guidelines in Maryland, and written instructions in Pennsylvania to support administration practices, district and school respondents across states were often unaware of their availability or unsure about whether and how they could provide certain accommodations to students in these special populations. Maryland teachers reported challenges with following the decision process to identify appropriate "level the field" supports, and uncertainty about whether or not using the allowable supports resulted in accurate assessment of students with disabilities. The case study teachers reported a desire for more support, including explicit instruction during KEA trainings about administering KEAs with students with disabilities, clear guidelines about allowable and appropriate accommodations by each disability category and student need, and additional on-site administration support from special education teachers.

Supporting Use of Data

> ***Challenge*: Establishing cut-off scores during the first year of KEA implementation caused delays in releasing data findings for that initial year.**
>
> ***Potential solution:* State officials realized the importance of clearly communicating realistic expectations about data availability to district officials and teachers during the initial KEA rollout.**

In some cases, state officials did not make KEA data reports available to districts and teachers at the time of the case study visit in spring 2015, because they were still establishing cut-off scores to determine "readiness." As discussed in Chapter 6, KEA Data Use, interviewed teachers from Maryland and Pennsylvania had not received KEA results by spring 2015 (except for those teachers in Pennsylvania who personally accessed online class- and student-level data). Maryland state officials reported a commitment to providing more timely data reports to teachers in future KRA administrations. An official in Pennsylvania reported that widespread and public sharing of the 2014–15 KEA data was never intended, but that administrators in districts and schools who requested data reports received them, and data reporting would be a high priority in the future. Without timely access to the data, however, several teachers across the case studies states questioned the utility of the KEA data beyond the purpose of a state snapshot. As a Pennsylvania urban district administrator explained,

> *State policymakers don't see how much the data are needed in real time. KEI data are stale in two to three weeks; they're not usable at all after that.*

Therefore, greater communication about the expected delays in the first year and planned schedules for releasing data findings in subsequent years may help avoid teacher disappointment during a critical period for building teacher buy-in for KEAs.

***Challenge*: Despite the availability of KEA data reports, state officials, district administrators, and teachers reported not using the data to inform their practices, policies, or programs. Respondents reported that the data were not available in a user-friendly, easily interpretable format, and teachers received no guidance regarding use of data to inform instruction or program improvement.**

***Potential solution:* State officials and trainers suggested that teachers and principals may benefit from explicit training on how to use KEA data to inform instruction. Additionally, KEA data reports must be user friendly, with the findings closely tied to concrete actions such as specific instructional strategies.**

As of spring 2015, KEA state leadership teams of Maryland, Oregon, and Pennsylvania had not analyzed the KEA data for lessons about the effectiveness of their early learning investments, gaps in school readiness skills for students overall and by subgroup characteristics, identification of professional development needs, and other areas to target for program and policy improvements. At the district level, administrators who did have access to KEA data reports in Oregon, Pennsylvania, and Washington often reported that the format of the reports made them difficult to use, and that the district and schools lacked staff to analyze the raw data to produce useful findings. Similarly, despite some data findings being available online to teachers in two states (Pennsylvania and Washington), the majority of teachers interviewed did not know how to access these data or reported that the data were available too late in the school year to be of use in instructional planning.

To encourage kindergarten teachers to use KEA data to inform instructional practices, one state administrator in Washington suggested that state and district officials may need to provide focused training on how KEA results are related to specific actions teachers can take during instruction. The state administrator also reported that discussions about results at the regional level would not be sufficient to produce changes in teacher behavior; administrators would need to provide educators with customized, local results that could identify specific areas for improvement.

Respondents across the states emphasized a desire for training and coaching that intentionally focuses on the use of KEA data to develop curricular action plans and provides tools and example instructional activities in response to certain KEA findings. In addition, state and district respondents suggested that data would be useful in user-friendly formats that enabled teachers to comprehend, interpret, and use the data to inform curriculum and instruction and in a timely manner.

Using KEAs to Engage Parents in Supporting Children's School Readiness

***Challenge*: Although state officials in all four case study states specified that sharing KEA results with parents to engage them in their children's learning was a major objective, the majority of interviewed local administrators and teachers had not shared results with them.**

***Potential solution*: District administrators and teachers reported that they needed explicit training to increase their awareness of available KEA data reports and materials that could be useful to support family engagement and learning at home.**

Family engagement is an explicit goal of the KEA for all the case study states, yet in the majority of case study districts, teachers rarely shared KEA information or results with parents. In fact, in three of the case study states (Maryland, Oregon, and Pennsylvania), respondents reported having only minimal early discussions with parents to introduce and describe the KEAs. Washington's WaKIDS was the only KEA in the case study to include a Family Connection component, which involved teachers meeting with parents early in the school year to discuss children's strengths and needs and ways to support learning at home and at school. All interviewed teachers in Washington reported appreciating the opportunity to learn from parents about their students' interests, strengths, and needs and communicate with parents about ways to support learning at home.

Across the 12 case study districts, only one (in Washington) reported sharing KEA results with parents (in the form of the students' fall report cards). Even though parents in Washington provided information to teachers as part of the Family Connection component of WaKIDS, teachers did not share the results of *GOLD*® with parents in two of the three selected districts.

The reasons teachers across all the case study the districts reported for not sharing the results with parents were (1) that teachers received the KEA results too late in the year for them to be relevant, (2) the timing did not align with teacher-parent conferences, (3) teachers did not think parents would be interested in KEA results or find them useful, and (4) district officials and teachers were concerned about parents' perceptions of assessments of young children. For example, an interviewed respondent from one district noted that there was an "anti-testing" backlash that they tried to avoid provoking, so they were reluctant to release KEA results to parents.

District officials suggested that teachers need training and templates to support the sharing of KEA results with parents, guardians, or other family members if permissible under applicable privacy laws. Several teachers in states with systems that offered real-time reporting capabilities reported that they were unaware of these reports, which could have been shared with parents at parent conferences.

Informing Efforts to Further Strengthen Early Childhood Programs and Policies

> ***Challenge*: Despite the documented goal of sharing KEA results and their implications for program improvements with preschool programs, state and local administrators and practitioners had not yet made significant connections with preschool programs concerning the use of KEA results.**
>
> ***Potential solution*: State and district officials suggested that preschool practitioners should be engaged at the beginning of the KEA planning and implementation process, and that KEA data reports must be comprehensible and useful to the preschool community for widespread use.**

The majority of respondents in the case study districts and schools reported not having connected with local preschool program directors or practitioners about KEA results. Several district and school respondents reported being unsure of how to engage their local preschools, and that they faced numerous challenges when trying to collaborate with preschool providers on KEAs. The majority of preschool directors interviewed, especially those from private programs, reported receiving little or no information about the KEAs, and they were interested in learning how their state's KEA could inform professional development and linkages with the K–3 community.

A few state respondents interviewed in Washington and Pennsylvania reported that they had missed a valuable opportunity to engage the preschool community deeply in early discussions about implementation of the KEAs and their potential benefits. They recognized that preschool providers are familiar with state early learning standards and observational assessment procedures, and they could have supported kindergarten teachers in administration practices and interpretation of KEA data.

In 2013–14, the Bill & Melinda Gates Foundation awarded nine school districts in Washington with one-time funding to pilot innovative WaKIDS implementation strategies and share lessons learned across the educational community, including with preschool providers. Reports released in spring 2015 by the Office of Superintendent of Public Instruction and participating districts suggested that the following strategies enhanced connections with early learning partners: (1) kindergarten teachers visited early learning programs in neighboring communities to observe preschool classroom instruction, share successful instructional approaches, and invite preschool teachers to kindergarten transition nights hosted by the school; (2) kindergarten-preschool teacher teams reviewed *GOLD*® data together and discussed what they learned about the entering kindergarten students' characteristics; and (3) the district offered preschool teachers free shared professional development with kindergarten teachers conducted by a local community-based agency that had established credibility and the trust of the local early educator community (State of Washington Office of Superintendent of Public Instruction n.d.). District reports documented that the strategies helped kindergarten and preschool teachers build relationships, develop mutual respect, and better understand the complexities of early learning and child development. As stated in the report on one district participating in the implementation study, "the joint venture between early learning and kindergarten teachers helped to develop a method of sharing data, information, and strategies that assisted families and students become better prepared for the rigors of kindergarten."[47]

[47] Individual district report available at http://www.k12.wa.us/WaKIDS/Materials/pubdocs/RochesterSDEarlyLearningCollabReport2-27-15.pdf

8. Conclusions

It takes time to build large-scale assessment systems such as KEAs that produce the information in formats that support state officials' multiple goals. At a relatively early stage in their KEA implementation, state officials, district administrators, and local educators in the four case study states had already accomplished a great deal, including engagement with a broad range of stakeholders in their selection or development of a KEA measure; refinement of KEA measures and processes based on pilot tests; implementation of training systems that enabled teachers to gather KEA data on thousands of children; development of secure online data entry systems; and preparation of reports, in some states, for sharing with districts and teachers.

Having established tools, infrastructures, and processes for gathering KEA data, interviewed state officials reported that they next planned to focus on using KEA results to inform improvements and investments in preschool instruction and on training teachers to use results to inform instruction. Further, state officials planned to address several challenges that teachers encountered with KEA administration with EL students and students with disabilities and that hindered the use of KEA results for their many intended purposes. Finally, the lessons learned by these state officials, district administrators, and teachers in the case study sites suggest broader recommendations for practice and research to be considered by those interested in using KEAs to improve learning and outcomes for young children.

Accomplishments and Challenges

In all the case study states, KEA leadership teams developed decision-making and implementation infrastructures that enabled them to gather KEA data on kindergarten children statewide or on children in particular types of kindergarten programs and to generate public and/or restricted reports of KEA results. The state leadership teams engaged a broad range of stakeholders (e.g., researchers, local administrators and elementary and preschool educators, early learning advocates, and community representatives) to guide the development or selection and ongoing refinement of their KEAs. The KEA leadership teams also established well-documented assessment processes, tools, training materials, and secure web-based data systems to collect data on their kindergarten students. The state leadership teams developed trainings for teachers on KEA implementation that addressed various topics focused mostly on administration procedures and data submission guidelines. As a result, the majority of teachers interviewed felt prepared to gather and enter data on most of their kindergarten students. The public could access state- and district-level KEA reports and data tables on public websites in three of the case study states (Maryland, Oregon, and Washington), and authorized district staff and teachers could access online school, classroom, and student-level reports in two of the states (Pennsylvania and Washington).

In addition, the state KEA leadership teams identified from experience and stakeholder feedback how they could strengthen their KEA implementation. For example, they identified the need to clarify their messages about the purposes of KEAs with teachers (i.e., to inform instruction and engage parents, as well as inform decisions about early learning investments and programs), and to build understanding of how assessments can be developmentally appropriate and integrated with, rather than considered an activity separate from, learning opportunities. State KEA leadership teams and district officials responded to teachers' concerns about the amount of time required to implement KEA assessments and planned to change assessment requirements, provide teacher aides to supervise classrooms during KEA administration, and provide technology tools to assist with data entry. Teachers reported a need for more training on and clarification of administration processes to support appropriate and accurate

implementation of KEAs for EL students and students with disabilities. Teachers also reported they would like support from special education experts and bilingual assessors at their schools.

While launching these multifaceted KEA systems, KEA leadership teams tended to focus their efforts more on addressing core administration issues (e.g., teacher training, data collection, and data entry systems) and less on developing reports and supporting the use of data. Accordingly, interviewed district and school staff reported that KEA implementation went fairly smoothly, but that several obstacles hindered their use of KEA results, including lack of access to, awareness of, or difficulty interpreting available data. Without experiencing the value of the KEA results, the majority of interviewed teachers questioned whether the KEAs delivered on the intended purpose of supporting instruction, and teachers continued to use other assessments to guide their instruction.

Recommendations for Policymakers and Administrators

Interviewed state officials, district administrators, and teachers in the four case study states and 12 districts shared several important lessons they learned from launching a statewide KEA. Researchers analyzed themes that emerged across the sites and developed the following recommendations for states and districts to consider as they work towards a statewide KEA:

- To develop a statewide KEA system, be prepared for a multi-year process and iterative roll-out, including pilot testing and gathering feedback from a wide range of stakeholders (including groups expected to use the data such as representatives from districts, schools, preschools, and parents, as well as individuals with expertise in psychometrics, students with disabilities, and EL students) on KEA selection and later on implementation and reporting.
- To increase buy-in for using KEA results, be clear about how the KEA will and will not be used by early childhood programs, kindergarten teachers, school administrators, and parents, and build structures (e.g., dedicated time for intended users to review findings), training, and reports associated with the intended uses.
- To increase the utility and accuracy of KEA data for all students and to meet federal requirements for assessing students with disabilities participating in state and districtwide assessments,[48] place a high priority on selecting KEA tools that have an adequate developmental range to capture skills of all students and that have been shown to be valid and reliable for EL students and students with disabilities.
- To reduce burden of data collection and entry on teachers, eliminate other kindergarten assessments that inventory the same skills and serve the same purpose of the KEA, and provide assistance with data entry by employing additional staff and technology tools.
- To adequately prepare teachers to administer KEAs with EL students and students with disabilities, provide teachers with explicit training, coaching, and guidance on the administration of KEAs with these populations including appropriate accommodations consistent with federal regulations,[49] as well as access to bilingual assessors and special education experts.
- To support use of KEA results to inform instruction, develop user-friendly and timely reports closely tied to instructional decisions.

[48] *Individuals with Disabilities Education Act* (IDEA; 34 CFR §300.16).
[49] Ibid.

- To support the use of KEA results with parents, develop timely reports that teachers can share with parents that describe children's strengths and identify particular skills that parents and other family members can support at home.
- To support the use of KEA results in preschool programs, include preschool practitioners in the development of KEA reports that identify instructional areas in which early learning programs could help children be better prepared for kindergarten; reports should also provide data that can inform state and district investments to increase access and the quality of early learning programs, such as identifying geographic areas where students who demonstrate gaps in preparedness reside.
- Provide training and coaching to teachers, district and school administrators, and preschool directors with information on the use of relevant KEA reports, and make sure they are aware of and able to access reports.

Recommendations for Future Research

Statewide KEAs are a new and rapidly developing practice, and the availability of assessment tools for young children is growing. Additional knowledge among state officials, district administrators, and teachers from implementation, pilot tests, and field experiences will continue to accrue in the next few years. Therefore, more research on the implementation and uses of KEAs as they evolve and mature may help the field identify potentially valuable practices and solutions to common challenges. For example, researchers could conduct studies to address the following:

- the alignment of the stated purposes for implementing a KEA with the supports available to promote them and the actual use of KEA data for those purposes;
- the extent that KEA tools and administration processes accurately assess the school readiness skills of EL students and students with disabilities;
- the reliability and fidelity of KEA teacher observations and strategies associated with higher reliability (e.g., suggested authentic small-group or individual-student activities that may elicit demonstration of specific skills, recommended schedules for assessing specific skills, and closer in-class monitoring and coaching);
- the extent that customized versions of the commercially available tools meet psychometric indicators of quality;
- the ability of KEAs to predict later academic achievement;
- the relationship between the quality of preschool programs as measured by state quality rating and improvement systems (QRIS) and KEA results;
- the extent and ways results are shared with parents and guidance on effective strategies for sharing results with parents to increase engagement and children's learning at home;
- the status of teacher beliefs, attitudes, and expectations regarding sharing data with families and their implications for family engagement in children's learning and development;
- the extent and ways KEA results influence instruction in preschool and kindergarten classrooms and guidance on effective strategies (e.g., types of reports and training) associated with teachers' higher levels of data use;
- the utility, validity, and feasibility of using repeated administrations of KEA tools to assess student growth throughout the school year;

- the extent that KEA results influence public support for and investment in expanding high-quality preschool programs and quality kindergarten; and
- the extent and ways in which KEA results increase connections, alignment, and improvements between early learning programs and the K–12 system.

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Appendix A: Study Design and Methodology

Study Design and Methodology

Sampling Design

Data collection occurred in four states implementing KEAs and in 12 districts and 23 schools in those states. This sample size enabled the study team to explore the range of strategies that states, districts, and schools were using to implement KEAs.

Selecting States for the Study

In consultation with the Departments, the study team used the following criteria to identify states for inclusion in the study that would be relevant to federal and state policymakers:

1. The state's KEA is comprehensive and covers all or most of the five essential domains of school readiness as defined in the RTT-ELC program: (a) language and literacy development; (b) cognition and general knowledge, including early mathematics and early scientific development; (c) approaches toward learning; (d) physical well-being and motor development, including adaptive skills; and (e) social and emotional development.
2. The state KEA leadership team was implementing its KEA at the beginning of kindergarten and not at the exit of preschool.
3. The state KEA leadership team was planning full implementation of its KEA by fall 2014.

In addition to meeting these fundamental criteria, the Departments further recommended that at least one of the selected states represent each of the following:

4. a Race To the Top-Early Learning Challenge (RTT-ELC) grantee state;
5. a non–RTT-ELC grantee state;
6. an Enhanced Assessment Grant (EAG) state;
7. a user of a commercially available KEA assessment tool; and
8. a user of a KEA assessment tool developed by the state KEA leadership team and/or associates.

Maryland, Oregon, Pennsylvania, and Washington met all the fundamental criteria. (The study team also considered Illinois and Ohio as additional states that met the fundamental criteria.) None of the states that met the fundamental criteria was a non–RTT-ELC state. Although all four case study states were RTT-ELC grantees, they were from different RTT-ELC cohorts: Maryland and Washington were Phase 1 grantees, Oregon was a Phase 2 grantee, and Pennsylvania was a Phase 3 grantee. Two of the states were part of an EAG consortium: Maryland had an EAG with a consortium of seven states. Oregon was part of a nine-state consortium with North Carolina, but the Oregon state KEA leadership team implemented a KEA developed independently of the consortium in 2014. Finally, KEA leadership teams in Oregon and Washington used commercially available assessment tools, whereas KEA leadership teams and associates in Maryland and Pennsylvania developed their own assessment tools. The variation among the selected states on the many key KEA design elements enabled the study team to learn about a wide array of strategies and implementation experiences.[50]

[50] For full disclosure, note that Oregon is part of the North Carolina Kindergarten Entry Assessment-Enhanced Assessment Grant (KEA-EAG) consortium. SRI International, the principal researcher for this Task Order, is helping North Carolina and its nine partner states enhance their KEA as part of the KEA-EAG project. Oregon

Selecting Districts and Schools Within the Four Case Study States

After the study team secured permission from each state education agency to conduct the study, researchers selected three districts in each selected state and two schools within each of those districts.[51] The sample was limited to public school districts with noncharter, regular schools[52] that had kindergarten enrollment.

At the district level within each state, the study team drew a purposive sample of three school districts stratified by urbanicity characteristics: urban, suburban, and rural. The Oregon case study included two rural districts and no suburban district. The two invited suburban districts declined to participate, but a second rural district expressed interest in participating.

At the school level, the study team drew a sample of schools with both high concentrations of poverty (i.e., schools with more than 75 percent free or reduced-price lunch program enrollment) and significant concentrations of EL students (i.e., schools with more than 30 percent EL enrollment), as well as schools with lower concentrations of poverty and EL students (see **Exhibit A-1**). Participating preschool programs served four-year-old children at or near the selected schools. Through this stratification method, the study team attempted to identify districts and schools that served students with diverse characteristics that would be of interest to the Departments, but findings from the selected sites are not representative of or generalizable to all districts and schools within or beyond the case study states.

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has been implementing an independent KEA for the past two years, however, so the activities reported here are those of its independent KEA. To avoid a conflict of interest, this document does not report on the KEA the North Carolina KEA-EAG partners developed.

[51] One rural district in Pennsylvania had only one school that implemented the KEA in 2014, so only that school could be selected.

[52] A "regular school" refers to "a public elementary/secondary school providing instruction and education services that does not focus primarily on special education, vocational/technical education, or alternative education, or on any of the particular themes associated with magnet/special program emphasis schools." (http://nces.ed.gov/ccd/commonfiles/glossary.asp)

Exhibit A-1. Number of Participating Schools by EL and Poverty Stratifications

	High poverty enrollment (above 75%)	Significant EL enrollment (above 30%) and high poverty	Neither high poverty nor significant EL enrollment	Total
Maryland	2	2	2	6
Oregon	2	2	2	6
Pennsylvania	1	2	2	5
Washington	2	2	2	6
Total	**7**	**8**	**8**	**23**

During the recruitment process, officials at 10 districts declined to participate. (In one state, officials at eight districts declined because the timing of recruitment in that state required that site visits take place in May, a time in the school year when schedules were already full.) Once the participating districts were identified, all schools invited to participate agreed to do so.

Data Collection

To learn more about KEA implementation in the four states participating in the case studies, the study team engaged in two data collection activities: (1) a review of documents (e.g., planning guides, state or local reports, technical or training manuals) from the four selected states and (2) interviews with staff at the state, district, and school levels.

Review of Documents From Four Selected States

The study team gathered state and local documents from representatives and key respondents from the four participating states and from federal, state, and district websites. The study team captured essential information from each of the documents using a document review protocol. The study team used the document review protocol to record the types of materials collected, the intended audiences (e.g., parents, teachers, school administrators, general public), the sources (e.g., website, training, district representative), and the contents of the documents. Documents reviewed included

- relevant KEA legislation, regulation, policies, and guidance documents produced by state agencies;
- KEA design and specification documents, technical manuals, and reports produced by State Advisory Councils, contractors, or university researchers working on KEA planning and implementation;
- state and local outreach and communication plans; and
- training and administration materials.

The study team organized the contents of the reviewed documents in a document review protocol according to the following topics: (1) information about the KEA assessment tool (e.g., the purpose of KEA, the selection process, domains of assessment, availability of the tool in multiple languages, accommodations allowed for students with disabilities), (2) information about administration of the KEA (e.g., assessment timeline and frequency, administration methods, numbers and percentages of various types of staff who participated in professional development for the KEA, information and training support provided to parents, teachers, and school administrators), and (3) use of KEA results (e.g.,

recipients of KEA results, data storage and tracking procedures, information provided to parents, teachers, and school administrators).

Interviews

To learn about KEA implementation from various perspectives, study team members interviewed

- state respondents (e.g., RTT-ELC coordinators; state superintendents; individuals responsible for state assessments, professional development, and state data systems; individuals from the state department of health and human services; and nongovernmental researchers, advocates, and foundation representatives who were involved in the selection of the KEA);
- district respondents (e.g., directors of early learning, directors of assessment, and superintendents);
- professional development coordinators or providers;
- school respondents (e.g., principals, kindergarten teachers, and other KEA assessors); and
- preschool program directors from programs located near the case study elementary schools.

The study team conducted interviews between January 12 and June 19, 2015. Interviews lasted 20–60 minutes for each respondent, depending on the respondent's role, and the study team audio-recorded interviews with consent from the participant. The study team developed a semistructured interview protocol for each type of respondent, piloted all interview protocols with fewer than 10 people, and revised the protocols on the basis of this testing. Two researchers typically conducted each interview. **Exhibit A-2** displays the number of interviews completed by respondent type for each state.

Exhibit A-2. Number of Interviews by Respondent Roles

	State	District	PD Coordi-nator	Principal*	Kinder-garten Teacher	KEA Assessor (Other than Teacher)	Preschool Director	Total
Maryland	8	9	5	5	14	0	12	**53**
Oregon	7	8	3	5	14	3	9	**49**
Washington	10	9	3	6	12	1	12	**53**
Pennsylvania	8	9	2	5	13	1	8	**46**
Total	**33**	**35**	**13**	**21**	**53**	**5**	**41**	**201**

Note: A total of 201 interviews were completed with 195 respondents. Six district respondents also held the role of professional development (PD) provider or preschool director and participated in a separate interview for each of their roles. Two selected state respondents and one selected principal declined to participate. District staff and other respondents assisted with selection and recruitment of some preschool directors, so the number of preschool directors who declined participation is unknown.

***** Count includes one vice principal who was interviewed in place of a principal who was unavailable for an interview.

Phone interviews. Phone interviews were conducted with state respondents, district professional development providers, and directors from preschool programs linked with case study schools. In a few cases, the study team interviewed in person professional development providers who were on-site at visited districts or schools. Interviewers used a customized interview protocol for each of the respondent types: state interview protocol, preschool director protocol, and professional development provider protocol. All protocols included both structured and semistructured questions.

Researchers worked with the state's RTT-ELC main grant contact to identify seven state respondents who were most knowledgeable about KEA decision-making, implementation, and use of data. The study team interviewed at least seven state respondents in each state.

To learn about the supports that educators and other KEA assessors received to administer KEAs and use the data to inform classroom practice, the study team conducted a phone interview with one professional development provider in each district who delivered training.

Phone interviews were also conducted with two to four directors from preschool programs located at or near the case study schools in each district. To identify preschool programs, the study team asked the district early childhood director, the principals of the case study schools, and the regional Head Start director for the names of preschool programs that served children attending the case study schools. To capture the experiences of a variety of preschool programs, the interviews included preschool program directors from Head Start programs, district-funded prekindergarten programs, and private preschools, when possible.

On-site interviews. Two study team members visited each district over a two-day site visit to interview district and school respondents. Before these meetings, lead district case study researchers contacted the district superintendent to request nominations for three key respondents and two alternates (e.g., the superintendent or assistant superintendent of instruction, early learning director, assessment director or person responsible for overseeing the collection of KEA data) to participate in district interviews. District case study researchers also worked with district staff to arrange for in-person interviews with principals, kindergarten teachers, and other staff who help administer the KEA in their schools. Researchers conducted the district- and school-level interviews using the customized interview protocols for respective roles, as appropriate.

Analysis

Ongoing Analyses

The study team conducted ongoing qualitative analyses of the case study data — beginning before each site visit, continuing on site, and proceeding through the drafting of internal case study reports and cross-site analysis. Analysis began before researchers conducted their first interviews, when the site visitors reviewed relevant documents. During visits, they discussed and debriefed with each other about what they were learning in their interviews. Researchers documented their findings in debrief guides after completing their site visits and participated in multiple cross-case analysis meetings to refine the study's overall conclusions; those processes are described below.

Debrief Guides

The study team used the same debrief guides to summarize data across multiple interviews in a given setting (e.g., state, district) to capture important contextual information and to generate some initial interpretations of the data. The debrief guides mapped to all the study questions and subtopics

addressed in the interview protocols. The study team used two separate debrief guides: one to summarize state interviews and one to summarize interviews in a district and its schools. The debrief guides provided the interviewers with a consistent and structured format to document qualitative findings supported by illustrative quotations or citations from documents. Each state and district study team completed a debrief guide as soon as possible (within a few days) after completing phone interviews and district and school site visits.

Cross-Case Analysis Meetings

Each state case study leader prepared a draft state summary outline using the state and district debrief guides to document state perspectives and similarities and differences across the districts. All study team members who collected data within a state then participated in cross-case analysis meetings. At each meeting, the researchers reviewed the draft summary outline, discussed the accuracy of general conclusions, identified any potentially important findings that the initial state summary did not yet capture, and weighed the available evidence from each district to support findings. The purpose of the analysis meetings was to provide the study team with the opportunity to compare, contrast, and synthesize findings from the district-level cases regarding evaluation questions.

Final Cross-Site Report

The state case study leader refined the draft state summary outline on the basis of feedback received at the cross-case analysis meeting and from the principal investigator's review of the debrief guides and findings. The case study leader worked with the case study team to refine the general conclusions and to examine the level of evidence for each finding. The case study teams eliminated findings with less evidence or collapsed them with other relevant findings and produced a state-level summary for each of the research questions. The state-level summaries were the basis for the identification of cross-site themes and unique state examples. The study team shared excerpts of the state snapshots (Chapter 2) with officials of each participating state in May–June 2016, who reviewed these portions of the draft report for accuracy and provided clarification as needed.

Appendix B: Student Characteristics

Maryland

The following exhibits present data on student characteristics statewide (**Exhibit B-1**), for each of the three Maryland case study districts (**Exhibit B-2**), and for each of the schools selected per district (**Exhibit B-3**). Exhibits B-2 and B-3 present data in ranges to ensure confidentiality of the case study participants.

Exhibit B-1. 2014–15 State Enrollment Characteristics — Maryland

Characteristic	
(K) Enrollment (#)	67,548
Total Elementary School Enrollment (#)	866,169
Race/Ethnicity (%)	
White	41
Black	35
Hispanic	14
Asian	6
Pacific Islander	0
American Indian/Alaska Native	<1
Two or more races	4
Free or Reduced-Price Meals (%)	51
English Learners (%)	11
Students with Disabilities (%)	11

Exhibit B-2. 2014–15 District Enrollment Characteristics of Study Sample Sites — Maryland

Characteristic	District 1: Urban	District 2: Suburban	District 3: Rural
(K) Enrollment (#)	7,304	6,308	398
Total District Enrollment (#)	>10,000	>10,000	2,500–10,000
Race/Ethnicity (%)			
White	0–<25	50–<75	50–<75
Black	75–100	0–<25	0–<25
Hispanic	0–<25	0–<25	0–<25
Asian	0–<25	0–<25	0–<25
Pacific Islander	0–<25	0–<25	0–<25
American Indian/Alaska Native	0–<25	0–<25	0–<25
Two or more races	0–<25	0–<25	0–<25
Free or Reduced-Price Meals (%)	75–100	25–<50	50–<75
English Learners (%)	0–<5	0–<5	0–<5
Students with Disabilities (%)	5–<20	5–<20	5–<20

Exhibit B-3. 2014–15 School Enrollment Characteristics of Study Sample Sites — Maryland

Characteristic	District 1 Urban School 1	District 1 Urban School 2	District 2 Suburban School 1	District 2 Suburban School 2	District 3 Rural School 1	District 3 Rural School 2
K Enrollment (#)	50–<100	100–<150	100–<150	100–<150	50–<100	50–<100
Total School Enrollment (#)	201–400	600+	600+	600+	600+	401–600
Race/Ethnicity (%)						
White	0–<25	25–<50	0–<25	25–<50	50–<75	50–<75
Black	75–100	25–<50	0–<25	25–<50	0–<25	25–<50
Hispanic	0–<25	0–<25	25–<50	25–<50	0–<25	0–<25
Asian	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Pacific Islander	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
American Indian/Alaska Native	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Two or more races	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Free or Reduced-Price Meals (%)	75–100	0–<25	50–<75	50–<75	50–<75	75–100
English Learners (%)	0–<5	0–<5	>30	5–30	0–<5	5–30
Students with Disabilities (%)	5–<20	5–<20	5–<20	5–<20	5–<20	5–<20

Sources: Individual district and school webpages are not reported to ensure case study participants' confidentiality. (1) Race/ethnicity data and state-level free or reduced-price meals: http://www.mdreportcard.org (2) All other data: http://reportcard.msde.maryland.gov/downloadindex.aspx?K=99AAAA

Oregon

The exhibits that follow present data on statewide student characteristics (**Exhibit B-4**), district level demographics for the Oregon case study districts (**Exhibit B-5**), and data on school enrollment characteristics of case study sites (**Exhibit B-6**). Exhibits B-5 and B-6 present data in ranges to ensure confidentiality of the case study participants.

Exhibit B-4. 2014–15 State Enrollment Characteristics — Oregon

Characteristic	
(K) Enrollment (#)	41,645
Total Elementary School Enrollment (#)	570,857
Race/Ethnicity (%)	
White	64
Black	2
Hispanic	22
Asian	4
Pacific Islander	1
American Indian/Alaska Native	2
Two or more races	5
Free or Reduced-Price Meals (%)	51
English Learners (%)	10
Students with Disabilities (%)	13

Exhibit B-5. 2014–15 District Enrollment Characteristics of Study Sample Sites — Oregon

Characteristic	District 1: Urban	District 2: Rural	District 3: Rural
(K) Enrollment (#)	4,000–4,500	1–<500	1–<500
Total District Enrollment (#)	>10,000	2,500–10,000	2,500–10,000
Race/Ethnicity (%)			
White	50–<75	75-100	50–<75
Black	0–<25	0–<25	0–<25
Hispanic	0–<25	0–<25	25–<50
Asian	0–<25	0–<25	0–<25
Pacific Islander	0–<25	0–<25	0–<25
American Indian/Alaska Native	0–<25	0–<25	0–<25
Two or more races	0–<25	0–<25	0–<25
Free or Reduced-Price Meals (%)	25–<50	50–<75	25–<50
English Learners (%)	5–30	0–<5	5–30
Students with Disabilities (%)	5–<20	5–<20	5–<20

Exhibit B-6. 2014–15 School Enrollment Characteristics of Study Sample Sites — Oregon

Characteristic	District 1 Urban School 1	District 1 Urban School 2	District 2 Rural School 1	District 2 Rural School 2	District 3 Rural School 1	District 3 Rural School 2
(K) Enrollment (#)	50–<100	100–<150	50–<100	50–<100	50–<100	1–<50
Total School Enrollment (#)	401–600	>600	201–400	201–400	401–600	401–600
Race/Ethnicity (%)						
White	0–<25	50–<75	75–100	50–<75	50–<75	50–<75
Black	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Hispanic	25–<50	0–<25	0–<25	0–<25	0–<25	25–<50
Asian	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Pacific Islander	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
American Indian/Alaska Native	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Two or more races	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Free or Reduced-Price Meals (%)	75–100	75–100	50–<75	75–100	25–<50	50–<75
English Learners (%)	>30	>30	0–<5	5–30	5–30	5–30
Students with Disabilities (%)	5–<20	5–<20	5–<20	>20	5–<20	5–<20

Sources: Individual district and school webpages are not reported to ensure case study participants' confidentiality. (1) Enrollment and race/ethnicity (state, district, school): http://www.ode.state.or.us/search/page/?=3225 (2) English learners (state): http://www.ode.state.or.us/data/annreportcard/rptcard2014.pdf (page 5). (3) Free or reduced-price meals: http://www.ode.state.or.us/sfda/reports/r0061Select2.asp (4) English learners and students receiving special education (reported as students with disabilities in K-3 (district and school). http://www.ode.state.or.us/data/reportcard/reports.aspx (5) Students receiving special education (state) (Reported as students with disabilities): http://www.ode.state.or.us/data/annreportcard/rptcard2015.pdf

Pennsylvania

The following exhibits present data on student characteristics statewide (**Exhibit B-7**), for each of the three Pennsylvania case study districts (**Exhibit B-8**), and for each of the schools selected per district (**Exhibit B-9**). Exhibits B-8 and B-9 present data in ranges to ensure confidentiality of the case study participants.

Exhibit B-7. 2014–15 State Enrollment Characteristics — Pennsylvania

Characteristic	
(K) Enrollment (#)	126,784
Total Elementary Student Enrollment (#)	1,739,559
Race/Ethnicity (%)	
White	68
Black	15
Hispanic	10
Asian	4
Pacific Islander	<1
American Indian/Alaska Native	<1
Two or more races	3
Free or Reduced-Price Meals (%)	48
English Learners (%)	11
Students with Disabilities (%)	16

Exhibit B-8. 2014–15 District Enrollment Characteristics of Study Sample Sites — Pennsylvania

Characteristic	District 1: Urban	District 2: Suburban	District 3: Rural
K Enrollment (#)	10,000–15,000	1–<500	1–<500
Total District Enrollment (#)	>10,000	2,500-10,000	<2,500
Race/Ethnicity (%)			
White	0–<25	75–100	75–100
Black	50–<75	0–<25	0–<25
Hispanic	0–<25	0–<25	0–<25
Asian	0–<25	0–<25	0–<25
Pacific Islander	0–<25	0–<25	0–<25
American Indian/Alaska Native	0–<25	0–<25	0–<25
Two or more races	0–<25	0–<25	0–<25
Free or Reduced-Price Meals (%)	75–100	25–<50	25–<50
English Learners (%)	5–<30	0–<5	0–<5
Students with Disabilities (%)	5–<20	>20	>20

Exhibit B-9. 2014–15 School Enrollment Characteristics of Study Sample Sites — Pennsylvania

Characteristic	District 1 Urban School 1	District 1 Urban School 2	District 2 Suburban School 1	District 2 Suburban School 2	District 3 Rural School 1
K Enrollment (#)	50–<100	50–<100	50–<100	50–<100	50–<100
Total School Enrollment (#)	>600	401–600	401–600	401–600	401–600
Race/Ethnicity (%)					
White	0–<25	0–<25	75-100	75-100	75-100
Black	0–<25	0–<25	0–<25	0–<25	0–<25
Hispanic	25–<50	25–<50	0–<25	0–<25	0–<25
Pacific Islander	0–<25	0–<25	0–<25	0–<25	0–<25
American Indian/Alaska Native	0–<25	0–<25	0–<25	0–<25	0–<25
Asian	25–<50	25–<50	0–<25	0–<25	0–<25
Two or more races	0–<25	0–<25	0–<25	0–<25	0–<25
Free or Reduced-Price Meals (%)	75–100	75–100	25–50	25–50	25–50
English Learners (%)	5–<30	5–<30	0–<5	0–<5	0–<5
Students with Disabilities (%)	5–<20	5–<20	5–<20	>20	5–<20

*Not available.

Sources: Individual district and school webpages are not reported to ensure case study participants' confidentiality. (1) Enrollment, race/ethnicity (state, district school): http://www.education.pa.gov/Data-and-Statistics/Pages/Enrollment%20Reports%20and%20Projections.aspx#.V3GZmTWuNLp (2) Free or reduced-price meals (state and district): http://datacenter.kidscount.org/data/Map/2720-school-lunch--students-eligible-for-free-or-reduced-price-lunch?loc=40&loct=2#2/any/true/1460/any/10325/Orange/ (3) Free or reduced-price meals (school): National Center for Education Statistics Common Core of Data: http://nces.ed.gov/ccd/schoolsearch/ (4) English learners and special education: www.paschoolperformance.org/

Washington

The following exhibits present data on student characteristics statewide (**Exhibit B-10**), for each of the three Washington case study districts (**Exhibit B-11**), and for each of the two schools selected per district (**Exhibit B-12**). Exhibits B-11 and B-12 present data in ranges to ensure confidentiality of the case study participants.

Exhibit B-10. 2014–15 State Enrollment Characteristics — Washington

Characteristic	
(K) Enrollment (#)	81,206
Total Elementary School Enrollment (#)	1,074,057
Race/Ethnicity (%)	
White	57
Black	4
Hispanic	22
Asian	7
Pacific Islander	1
American Indian/Alaska Native	1
Two or more races	7
Free or Reduced-Price Meals (%)	46
English Learners (%)	10
Students with Disabilities (%)	13

Exhibit B-11. 2014–15 District Enrollment Characteristics of Study Sample Sites — Washington

Characteristic	District 1: Urban	District 2: Suburban	District 3: Rural
(K) Enrollment (#)	2,000–2,500	1,500–2,000	1–500
Total District Enrollment (#)	>10,000	>10,000	2,500–10,000
Race/Ethnicity (%)			
White	25–<50	25–<50	50–<75
Black	0–<25	0–<25	0–<25
Hispanic	0–<25	25–<50	25–<50
Asian	0–<25	0–<25	0–<25
Pacific Islander	0–<25	0–<25	0–<25
American Indian/Alaska Native	0–<25	0–<25	0–<25
Two or more races	0–<25	0–<25	0–<25
Free or Reduced-Price Meals (%)	50–<75	50–<75	50–<75
English Learners (%)	5–<30	5–<30	5–<30
Students with Disabilities (%)	5–<20	5–<20	5–<20

Exhibit B-12. 2014–15 School Enrollment Characteristics of Study Sample Sites — Washington

Characteristic	District 1 Urban School 1	District 1 Urban School 2	District 2 Suburban School 1	District 2 Suburban School 2	District 3 Rural School 1	District 3 Rural School 2
(K) Enrollment (#)	50–<100	50–<100	50–<100	1–<50	50–<100	1–<50
Total School Enrollment (#)	>600	401–600	201–400	201–400	401–600	1–200
Race/Ethnicity (%)						
White	0–<25	0–<25	0–<25	25–<50	25–<50	50–<75
Black	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Hispanic	25–<50	25–<50	50–<75	0–<25	25–<50	0–<25
Asian	0–<25	25–<50	0–<25	0–<25	0–<25	0–<25
Pacific Islander	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
American Indian/Alaska Native	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Two or more races	0–<25	0–<25	0–<25	0–<25	0–<25	0–<25
Free or Reduced-Price Meals (%)	75–100	75–100	75–100	50–<75	50–<75	50–<75
English Learners (%)	>30	>30	>30	5–30	5–<30	5–<30
Students with Disabilities (%)	5–<20	5–<20	5–<20	>20	5–<20	5–<20

Sources: Individual district and school webpages are not reported to ensure case study participants' confidentiality. (1) Enrollment and race/ethnicity: http://www.k12.wa.us/dataadmin/, October Enrollment Report, downloaded Oct1_School Level_20141210.xls. (2) Free or reduced-priced meals: http://reportcard.ospi.k12.wa.us/DataDownload.aspx, Demographic Data Downloads, Demographic Information by School, downloaded 1_2_Demographic Information by School.xls. (3) English learners: http://data.k12.wa.us/PublicDWP/web/Washingtonweb/DataTables/EllDTViewer.aspx, select latest year, all Educational Service Districts, all districts, all schools, enrollment as of May, downloaded Number_of_English_Language_Learners_(ELL).xls (4) Students receiving special education (state, district, and school): http://reportcard.ospi.k12.wa.us

Appendix C: KEA Characteristics

Maryland

Exhibit C-1 excerpted from "Kindergarten Readiness Assessment. Readiness Matters," pages A3-A6 (Maryland State Department of Education 2015b).

Exhibit C-1. Common Language Standards KRA 1.5 Content

Domain	Strand	Learning Progression	**Standard** (yellow) **Essential Skill and Knowledge** (white)
Social Foundations (SF)	**Social Emotional**	**Awareness and Expression of Emotion**	**Recognize and identify emotions of self and others.**
			Express, understand, and respond to feelings (emotions) of self and others.
		Relationships with Adults	**Look to adults for emotional support and guidance.**
			Seek security and support from familiar adults in anticipation of challenging situations.
			Request and accept guidance from familiar adults.
	Approaches to Learning / Executive Functioning	**Self-Control**	**Manage the expression of feelings, thoughts, impulses, and behaviors.**
			Demonstrate the ability to delay gratification for short periods of time.
		Persistence	**Demonstrate the ability to persist with a task.**
			Focus on an activity with deliberate concentration despite distractions and/or temptations.
		Working Memory	**Demonstrate the ability to retain and apply information.**
			Follow routines and multistep directions.
			Use prior knowledge and information to assess, inform, and plan for future actions and learning.
		Initiative	**Seek and gather new information to plan for projects and activities.**
			Express a desire to learn by asking questions and seeking new information.
		Cooperation with Peers	**Demonstrate cooperative behavior in interactions with others.**
			Interact with peers in complex pretend play, including planning, coordination of roles, and cooperation.
			Share materials and equipment with other children, with adult modeling and support.
	Social Studies	**Responsible Behavior**	**Demonstrate understanding of rules and responsible behavior.**
			Explain how rules promote order, safety, and fairness.

Common Language Standards KRA 1.5 Content

Domain	Strand	Learning Progression	**Standard** (yellow) **Essential Skill and Knowledge** (white)
Language and Literacy (LL)	**Reading**	**Story/Text Comprehension**	**Comprehend and respond to interactive read-alouds of literary and informational text.**
			Before interactive read-alouds, make predictions and/or ask questions about the text by examining the title, cover, illustrations/photographs, graphic aids, and/or text.
			During interactive read-alouds, listen and ask and answer questions as appropriate.
			After interactive read-alouds, respond by retelling the text or part of the text in an appropriate sequence, using discussions, re-enactment, drawing, and/or writing as appropriate.
		Phonological Awareness	**Demonstrate understanding of spoken words and sounds (phonemes).**
			Identify initial and final sounds in spoken words.
			Identify, blend, and segment syllables in spoken words.
			Recognize rhyming words in spoken language.
		Phonics and Letter Recognition	**Know and apply letter-sound correspondence and letter recognition skills.**
			Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the most frequent sound for some consonants.
			Recognize and name some upper- and lowercase letters.
	Speaking and Listening	**Communication**	**Communicate effectively in a variety of situations with different audiences, purposes, and formats.**
			Speak or express thoughts, feelings, and ideas clearly enough to be understood in a variety of settings.
			Participate in conversations with adults and peers, staying on topic through multiple exchanges and adding appropriate ideas to support or extend the conversation.
	Writing	**Emergent Writing**	**Produce letter-like shapes, symbols, letters, and words to convey meaning.**
			With modeling and support, print letters of own name.
			With modeling and support, print meaningful words with letters and letter approximations.

Common Language Standards KRA 1.5 Content

Domain	Strand	Learning Progression	**Standard** (yellow) **Essential Skill and Knowledge** (white)
	Language	**Grammar**	**Demonstrate beginning understanding of the conventions of standard English grammar and usage when engaged in literacy activities.**
			Use familiar nouns and verbs to describe persons, animals, places, events, actions, etc.
			Use frequently occurring prepositions (e.g., "to," "from," "in," "out," "on," "off," "for," "of," "by," "with").
		Vocabulary	**Use words acquired through conversations and shared reading experiences.**
			Determine the meanings of unknown words/concepts using the context of conversations, pictures that accompany text, or concrete objects.

Common Language Standards KRA 1.5 Content

Domain	Strand	Learning Progression	**Standard** (yellow) **Essential Skill and Knowledge** (white)
Mathematics (MA)	**Counting and Cardinality**	**Number Sense**	**Know number name, count sequence, and relationships among number, numeral, and quantity.**
			Count the number sequence to 20.
			Use number cards arranged in a line to count and then determine what number comes before or after a specific number.
			Identify, without counting, small quantities of items (1–3) presented in an irregular or unfamiliar pattern (subitize).
			Demonstrate understanding that the last number spoken tells the number of objects counted; respond correctly when asked “how many” after counting concrete objects.
			Name written numerals and pair them with concrete objects.
	Operations and Algebraic Thinking	**Number Operations**	**Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.**
			Use manipulatives to find the amount needed to complete the set.
	Measurement and Data	**Classification**	**Sort, classify, and compare objects.**
			Sort multiple groups by one attribute (e.g., “all blue, all red, all yellow” or “all bears, all cats, all dogs”).
			Count to identify the number of objects in each set, and compare categories using comparison vocabulary (e.g., "greater"/"more than," "less than," "same"/"equal to").
		Measurement	**Describe and compare measurable attributes.**
			Directly compare and describe two objects with a measurable attribute (e.g., length, size, capacity and weight) in common, using words such as "longer"/"shorter," "heavier"/"lighter," or "taller"/"shorter."
			Order objects by measurable attribute (e.g., biggest to smallest).
	Geometry	**Shapes**	**Describe two- and three-dimensional shapes.**
			Match similar shapes when given a variety of two- and three-dimensional shapes.
			Use names of two-dimensional shapes (e.g., square; triangle; circle) when identifying objects.

Common Language Standards KRA 1.5 Content

Domain	Strand	Learning Progression	**Standard** (yellow) **Essential Skill and Knowledge** (white)
Physical Well-Being and Motor Development (PD)	**Physical Education**	**Coordination–Large Motor**	**Demonstrate the ability to use large muscles to perform a variety of physical skills.**
			Show fundamental movement by demonstrating spatial concepts in movement
			Demonstrate locomotor skills with control, coordination, and balance during active play (e.g., running, hopping, jumping).
		Coordination–Small Motor	**Demonstrate the ability to use small muscles to perform fine motor skills in play and learning situations.**
			Use classroom and household tools independently with eye-hand coordination to carry out activities.
			Use a three-finger grasp of dominant hand to hold a writing tool.
	Health	**Safety and Injury Prevention**	**Demonstrate the ability to apply prevention and intervention knowledge, skills, and processes to promote safe living, in the home, school, and community.**
			With modeling and support, identify and follow basic safety rules.
			Identify ways adults help to keep us safe.
		Personal Care Tasks	**Demonstrate personal health and hygiene practices.**
			Independently complete personal care tasks (e.g., washing hands before eating and after toileting).

Source: http://www.marylandpublicschools.org/msde/divisions/child_care/early_learning/docs/KRA2014-15TEchnicalReport.pdf

Oregon

Exhibit C-2 excerpted from the "Kindergarten Oregon Assessment Specifications, 2015–16," pages 24-25 (Oregon Department of Education).

Exhibit C-2. Oregon Kindergarten Assessment (2015–16) Student Operational Blueprint Content Coverage

Score Reporting Categories (SRC)	Operational Assessment: Total Item Count	Operational Assessment: Range of Possible Scores
Assessment Segment One: Early Literacy Timed segment includes two measures for all students:		
1. **English Letter Names:** The student views a chart with upper and lowercase letters. This is a timed fluency measure. The student has 60 seconds to identify as many letters as he/she can.	**100**	**0-100**
2. **English Letter Sounds:** The student views a chart with upper and lowercase letters and some letter blends. This is a timed fluency measure. The student has 60 seconds to make as many letter sounds as he/she can.	**100**	**0-100**
• **Early Spanish Literacy: Spanish Letter Sounds** only administered to officially identified English Learners taking the Oregon KA whose language of origin is Spanish. The student views a chart with upper and lowercase letters and some letter blends. This is a timed fluency measure. The student has 60 seconds to identify as many letter sounds as he/she can. For additional guidance on identification and reporting, please see Executive Numbered Memo 009-2013-14-Proper Identification of Spanish-Speaking English Learners for the Kindergarten Assessment.	**100**	**0-100**
Assessment Segment Two: Early Math This assessment has two sample items and 16 items. It is not timed. Students view items that include counting, simple addition, simple subtraction, and recognizing number patterns. The assessment is multiple choice, students choose their answer by pointing or verbalizing from three possible answers. For instance, a student might see a row of five stars and the assessor would ask **"How many?"** point to or say the answer.	**16**	**0-16**
Assessment Segment Three: Approaches to Learning The Child Behavior Rating Scale has 15 items that teachers score based on observation of the student in the classroom during regular classroom activities and routines. The scale focuses on approaches to learning, self-regulation, and social-emotional. For instance, items are similar to this sample: "Completes work effectively." The teacher uses a five-point scale, ranging from never exhibits the behavior to always exhibit the behavior.	**15**	**15-7 5**
Operational Assessment Item Total 291 total possible score; 391 possible score, if including Early Spanish Literacy	**231** **331**	**15-291** **15-391**

Source: http://www.ode.state.or.us/wma/teachlearn/testing/dev/testspecs/archive/asmtkindergartentestspecs_1415.pdf

Pennsylvania

Exhibit C-3. Pennsylvania's KEI Domains and Indicators and Associated State Standards

Domain	Indicator	Standard
Social and Emotional Development	1. Emotional regulation	Student expresses emotional appropriately to adults and peers.
	2. Self-awareness	Student demonstrates awareness of self and one's own preferences.
	3. Conflict resolution	Student distinguishes between appropriate and inappropriate ways to resolve conflict
	4. Behavior regulation	Student is aware of limits and expectations and adjusts behavior accordingly.
Language and Literacy	5. Print concepts/letters	Student recognizes and names some upper and lower case letters of the alphabet.
	6. Print concepts/words	Student recognizes that letters make words and that words convey meaning.
	7. Phonological awareness	Student demonstrates understanding of spoken words, syllables, and sounds.
	8. Phonics	Students associates letters with their sounds
	9. Text analysis	Student demonstrates comprehension of text, both informational and literature.
	10. Text structure	Student demonstrates knowledge of text structure.
	11. Stages of writing	Student demonstrates age appropriate writing skills.
	12. Writing process	Student engages in the writing process by choosing a topic of focus and then dictates, draws, or writes a related story.
	13. Expressive language	Student expresses thoughts, feelings, and ideas, speaking clearly enough to be understood by most audiences.
	14. Receptive language	Student acts upon or responds to dominant spoken language showing understanding of intent.
	15. Collaborative communication	Student participates in collaborative conversations with peers and adults.
	16. Conventions of English language	Student demonstrates command of the conventions of Standard English when speaking. *ELL/DLL students should be scored on their English proficiency for this indicator.*

Pennsylvania's KEI Domains and Indicators and Associated State Standards

Domain	Indicator	Standard
Mathematics	17. Counting	Student knows the count sequence.
	18. Naming numbers	Student knows number names.
	19. Operations and algebraic thinking	Student understands addition as putting together and adding to, and understands subtraction as taking apart and taking away.
	20. Identifying shapes	Student identifies shapes.
	21. Positional words	Student shows understanding of the relative position of objects.
	22. Measurement	Student uses measureable attributes to compare objects.
	23. Data	Student classifies, counts, and compares quantities.
Approaches to Learning	24. Curiosity and initiative	Student shows interest in a growing range of topics, ideas, and tasks.
	25. Stages of play	Student uses play to construct knowledge, plan and meet goals, and negotiate interactions with others.
	26. Engagement, attention, and persistence	Student attends to tasks, activities, projects and experiences for an extended period of time, even if challenging and despite interruptions.
	27. Task analysis	Student organizes complex information and thought into small steps and goals.
	28. Reasoning and problem solving	Student attempts to accomplish challenging tasks by employing different strategies as needed.
Health, Wellness, and Physical Development	29. Control and coordination: fine motor	Student demonstrates coordination, strength, and muscle control when manipulating small objects or tools.
	30. Control and coordination: gross motor	Student demonstrates coordination of body movements.
Other	31. Number of days the student has been overdressed or underdressed	Not applicable
	32. Number of days the student has been sent to the nurse for illness	Not applicable
	33. Number of days the student has been absent	Not applicable
	34. Number of days the student has been late to school	Not applicable

Source: https://www.csiutg.org/kei_manual.pdf

Washington

Exhibit C-4. WaKIDS Domains and Objectives Assessed in Fall 2014 and Fall 2015

Domain	Objective	Dimension	2014	2015
Social Emotional	1. Regulates own emotions and behaviors	Manages feelings		X
		Follows limits and expectations	X	X
		Takes care of own needs appropriately	X	X
	2. Establishes and sustains positive relationships	Forms relationships with adults		
		Responds to emotional cues		
		Interacts with peers	X	X
		Makes friends	X	
	3. Participates cooperatively and constructively in group situations	Balance needs and rights of self and others		X
		Solves social problems		X
Physical	4. Demonstrates traveling skills		X	X
	5. Demonstrates balancing skills		X	X
	6. Demonstrates gross-motor manipulative skills		X	
	7. Demonstrates fine-motor strength and coordination	Uses fingers and hands	X	X
		Uses writing and drawing tools	X	X

WaKIDS Domains and Objectives Assessed in Fall 2014 and Fall 2015

Domain	Objective	Dimension	2014	2015
Language	8. Listens to and understands increasingly complex language	Comprehends language		X
		Follows directions		X
	9. Uses language to express thoughts and needs	Uses an expanding expressive vocabulary	X	
		Speaks clearly	X	X
		Uses conventional grammar	X	
		Tells about another time or place	X	
	10. Uses appropriate conversational and other communication skills	Engages in conversations	X	X
		Uses social rules of language	X	
Cognitive	11. Demonstrates positive approaches to learning	Attends and engages		X
		Persists		X
		Solves problems	X	X
		Shows curiosity and motivation	X	
		Shows flexibility and inventiveness in thinking	X	
	12. Remembers and connects experiences	Recognizes and recalls	X	X
		Makes connections		
	13. Uses classification skills		X	X
	14. Uses symbols and images to represent something not present	Thinks symbolically		X
		Engages in sociodramatic play		

WaKIDS Domains and Objectives Assessed in Fall 2014 and Fall 2015

Domain	Objective	Dimension	2014	2015
Literacy	15. Demonstrates phonological awareness, phonics skills, and word recognition	Notices and discriminates rhyme	X	X
		Notices and discriminates alliteration	X	
		Notices and discriminates discrete units of sound	X	X
	16. Demonstrates knowledge of the alphabet	Identifies and names letters	X	X
		Identifies letter-sound correspondences	X	X
	17. Demonstrates knowledge of print and its uses	Uses and appreciates books and other texts		
		Uses print concepts	X	X
	18. Comprehends and responds to books and other texts	Interacts during reading experiences, book conversations, and text reflections	X	
		Uses emergent reading skills	X	X
		Retells stories and recounts details from informational texts	X	
	19. Demonstrates writing skills	Writes name	X	X
		Writes to convey ideas and information	X	
Mathematics	20. Uses number concepts and operations	Counts	X	X
		Quantifies	X	X
		Connects numerals with their quantities	X	X
	21. Explores and describes spatial relationships and shapes	Understands spatial relationships		
		Understands shapes	X	X

WaKIDS Domains and Objectives Assessed in Fall 2014 and Fall 2015

Domain	Objective	Dimension	2014	2015
Mathematics (continued)	22. Compares and measures		X	
	23. Demonstrates knowledge of patterns			

Source: http://www.k12.wa.us/WaKIDS/pubdocs/QAaboutChangesWaKIDSObjectives.pdf

Appendix D: Fall 2014 KEA Data Findings in the Readiness Domains: Maryland and Washington

Maryland

The following exhibits present data on the percentages of students demonstrating kindergarten readiness in each of the four domains measured by Maryland's KRA: Language and Literacy (**Exhibit D-1**), Mathematical Thinking (**Exhibit D-2**), Social Foundations (**Exhibit D-3**), and Physical Well-Being and Motor Development (**Exhibit D-4**).

Exhibit D-1. Percentages of Maryland Students Demonstrating Kindergarten Readiness: Language and Literacy

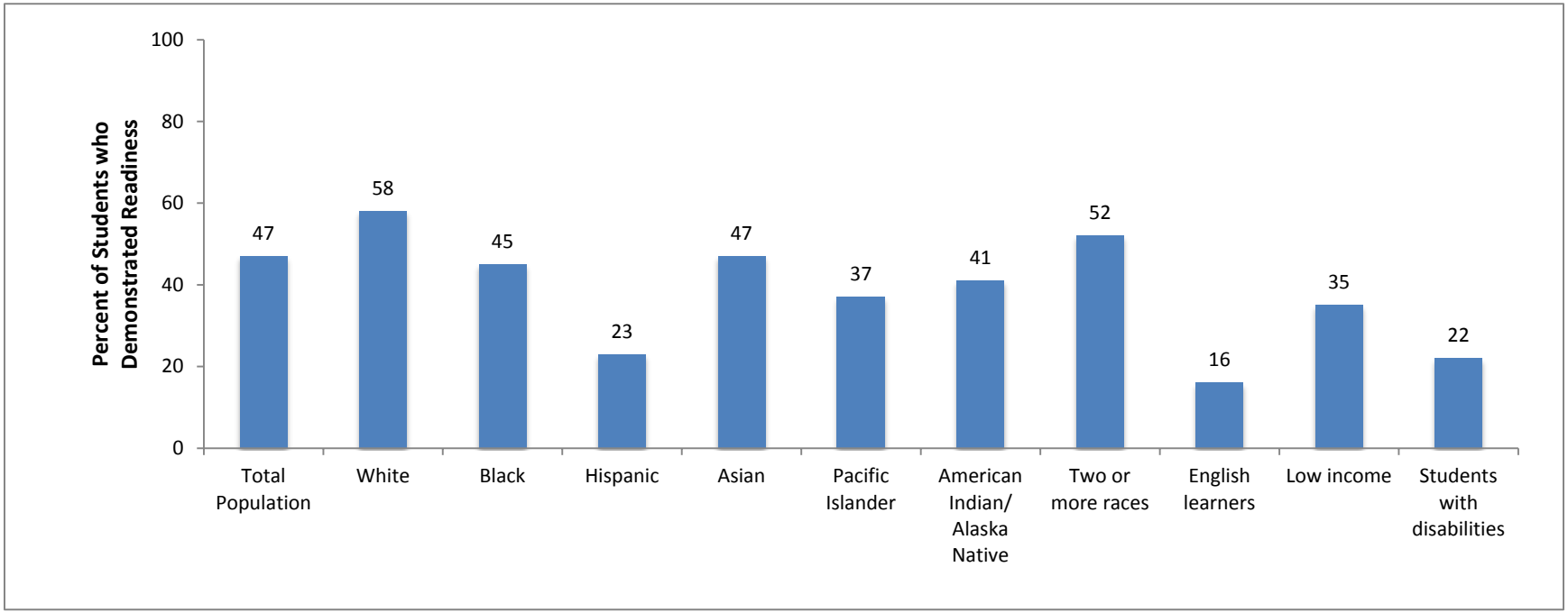

Exhibit Reads: Nearly half (47 percent) of all Maryland kindergarten students demonstrated skills indicating kindergarten readiness in language and literacy.

SOURCE: Data from Maryland State Board of Education 2015b.

Exhibit D-2. Percentages of Maryland Students Demonstrating Kindergarten Readiness: Mathematical Thinking

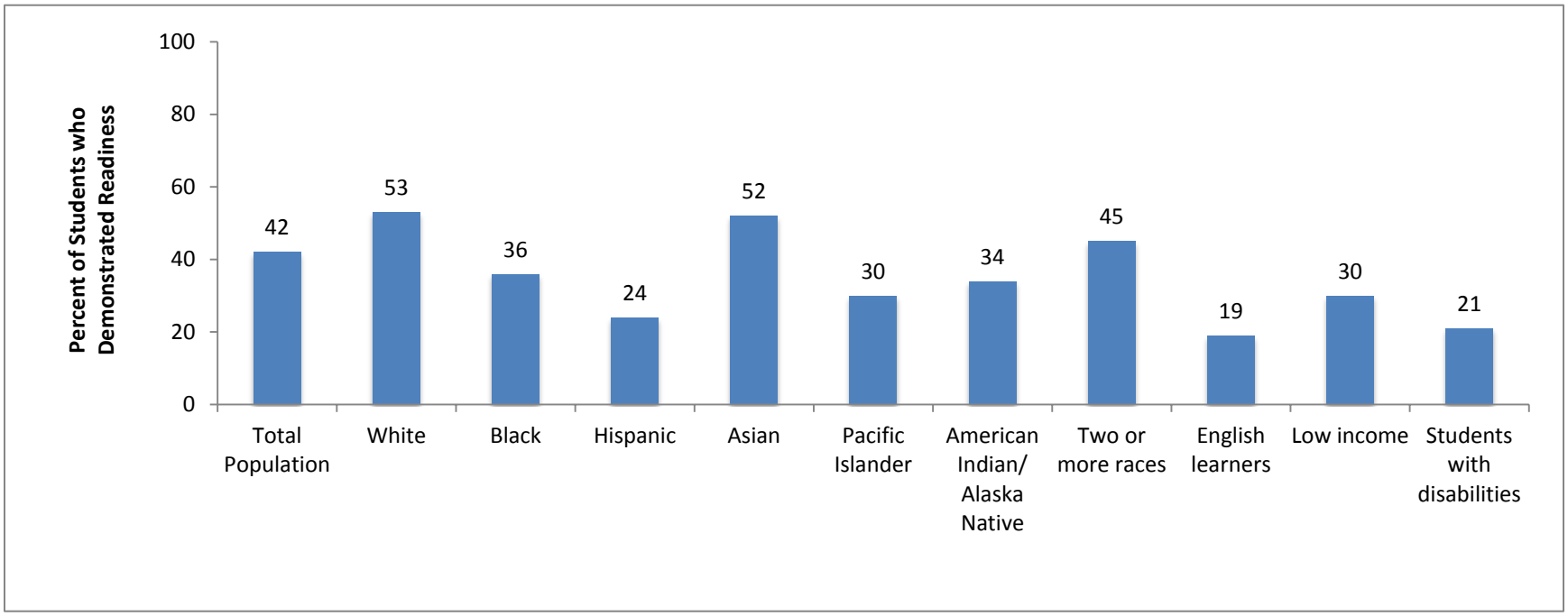

Exhibit Reads: More than forty percent (42 percent) of all Maryland kindergarten students demonstrated skills indicating kindergarten readiness in mathematical thinking.
SOURCE: Data from Maryland State Board of Education 2015b.

Exhibit D-3. Percentages of Maryland Students Demonstrating Kindergarten Readiness: Social Foundations

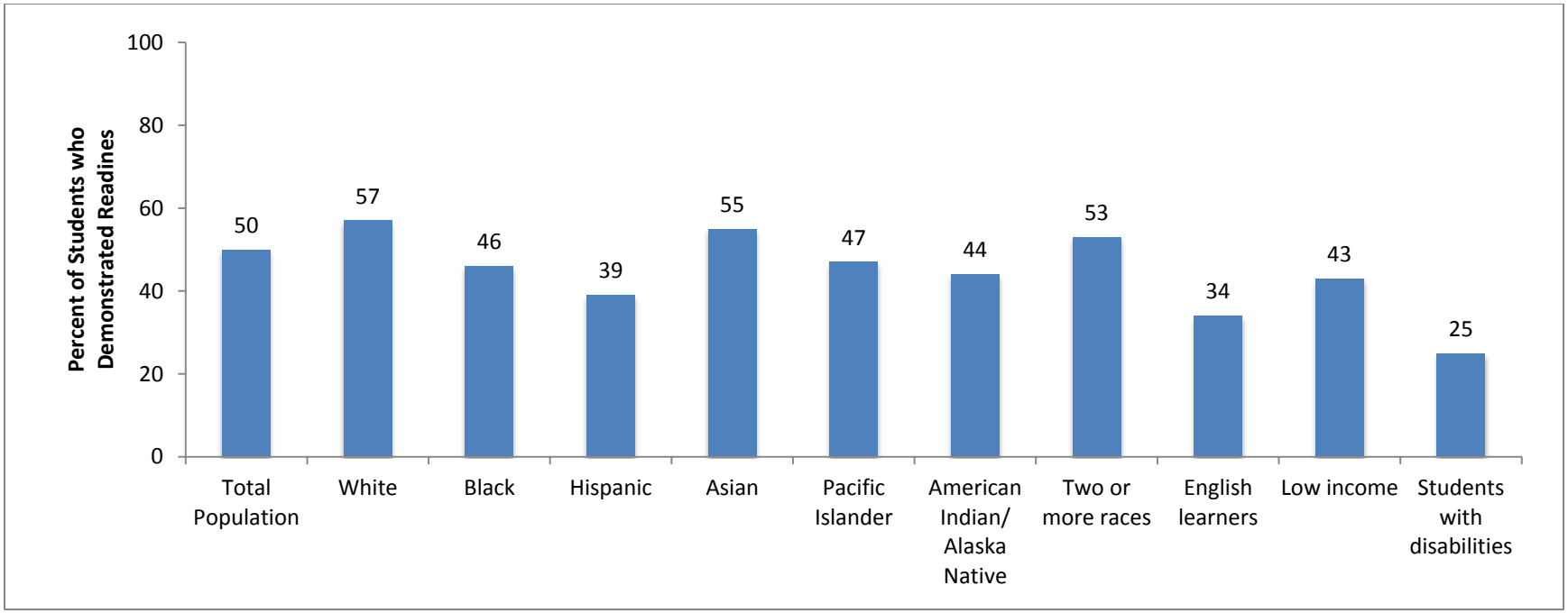

Exhibit Reads: Half (50 percent) of all Maryland kindergarten students demonstrated skills indicating kindergarten readiness in social foundations.

SOURCE: Data from Maryland State Board of Education 2015b.

Exhibit D-4. Percentages of Maryland Students Demonstrating Kindergarten Readiness: Physical Well-Being and Motor Development

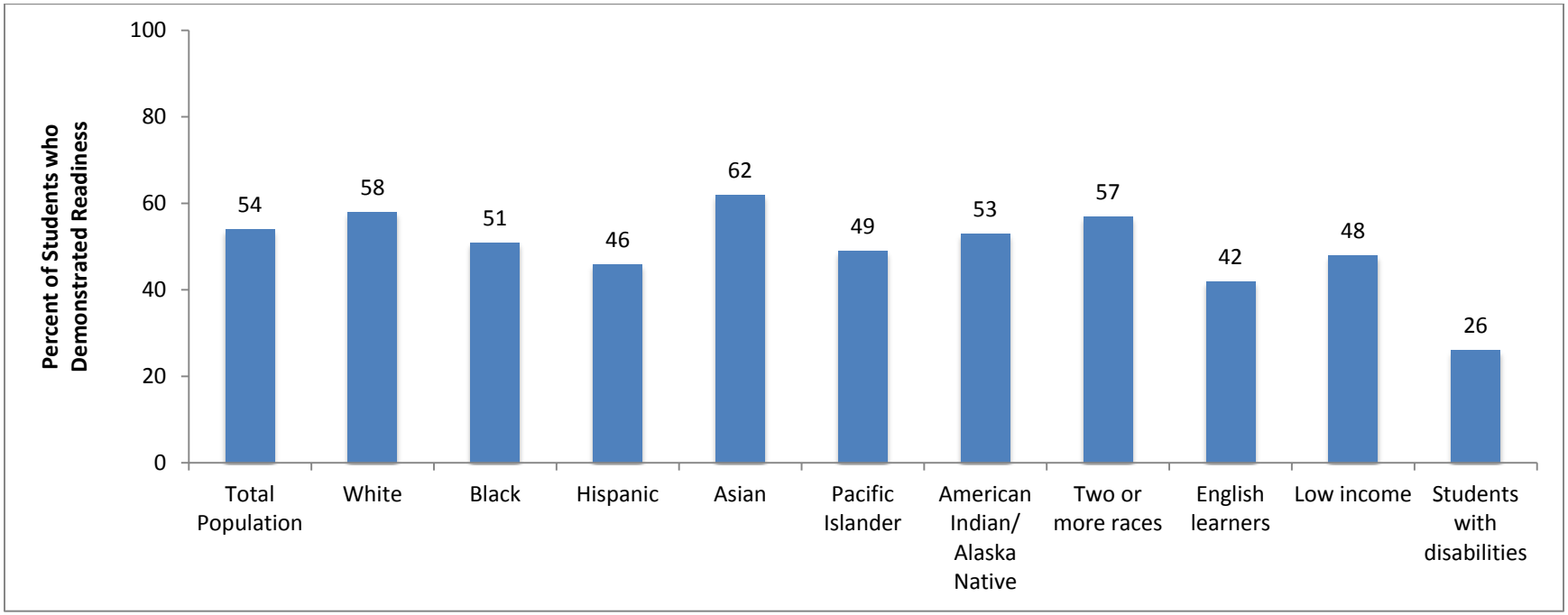

Exhibit Reads: More than half (54 percent) of all Maryland kindergarten students demonstrated skills indicating kindergarten readiness in physical well-being and motor development.
SOURCE: Data from Maryland State Board of Education 2015b.

Washington

The following exhibits present data on the percentages of students demonstrating kindergarten readiness in each of the six domains measured by Washington's WaKIDS whole child assessment: Language (**Exhibit D-5**), Literacy (**Exhibit D-6**), Mathematics (**Exhibit D-7**), Social-Emotional (**Exhibit D-8**), Physical (**Exhibit D-9**), and Cognitive (**Exhibit D-10**).

Exhibit D-5. Percentages of Washington Students Demonstrating Kindergarten Readiness: Language

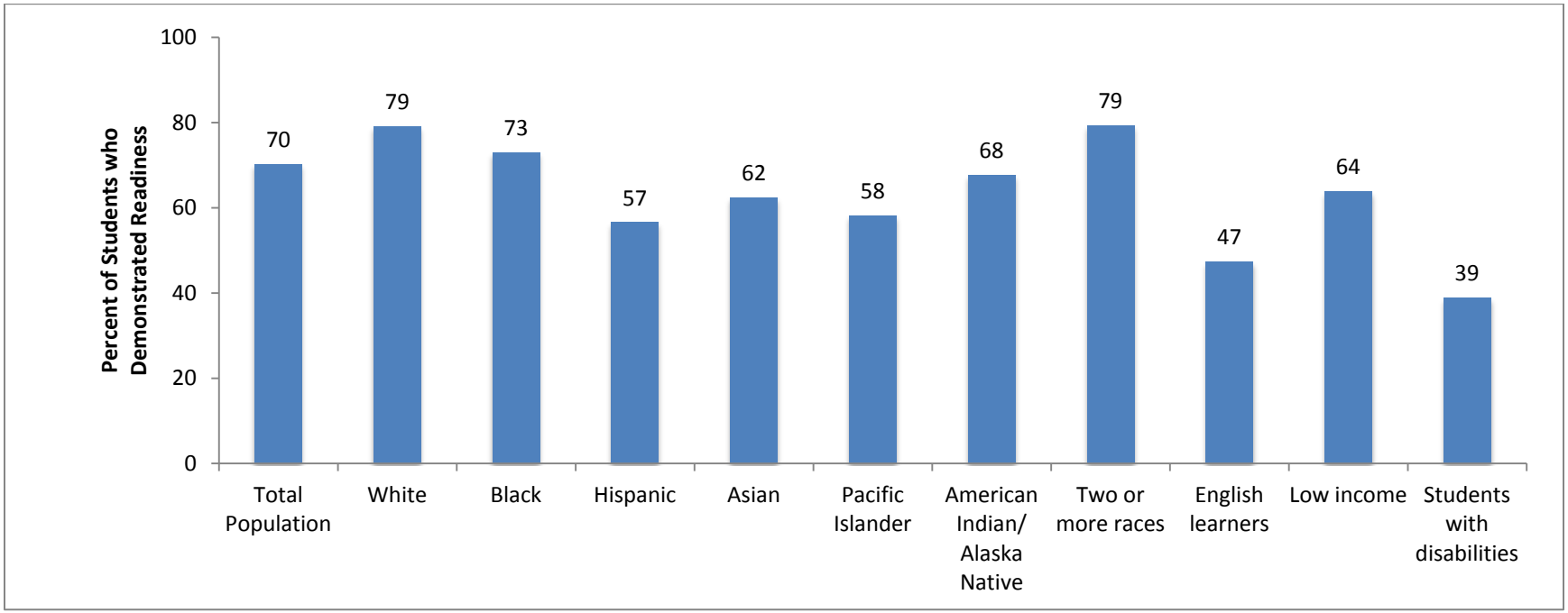

Exhibit Reads: Seventy percent of all Washington kindergarten students demonstrated skills indicating full kindergarten readiness in language.

SOURCE: Data from State of Washington Office of Superintendent of Public Instruction n.d.

Exhibit D-6. Percentages of Washington Students Demonstrating Kindergarten Readiness: Literacy

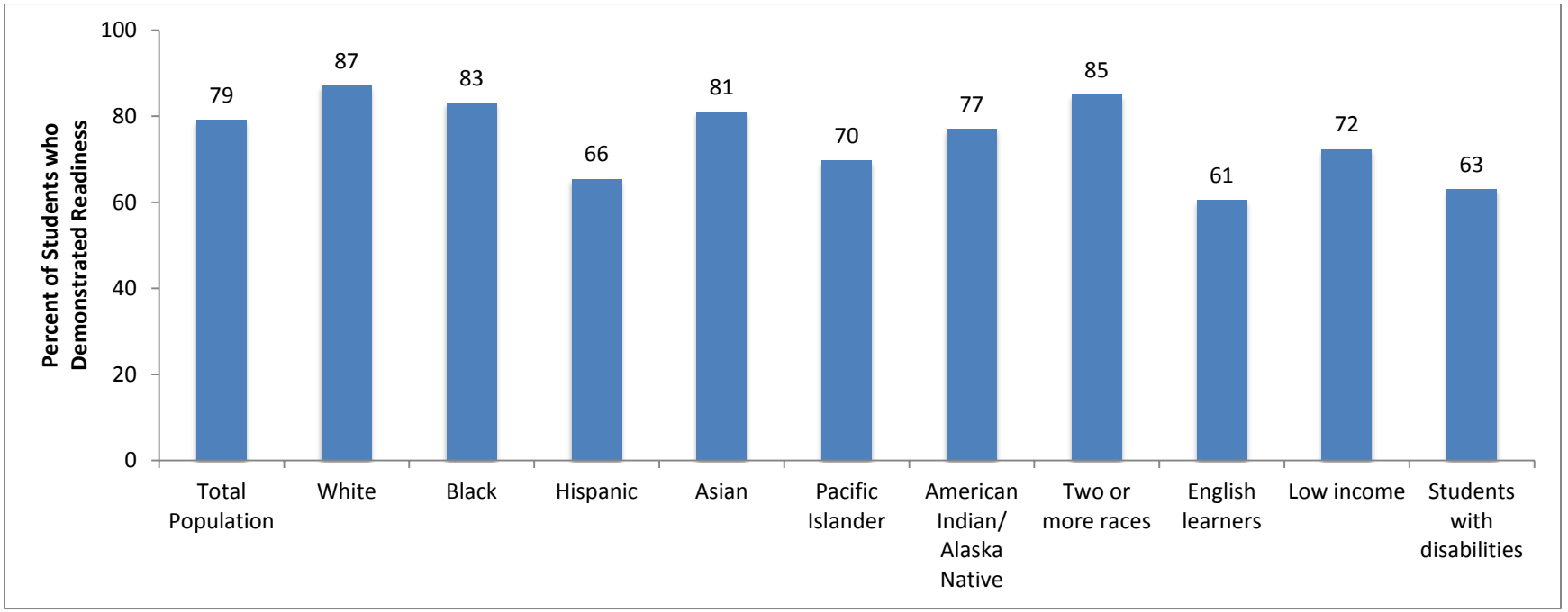

Exhibit Reads: Nearly eighty percent (79 percent) of all Washington kindergarten students demonstrated skills indicating full kindergarten readiness in literacy.

SOURCE: Data from State of Washington Office of Superintendent of Public Instruction n.d.

Exhibit D-7. Percentages of Washington Students Demonstrating Kindergarten Readiness: Mathematics

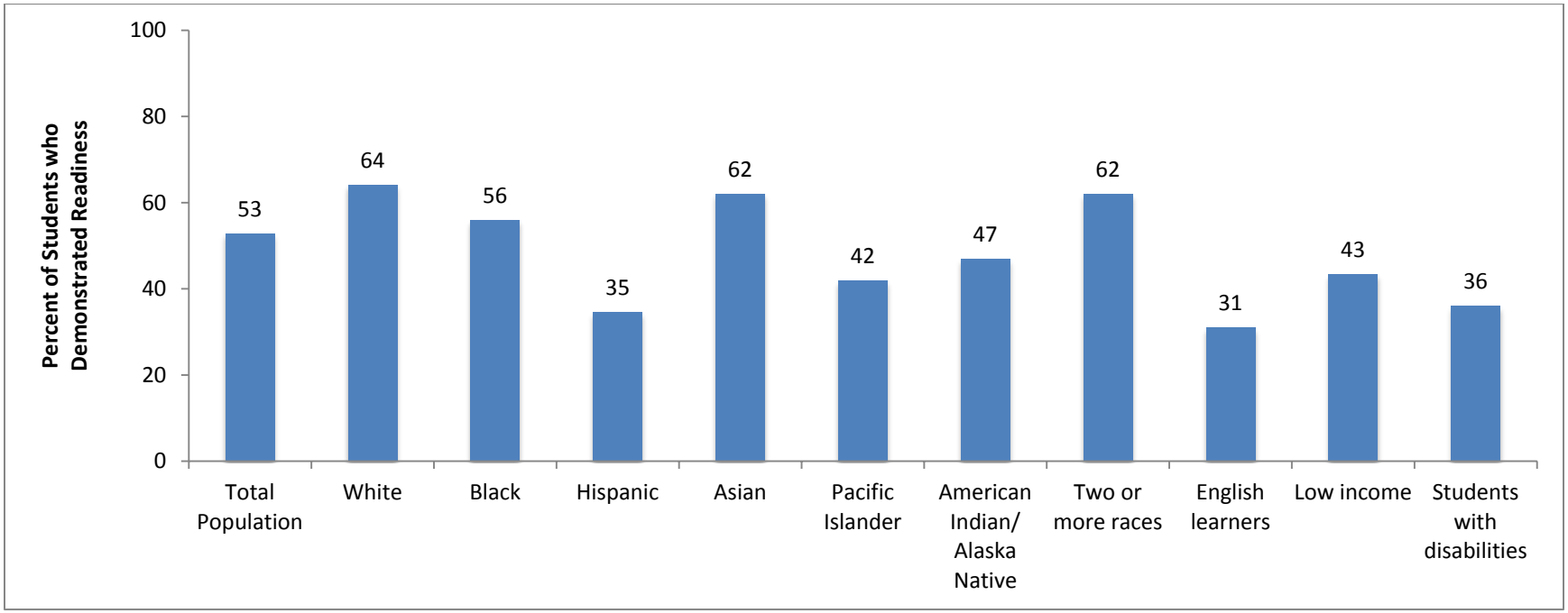

Exhibit Reads: More than half (53 percent) of all Washington kindergarten students demonstrated skills indicating full kindergarten readiness in mathematics.

SOURCE: Data from State of Washington Office of Superintendent of Public Instruction n.d.

Exhibit D-8. Percentages of Washington Students Demonstrating Kindergarten Readiness: Social-Emotional

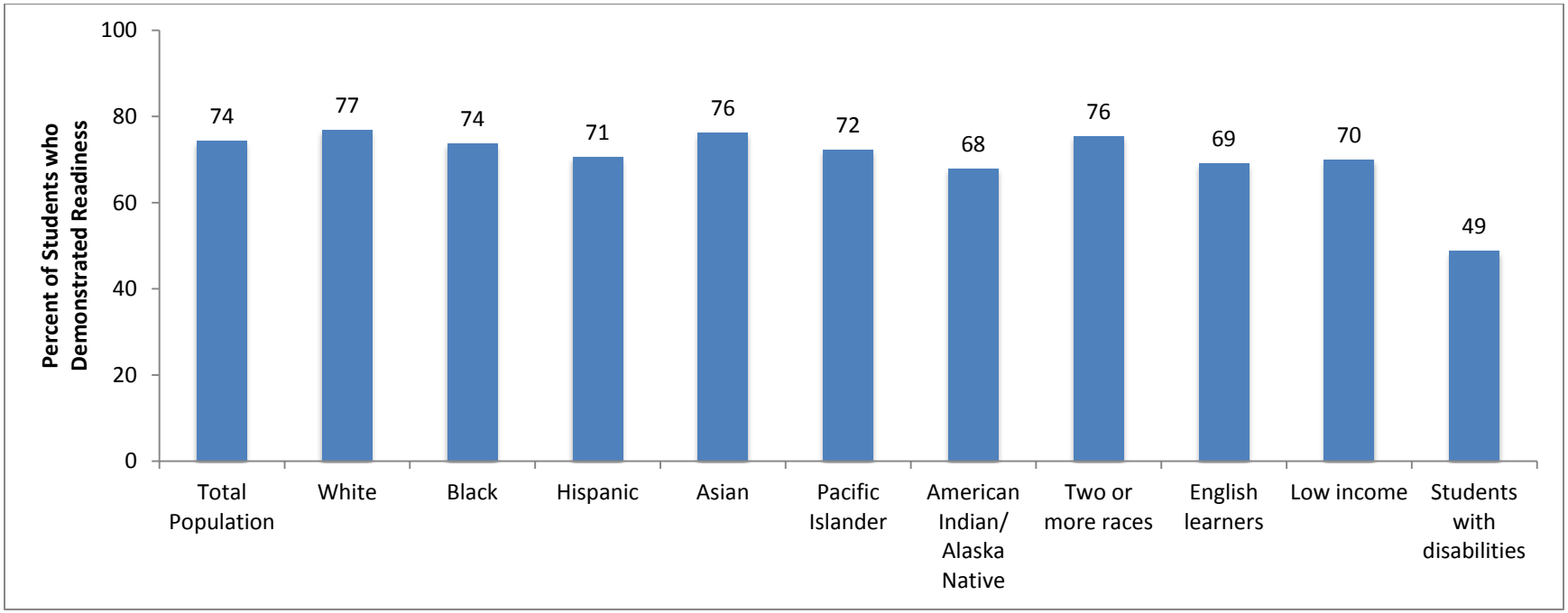

Exhibit Reads: Nearly three-quarters (74 percent) of all Washington kindergarten students demonstrated skills indicating full kindergarten readiness in the social-emotional domain.
SOURCE: Data from State of Washington Office of Superintendent of Public Instruction n.d.

Exhibit D-9. Percentages of Washington Students Demonstrating Kindergarten Readiness: Physical

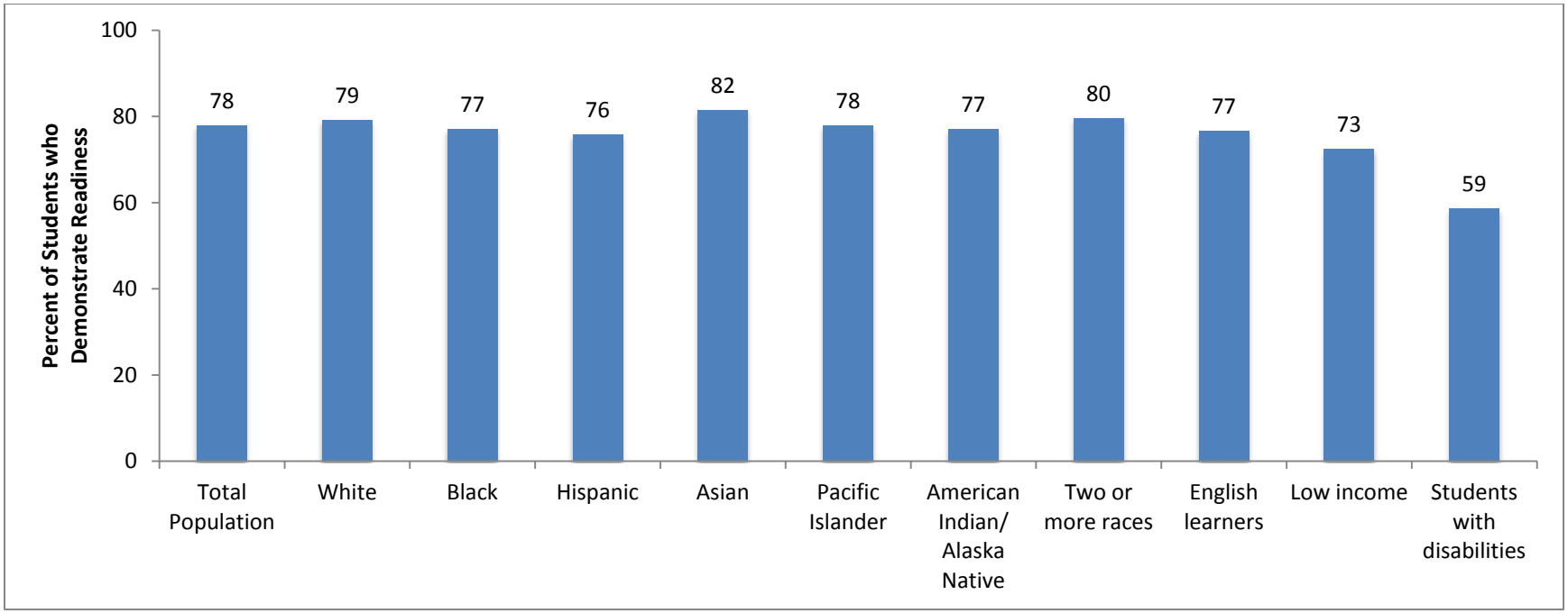

Exhibit Reads: More than three-quarters (78 percent) of all Washington kindergarten students demonstrated skills indicating full kindergarten readiness in the physical domain.
SOURCE: Data from State of Washington Office of Superintendent of Public Instruction n.d.

Exhibit D-10. Percentages of Washington Students Demonstrating Kindergarten Readiness: Cognitive

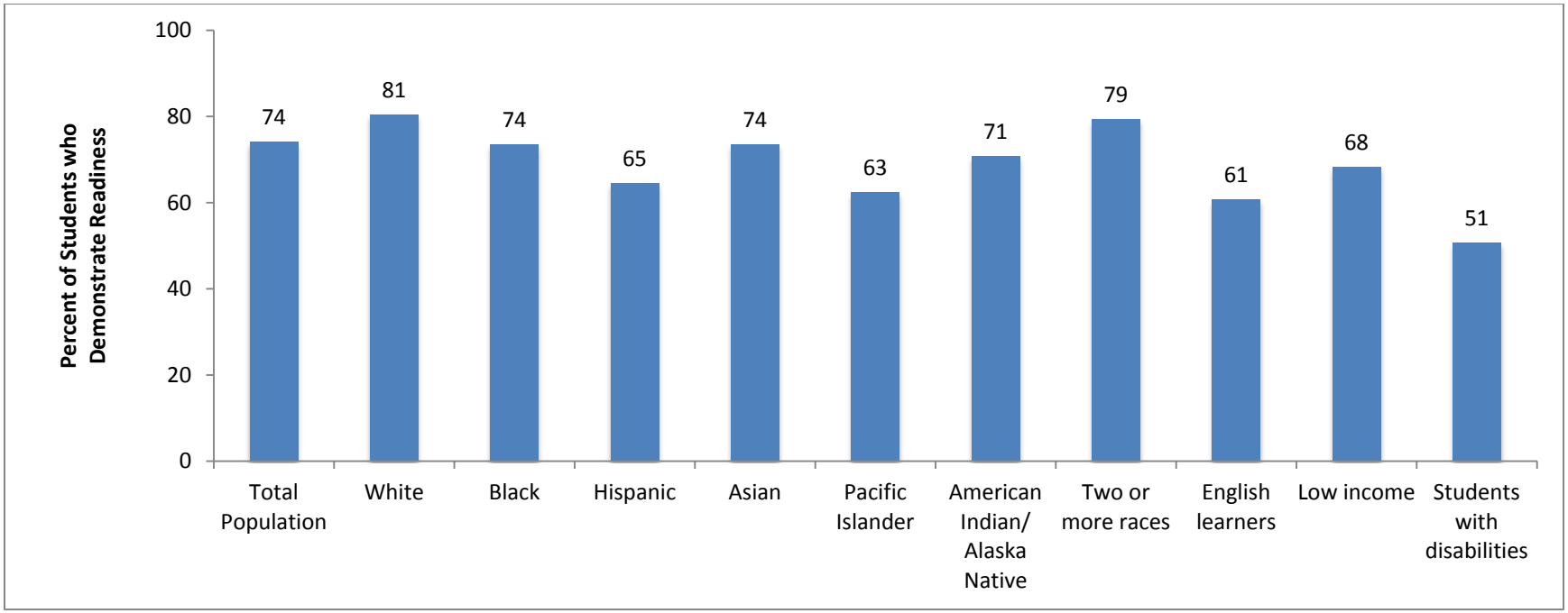

Exhibit Reads: Nearly three-quarters (74 percent) of all Washington kindergarten students demonstrated skills indicating full kindergarten readiness in the cognitive domain.

SOURCE: Data from State of Washington Office of Superintendent of Public Instruction n.d.

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