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AGENDA

Early Readiness Assessment Subcommittee

Monday, March 23, 2015
10:00 am
Blatt Building, Room 433

I. Welcome & Introductions ..... Mrs. Barbara Hairfield

II. Action: Approval of Minutes – January 26, 2015

III. Local Early Education Systems ..... Dr. Floyd Creech
Director of School Readiness
Florence School District One

IV. Physical Health & Motor Skills Development..... Dr. Becky White
Pediatrics of Newberry

V. Status of Early Childhood Assessment in SC..... Ms. Penny Danielson
Program Manager, Early Learning & Literacy
& Education Associate, CDEP, SCDE

VI. Discussion and Next Steps

VII. Adjournment

<u>Early Readiness Assessment Subcommittee Members:</u>
Mrs. Barbara Hairfield, Chairwoman
Mrs. Margaret Anne Gaffney, Co-Chair
Mrs. Anne Bull
Sen. Mike Fair
Ms. Deb Marks
Ms. Patti Tate

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Melanie D. Barton
EXECUTIVE DIRECTOR

Minutes

Early Readiness Assessment Subcommittee
January 26, 2015
2:00 p.m., Brown Building 415

Subcommittee Members Present: Mrs. Barbara Hairfield (Chair); Senator Mike Fair; Mrs. Anne Bull; Ms. Deb Marks;

EOC Member Present: Senator John Matthews

EOC Staff Present: Melanie Barton; Hope Johnson-Jones; Bunnie Ward; Kevin Andrews; Dana Yow

Welcome and Introductions

Mrs. Hairfield opened the meeting by providing an overview of the mission and timelines of the Early Readiness Assessment Subcommittee. She also introduced guests in attendance from the State Office of First Steps and the SC Department of Education. Anne Bull moved to approve November 17, 2014 meeting minutes and Senator Fair seconded. The minutes as distributed were approved.

Progress Update and Discussion

Dr. Dan Wuori provided an overview of school readiness assessment in South Carolina. He also noted the increased focus on early childhood education from 2006 through 2015. Now, 61 total school districts provide four-year-old kindergarten. Dr. Wuori clarified that the expansion reflects service to additional districts with the same eligibility requirements. Based upon the conversation, Senator Matthews requested information about the status of poverty in the state. He asked if expansion districts have increased poverty since CDEPP was first established in 2006.

Dr. Wuori provided an update on South Carolina's participation in the Kindergarten Entry Assessment Consortium. During the summer of 2013 US Department of Education became interested in KEAs. A $6.1 million grant was awarded to 10 state consortium. South Carolina participates in the consortium as a collaborative partner but not a funded partner. The expectation was funded partners would implement an assessment when it was developed. South Carolina wanted to take more of a "wait and see" approach. During the fall of 2013, a Steering Committee developed to explore KEA. The Steering Committee has looked at early learning standards to identify commonalities across multiple states. A state-initiated effort, the Consortium has considered state early childhood priorities and the process for development an assessment that reflects state priorities. SC First Steps Office plans to hold a stakeholder briefing on KEA February 18.

Legislative interest in early readiness assessment resulted in an EOC Memo to State Board of Education in June 2014. Act 287 provided for First Steps reauthorization and created first ever legal definition of readiness, including five domains. First Steps was also asked to adopt a description of school readiness (ready child, school, educators and caregivers, optimal environment, benchmarks and objectives). Act 287 also requires the EOC to recommend characteristics of readiness assessment. Recommendation will be provided to State Board of Education no later than July 30, 2015. Act 284 (Read to Succeed) required the administration of a readiness assessment with a focus on early language and literacy development. In FY 2016-17 the assessment will be expanded to include math, social emotional, physical well-being.

Melanie Barton inquired about the profile of a “ready child” and what the profile would address. Mrs. Barton also requested State Office of First Steps to provide the profile to EOC prior to July 1 so it can be included in the EOC readiness report to the State Board of Education in a timely manner. Senator Fair expressed concerns about children being assessed and expected to achieve specific milestones.

Cognitive Skills

Dr. Sandra Linder of Clemson discussed the role of cognitive and math skill development in young children. Cognitive and math skills are often combined because they are tied to one another. Cognitive includes (representational thought, problem-solving, math knowledge, social knowledge, abstract thought and imagination). Math is not measured around a set of skills. She suggested the state consider math as part of the larger cognitive domain for school readiness.

There is fairly limited research on cognitive domain’s impact for school readiness (playing board games, focus on counting and number sense, engaging in block building). However, the state should consider assessments that are not just skill-based (able to count to 10, etc.) and need to measure the right things that go beyond skills (representational thought, problem solving, abstract thought and imagination, social knowledge). Characteristics of cognitive domain are not skill based.

Dr. Linder noted the SC Early Learning Standards are very similar to National Council of Teachers of Mathematics. There are process standards and content standards. Content is what children should know. Process is how students should learn the content. If children are not grasping the “how”, then they are not mastering the cognitive domain. National process standards include problem solving, reasoning and proof and communication, connections and representation. SC includes both process and content standards. It is important to keep these coupled for both assessment and teaching purposes.

Dr. Linder provided several recommendations including:

- Consider teacher’s perspective as a priority
- Consider an assessment triangulated with ongoing observation and artifact collection
- Assessment include performance-based as well as process standards

Language and Literacy

Dr. Bill Brown provided an overview of language and literacy. He suggested there are three critical areas of assessment: language and literacy, mathematical thinking and social-emotional development.

Critical language and literacy skills include: communication, listening, phonological awareness, vocab, alphabetic principle, print and book knowledge, prewriting and writing, and reading comprehension. The CIRCLE assessment measures: book and print, early writing, letter naming, letter sound, phonological awareness, story retell and comp, vocab. Dr. Brown recommended a primary consideration for readiness assessment is the feasibility of implementation.

Senator Fair motioned to adjourn. Anne Bull seconded the motion. Adjourned at 3:30.

POSITION STATEMENT

Early Childhood Curriculum, Assessment, and Program Evaluation

Building an Effective, Accountable System in Programs for Children Birth through Age 8

A Joint Position Statement of the
National Association for the Education of Young Children (NAEYC) and the
National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE)

Introduction

High-quality early education produces long-lasting benefits. With this evidence, federal, state, and local decision makers are asking critical questions about young children's education. What should children be taught in the years from birth through age eight? How would we know if they are developing well and learning what we want them to learn? And how could we decide whether programs for children from infancy through the primary grades are doing a good job?

Answers to these questions—questions about *early childhood curriculum, child assessment, and program evaluation*—are the foundation of this joint position statement from the National Association for the Education of Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE).

The Position

The National Association for the Education of Young Children and the National Association of Early Childhood Specialists in State Departments of Education take the position that policy makers, the early childhood profession, and other stakeholders in young children's lives have a shared responsibility to

- construct comprehensive systems of curriculum, assessment, and program evaluation guided by sound early childhood practices, effective early learning standards and program standards, and a set of core principles and values: belief in civic and democratic values; commitment to ethical behavior on behalf of children; use of important goals as guides to action; coordinated systems; support for children as individuals and members of families, cultures, and communities; partnerships with families; respect for evidence; and shared accountability.
- implement curriculum that is thoughtfully planned, challenging, engaging, developmentally appropriate, culturally and linguistically responsive, comprehensive, and likely to promote positive outcomes for all young children.
- make ethical, appropriate, valid, and reliable assessment a central part of all early childhood programs. To assess young children's strengths, progress, and needs, use assessment methods that are developmentally appropriate, culturally and linguistically responsive, tied to children's daily activities, supported by professional development, inclusive of families, and connected to specific, beneficial purposes: (1) making sound decisions about teaching and learning, (2) identifying significant concerns that may require focused intervention for individual children, and (3) helping programs improve their educational and developmental interventions.
- regularly engage in program evaluation guided by program goals and using varied, appropriate, concep-

Adopted November 2003

tually and technically sound evidence to determine the extent to which programs meet the expected standards of quality and to examine intended as well as unintended results.

• provide the support, professional development, and other resources to allow staff in early childhood programs to implement high-quality curriculum, assessment, and program evaluation practices and to connect those practices with well-defined early learning standards and program standards.

Recommendations

Curriculum

Implement curriculum that is thoughtfully planned, challenging, engaging, developmentally appropriate, culturally and linguistically responsive, comprehensive, and likely to promote positive outcomes for all young children.

Indicators of Effectiveness

• *Children are active and engaged.*

Children from babyhood through primary grades—and beyond—need to be cognitively, physically, socially, and artistically active. In their own ways, children of all ages and abilities can become interested and engaged, develop positive attitudes toward learning, and have their feelings of security, emotional competence, and linkages to family and community supported.

• *Goals are clear and shared by all.*

Curriculum goals are clearly defined, shared, and understood by all "stakeholders" (for example, program administrators, teachers, and families). The curriculum and related activities and teaching strategies are designed to help achieve these goals in a unified, coherent way.

• *Curriculum is evidence-based.*

The curriculum is based on evidence that is developmentally, culturally, and linguistically relevant for the children who will experience the curriculum. It is organized around principles of child development and learning.

• *Valued content is learned through investigation, play, and focused, intentional teaching.*

Children learn by exploring, thinking about, and inquiring about all sorts of phenomena. These experiences help children investigate "big ideas," those that are important at any age and are connected to later learning. Pedagogy or teaching strategies are tailored to children's ages, developmental capacities, language and culture, and abilities or disabilities.

• *Curriculum builds on prior learning and experiences.*

The content and implementation of the curriculum builds on children's prior individual, age-related, and cultural learning, is inclusive of children with disabilities, and is supportive of background knowledge gained at home and in the community. The curriculum supports children whose home language is not English in building a solid base for later learning.

• *Curriculum is comprehensive.*

The curriculum encompasses critical areas of development including children's physical well-being and motor development; social and emotional development; approaches to learning; language development; and cognition and general knowledge; and subject matter areas such as science, mathematics, language, literacy, social studies, and the arts (more fully and explicitly for older children).

• *Professional standards validate the curriculum's subject-matter content.*

When subject-specific curricula are adopted, they meet the standards of relevant professional organizations (for example, the American Alliance for Health, Physical Education, Recreation and Dance [AAHPERD], the National Association for Music Education [MENC]; the National Council of Teachers of English [NCTE]; the National Council of Teachers of Mathematics [NCTM]; the National Dance Education Organization [NDEO]; the National Science Teachers Association [NSTA]) and are reviewed and implemented so that they fit together coherently.

• *The curriculum is likely to benefit children.*

Research and other evidence indicates that the curriculum, if implemented as intended, will likely have beneficial effects. These benefits include a wide range of outcomes. When evidence is not yet available, plans are developed to obtain this evidence.

Assessment of Young Children

Make ethical, appropriate, valid, and reliable assessment a central part of all early childhood programs. To assess young children's strengths, progress, and needs, use assessment methods that are developmentally appropriate, culturally and linguistically responsive, tied to children's daily activities, supported by professional development, inclusive of families, and connected to specific, beneficial purposes:

(1) making sound decisions about teaching and learning, (2) identifying significant concerns that may require focused intervention for individual children, and (3) helping programs improve their educational and developmental interventions.

Indicators of Effectiveness

• *Ethical principles guide assessment practices.*

Ethical principles underlie all assessment practices. Young children are not denied opportunities or services, and decisions are not made about children on the basis of a single assessment.

• *Assessment instruments are used for their intended purposes.*

Assessments are used in ways consistent with the purposes for which they were designed. If the assessments will be used for additional purposes, they are validated for those purposes.

• *Assessments are appropriate for ages and other characteristics of children being assessed.*

Assessments are designed for and validated for use with children whose ages, cultures, home languages, socioeconomic status, abilities and disabilities, and other characteristics are similar to those of the children with whom the assessments will be used.

• *Assessment instruments are in compliance with professional criteria for quality.*

Assessments are valid and reliable. Accepted professional standards of quality are the basis for selection, use, and interpretation of assessment instruments, including screening tools. NAEYC and NAECS/SDE support and adhere to the measurement standards set forth in 1999 by the American Educational Research Association, the American Psychological Association, and the National Center for Measurement in Education. When individual norm-referenced tests are used, they meet these guidelines.

• *What is assessed is developmentally and educationally significant.*

The objects of assessment include a comprehensive, developmentally, and educationally important set of goals, rather than a narrow set of skills. Assessments are aligned with early learning standards, with program goals, and with specific emphases in the curriculum.

• *Assessment evidence is used to understand and improve learning.*

Assessments lead to improved knowledge about children. This knowledge is translated into improved curriculum implementation and teaching practices. Assessment helps early childhood professionals understand the learning of a specific child or group of children; enhance overall knowledge of child development; improve educational programs for young children while supporting continuity across grades and settings; and access resources and supports for children with specific needs.

• *Assessment evidence is gathered from realistic settings and situations that reflect children's actual performance.*

To influence teaching strategies or to identify children in need of further evaluation, the evidence used to assess young children's characteristics and progress is derived from real-world classroom or family contexts that are consistent with children's culture, language, and experiences.

• *Assessments use multiple sources of evidence gathered over time.*

The assessment system emphasizes repeated, systematic observation, documentation, and other forms of criterion- or performance-oriented assessment using broad, varied, and complementary methods with accommodations for children with disabilities.

• *Screening is always linked to follow-up.*

When a screening or other assessment identifies concerns, appropriate follow-up, referral, or other intervention is used. Diagnosis or labeling is never the result of a brief screening or one-time assessment.

• *Use of individually administered, norm-referenced tests is limited.*

The use of formal standardized testing and norm-referenced assessments of young children is limited to situations in which such measures are appropriate and potentially beneficial, such as identifying potential disabilities. (See also the indicator concerning the use of individual norm-referenced tests as part of program evaluation and accountability.)

• *Staff and families are knowledgeable about assessment.*

Staff are given resources that support their knowledge and skills about early childhood assessment and their ability to assess children in culturally and linguistically appropriate ways. Preservice and in-service training builds teachers' and administrators' "assessment literacy," creating a community that sees assessment as a tool to improve outcomes for children. Families are part of this community, with regular communication, partnership, and involvement.

Program Evaluation and Accountability

Regularly evaluate early childhood programs in light of program goals, using varied, appropriate, conceptually and technically sound evidence to determine the extent to which programs meet the expected standards of quality and to examine intended as well as unintended results.

Indicators of Effectiveness

• *Evaluation is used for continuous improvement.*

Programs undertake regular evaluation, including self-evaluation, to document the extent to which they are achieving desired results, with the goal of engaging in continuous improvement. Evaluations focus on processes and implementation as well as outcomes. Over time, evidence is gathered that program evaluations do influence specific improvements.

• *Goals become guides for evaluation.*

Evaluation designs and measures are guided by goals identified by the program, by families and other stakeholders, and by the developers of a program or curriculum, while also allowing the evaluation to reveal unintended consequences.

• *Comprehensive goals are used.*

The program goals used to guide the evaluation are comprehensive, including goals related to families, teachers and other staff, and community as well as child-oriented goals that address a broad set of developmental and learning outcomes.

• *Evaluations use valid designs.*

Programs are evaluated using scientifically valid designs, guided by a "logic model" that describes ways in which the program sees its interventions having both medium- and longer-term effects on children and, in some cases, families and communities.

• *Multiple sources of data are available.*

An effective evaluation system should include multiple measures, including program data, child demographic data, information about staff qualifications, administrative practices, classroom quality assessments, implementation data, and other information that provides a context for interpreting the results of child assessments.

• *Sampling is used when assessing individual children as part of large-scale program evaluation.*

When individually administered, norm-referenced tests of children's progress are used as part of program evaluation and accountability, matrix sampling is used (that is, administered only to a systematic sample of children) so as to diminish the burden of testing on children and to reduce the likelihood that data will be inappropriately used to make judgments about individual children.

• *Safeguards are in place if standardized tests are used as part of evaluations.*

When individually administered, norm-referenced tests are used as part of program evaluation, they must be developmentally and culturally appropriate for the particular children in the program, conducted in the language children are most comfortable with, with other accommodations as appropriate, valid in terms of the curriculum, and technically sound (including reliability and validity). Quality checks on data are conducted regularly, and the system includes multiple data sources collected over time.

• *Children's gains over time are emphasized.*

When child assessments are used as part of program evaluation, the primary focus is on children's gains or progress as documented in observations, samples of classroom work, and other assessments over the duration of the program. The focus is not just on children's scores upon exit from the program.

• *Well-trained individuals conduct evaluations.*

Program evaluations, at whatever level or scope, are conducted by well-trained individuals who are able to evaluate programs in fair and unbiased ways. Self-assessment processes used as part of comprehensive program evaluation follow a valid model. Assessor training goes beyond single workshops and includes ongoing quality checks. Data are analyzed systematically and can be quantified or aggregated to provide evidence of the extent to which the program is meeting its goals.

• *Evaluation results are publicly shared.*

Families, policy makers, and other stakeholders have the right to know the results of program evaluations. Data from program monitoring and evaluation, aggregated appropriately and based on reliable measures, should be made available and accessible to the public.

Creating Change through Support for Programs

Implementing the preceding recommendations for curriculum, child assessment, and program evaluation requires a solid foundation. Calls for better results and greater accountability from programs for children in preschool, kindergarten, and the primary grades have not been backed up by essential sup-

ports for teacher recruitment and compensation, professional preparation and ongoing professional development, and other ingredients of quality early education.

The overarching need is to create an integrated, well-financed system of early care and education that has the capacity to support learning and development in all children, including children living in poverty, children whose home language is not English, and children with disabilities. Unlike many other countries, the United States continues to have a fragmented system for educating children from birth through age eight, under multiple auspices, with greatly varying levels of support, and with inadequate communication and collaboration.

Many challenges face efforts to provide all young children with high-quality curriculum, assessment, and evaluation of their programs. Public commitment, along with investments in a well-financed system of early childhood education and in other components of services for young children and their families, will make it possible to implement these recommendations fully and effectively.

This document is an official position statement of the National Association for the Education of Young Children and the National Association of Early Childhood Specialists in State Departments of Education.

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Contact us at: **pubaff@naeyc.org**

NAEYC CENTER FOR APPLIED RESEARCH

Developing Kindergarten Readiness and Other Large-Scale Assessment Systems

NECESSARY CONSIDERATIONS IN THE ASSESSMENT OF YOUNG CHILDREN

by Kyle Snow, PhD

December 2011

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RESEARCH POLICY PRACTICE

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Developing Kindergarten Readiness and Other Large-Scale Assessment Systems

Necessary Considerations in the Assessment of Young Children

Over the past few years, interest in assessing children as they enter kindergarten has gained momentum in states. Roughly half of the states have instituted some form of kindergarten entry or readiness assessment, even before the development of such an assessment was highlighted in the Race to the Top, Early Learning Challenge funding competition. The development of readiness assessments has varied across states in terms of the areas of child development and knowledge evaluated, and their use for policy and practice purposes. The Center for Applied Research at the National Association for the Education of Young Children (NAEYC) has developed this guidance to support states' development and implementation of kindergarten readiness assessment systems. Such systems, properly developed and implemented, can contribute greatly to the success of early childhood programs and early elementary programming to identify and meet the needs of children entering kindergarten. The considerations presented in this paper are built around NAEYC positions related to assessment and research on child assessment. While focused on large-scale assessment of young children, the guidelines included here are intended to inform considerations about early childhood assessment beyond the implementation of kindergarten entry assessments.

Suggested citation:

Snow, K. 2011. Developing Kindergarten Readiness and Other Large-Scale Assessment Systems: Necessary Considerations in the Assessment of Young Children. Washington, DC: National Association for the Education of Young Children.

Kyle Snow, PhD, is Senior Scholar and Director of the Center for Applied Research at the National Association for the Education of Young Children.

Launched in 2010, the Center for Applied Research encourages and supports communication about research in early childhood development and education among practitioners, policy makers, and researchers. The Center facilitates dialogue through interpretation and translation of research to inform practice and policy, and by identifying and seeking to meet the research needs of practitioners and policy makers in early childhood.

Developing Kindergarten Readiness and Other Large-Scale Assessment Systems

Necessary Considerations in the Assessment of Young Children

There has been much more attention in recent years to the importance of high-quality early childhood programs that provide children with experiences that nurture their development and prepare them for success in school and beyond. While much attention is paid to ensuring the quality of early childhood programs, there is an increasing focus on the role of assessment within early childhood systems, not just on the use of assessment by programs for improving teacher strategies and services in the classroom. While there is broad consensus that early childhood assessment can play a vital role in improving instruction within the classroom, how assessment of young children can and should—and should not—be used to determine program effectiveness is more contentious. NAEYC believes that there is an appropriate role for information from child assessment in large-scale system efforts when attention is also given to research on child development; other indicators that impact children's development and learning; and, best practices in the field as well as assessment science to guide the development, implementation, and use of assessment systems.

NAEYC believes that there is an appropriate role for information from child assessment in large-scale system efforts when attention is also given to research on child development; other indicators that impact children's development and learning; and, best practices in the field as well as assessment science to guide the development, implementation, and use of assessment systems.

In the last decade, policy discussions of assessment in early childhood systems have grown, reflecting the increasing demand for accountability in the elementary and secondary public education system as well as increased state funds for prekindergarten programs. Assessment in early childhood is not a recent concern (see Meisels 2007). Over the past few decades, assessment of young children has been attempted, often with unintended negative

consequences (see Shepard 1994, for a review). Earlier efforts saw kindergarten readiness screening as a means of identifying children deemed ready for school and tracking those not ready into alternative programs, or denying access altogether. However, recent advances in theory have connected assessment with child learning, making assessment part of the "learning culture" (Shepard 2000). While there have still been missteps—efforts to launch the Head Start National Reporting System, perhaps (Meisels & Atkins-Burnett 2004)—the use of assessments for young children continues to be seen as an important element of early childhood programs. Over the past few years, interest in assessing children as they enter kindergarten has gained momentum in states. Roughly half of the states have instituted some form of kindergarten entry or readiness assessment (Daily, Burkhauser, & Halle 2010; Stedron & Berger 2010). They vary in scale of children assessed, the areas of child development and knowledge that are evaluated, and in use for policy and practice purposes.

State interest in the use of kindergarten readiness assessments is growing in terms of the number of states as well as evolving in terms of the implementation and use of such assessment information. This year, development of comprehensive assessment systems, including kindergarten entry assessments, is a criterion in the federal Race to the Top, Early Learning Challenge application.

State interest in the use of kindergarten readiness assessments is growing in terms of the number of states as well as evolving in terms of the implementation and use of such assessment information.

Other efforts at determining children's "readiness" have gone beyond an assessment at entry to kindergarten or pre- and post-assessment in the prekindergarten year. Seventeen states participated in the School Readiness Indicators Initiative that set state indicators for children's progress from birth through age 8 to guide state policies. These indicators look not only to children's progress, but also the context of ready families, ready communities, and ready schools and their impact on children's development. Notably Pennsylvania and the District of Columbia are gathering information on the context in which children develop to gain a fuller picture of children's readiness for kindergarten beyond a child assessment data field. Work in Canada in developing the Early Development Instrument (EDI) (Janus et al. 2007) provides an example of an intentionally designed, population-based assessment of young children's learning across multiple domains. Subsequent development around the EDI addresses how data may (and may not) be effectively used within communities to gain a broad picture of children within the community (see, e.g., Guhn, Janus, & Hertzman 2007).

NAEYC'S ROLE IN GUIDANCE ON CHILD ASSESSMENT

The National Association for the Education of Young Children (NAEYC) has developed this guidance to support states' development and implementation of kindergarten readiness assessment systems. However, principles in developing a statewide assessment program for young children are applicable for other

large-system users, as well as individual programs interested in implementing a common assessment strategy across classrooms and/or programs. This paper underscores that assessment as children enter kindergarten exists within the larger framework of efforts to improve both the birth-to-kindergarten span and the early elementary grades experiences of children in their respective states. Viewing assessment in the context of the birth through third grade continuum and in the context of a comprehensive assessment system underscores how decisions made at one juncture influence the assessment system and the education system elsewhere. In addition to offering considerations from a policy perspective, this paper also extends to implementation practices.

This paper underscores that assessment as children enter kindergarten exists within the larger framework of efforts to improve both the birth-to-kindergarten span and the early elementary grades experiences of children in their respective states.

NAEYC has long promoted the use of developmentally (including culturally and linguistically) appropriate assessments of young children to improve instruction and programs. NAEYC's early childhood program accreditation system is framed by 10 standards of program quality, one of which is assessment of child progress.[1] The NAEYC Standards for Teacher Preparation (teaching children from birth through age 8) for associate, baccalaureate, and higher degrees also address teachers' understanding and use of child assessments.[2]

The National Association for the Education of Young Children (NAEYC) and National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) (2003) position statement on curriculum, instruction, and assessment underscores the need for a systemic, integrated approach for linking assessments with curriculum and instruction. This approach was reiterated and furthered by the National Academy of Science panel on early childhood assessment (Snow & Van Hemel 2008, p.10), which stated explicitly "... that a primary purpose of assessing children or classrooms is to improve the quality of early childhood care and education by identifying where more support, professional development, or funding is needed and by providing classroom personnel tools to track children's growth and adjust instruction." As such, aligning assessments with curriculum and instruction ensures that the intended outcomes are addressed and monitored, while misaligned systems cannot ensure that intentions (through standards, curriculum, and instruction) are being met (Martone & Sireci 2009). The greatest danger is an assumption that alignment exists, and making decisions based upon that assumption, when in fact there is little or no alignment. Achieving alignment presents special challenges in early education. While most states have early learning guidelines and standards for K–12 education systems, some do not, and those that do vary (Scott-Little et al. 2007). Within states, there is variation in the curricula used by programs. These variations mean that aligning an assessment system with state standards may or may not also mean that the assessment is aligned with locally implemented curriculum.

THE STATE OF EARLY CHILDHOOD, INCLUDING KINDERGARTEN

Roughly 12 million children in the United States experience some out-of-home settings prior to kindergarten. They may be in formal child care centers, family child care, relative/neighbor care, Head Start or Early Head Start programs, or school settings. The early care and education system reflects the diversity of parents' needs and desires for nonparental care for their children during the years before school entry. Children may attend these programs as young as 6 weeks old and as much as a full work week in order to meet their parents' work needs. Many children are in programs in the evening while their parents are employed in shift work. The quality of settings across the early care and education spectrum varies widely, as do the reasons parents' choose specific programs and their expectations for the types of experiences programs provide to children.

With the exception of Head Start and Early Head Start, requirements for program standards and early learning content standards are designed and implemented by states. Wide variation exists among states in terms of basic child care licensing standards from ratios and group size to teacher qualifications and professional development. States also differ in their standards for state-funded prekindergarten programs. Even though every state has early learning standards for preschool children, and a majority now have such standards for infants and toddlers, states do not mandate their use in all settings. Many children also spend numerous hours a week with a legally unregulated caregiver or program exempt from child care licensing standards. This variability in policies and standards across states, and sometimes even within states, creates an early childhood education sector with a broad range of quality and abilities to meet young children's developmental needs.

High-quality programs are also frequently seen as a means of meeting the needs of children born into poverty. Still, only one in six eligible families receives public assistance to afford child care, less than half of the eligible preschool children can enroll in Head Start, and fewer than 5 percent of eligible infants and toddlers enroll in Early Head Start due to significant lack of public resources to meet the needs of children.[3] Despite the apparent scope of federal funding, it is not sufficient to provide access to high-quality care for all young children. While there has been momentum in the states to fund public prekindergarten, some states have reduced their investment and/or lowered quality standards in the last year, and program quality varies both across and within states. This poses additional questions on the design, implementation, and use of child assessments given the varied requirements that lead to quality for children in a single day (half-day Head Start; half-day, state-funded prekindergarten with a child care subsidy for the full day and full year) let alone a span of five years before enrollment in kindergarten.

Kindergarten readiness also does not have a common, national definition (Snow 2006). Kindergarten policies and attendance also vary widely across the country. While 45 states or territories require school districts to offer kindergarten, only 19 states or territories require children to attend kindergarten prior to

entering first grade. Cut-off birthdates for kindergarten entry eligibility vary among the states, creating differences in age at entry, meaning that children enrolled in kindergarten for the first time across the country can range from younger than 5 years old to nearly 7 years old.[4] Only 10 states require school districts to provide full-day kindergarten; 34 states and the District of Columbia require provision of half-day kindergarten. The variations in requirements for kindergarten teachers' preparation and licensure across states mean that teachers of kindergarten children may or may not have specialized early childhood education degrees, certificates, or endorsements. Across states, the kindergarten year exists within a space somewhere between early childhood, for which most states have early childhood learning standards, and K–12 systems, for which states have standards that may or may not align with those for younger children. Just a handful of states have kindergarten standards that address children's social and emotional development and approaches to learning, in addition to cognitive content areas and physical development.

THE STATE OF ASSESSMENT OF YOUNG CHILDREN[5]

The current state of assessment in early childhood remains, as stated by the National Academy of Science's *Eager to Learn: Educating Our Preschoolers,* "in flux" (Bowman, Donovan, & Burns 2001). In its follow up report in 2008, the NAS noted that there is a great need for additional research and development of assessments appropriate for young children (Snow & Van Hemel 2008). Specifically, the report indicated the need for more and better assessments across all developmental domains, especially domains of social and emotional functioning and development. In addition, more and better assessments are needed that are appropriate for use with infants and toddlers, for dual language learners, and for children in the early elementary grades. Throughout, the NAS urged caution about the inappropriate uses of assessments of young children, a caution that remains highly relevant for policy makers and practitioners.

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A one-time snapshot of a child entering a kindergarten classroom cannot capture all of the cumulative experiences in programs, in the home, and in the community of a young child from birth to that day in kindergarten. Such assessments should not be seen as reflecting on the quality of early care and education during the prekindergarten year in isolation from demographic risk, experiences in the home and the community, other early care and education experiences, and the resources available to support professional development and improve quality. That said, assessments should be done throughout the kindergarten year to help the teacher target and recalibrate his or her efforts over time. The entry assessment provides the teacher with baseline information.

The statute authorizing the Race to the Top, Early Learning Challenge (ELC) grants requires states that develop kindergarten readiness assessments to comply

in their use of child assessments with the reports of the National Academy of Science. Those reports outline the framework of a system of assessment, the resources needed at the system and classroom levels to select and use assessment of young children to improve instruction and services, and the cautions of inappropriate use of assessments of children, particularly when the early childhood system as a whole has so much fragility and variability especially for vulnerable children and families.

ASSESSMENT WITHIN EARLY CHILDHOOD PROGRAMS

Integrating assessment into early care and education programs (those serving children from prekindergarten through third-grade) also requires that resources be allocated to the assessment itself, above and beyond what is necessary to fund the assessment programs (costs of staff, materials, etc.) as well as the delivery of services provided by the early childhood program. With finite financial resources, states and program developers must balance the expense of assessment against other demands for the financial resources. To that end, this paper is intended to provide guidance about implementation of assessment systems and use of data they provide, as well as to provide a rationale for the importance of a well-developed system in most effectively developing and implementing early childhood education systems and programs.

BASICS OF ASSESSMENT

Many of the participants in planning assessment systems as called for by the ELC are cognizant of basic assessment principles. However, some may not be, and even for those with a background, knowledge, or expertise in assessment, it is useful to pause to ensure that all are using a common vocabulary and set of assumptions.

The quality of an assessment is a direct function of its psychometric characteristics

The best measure of the quality of an assessment is built around the degree to which it meets or exceeds standards for various psychometric qualities (see AERA, APA, & NCME 1999). The most basic of these properties are reliability and validity. Reliability refers to the degree to which an assessment provides the same result when administered by different people to the same child, or to the same child at two time points in close proximity. Validity refers to the degree to which the results of the assessment accurately capture what they are intending to capture.[6] Publishers or developers of existing assessments should be able to provide psychometric information on the assessment. This information should also include a description of the nature of children (i.e., the sample) upon which the information is based.

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For norm-based assessments, this may or may not also be the "norming sample," the sample around which the assessment's norms were developed. Assessments being used with children dramatically different from those used by the developer to establish the assessment's psychometric properties may not produce the same degree of soundness. If an assessment's psychometrics are not available for children comparable to those being assessed, or if the assessment being used is one being newly developed, psychometric data need to be collected and evaluated before the assessment is adopted and used widely.

There are different types of assessments

For older children, the preponderance of assessment is done in a large group setting, with paper and pencil (and increasingly computer based) formats. This approach is not suited for young children. Assessment of young children, as a result, can be of many types and formats that differ primarily on the source of information. Direct assessments are those administered directly to the child. Direct assessment can be costly, time consuming, and require specialized skills to administer; however, because responses are coming directly from the child they are also often assumed to be objective and accurate (although they may in fact vary in validity). Observational measures do not require explicit administration to children, as they are typically assessments completed by adults after or during a period of observing the child. Observational measures may include rating scales or checklists of specific skills that are demonstrated during the observational period. Finally, some observational assessments are conducted in context, such as authentic assessment, where the items are completed within the flow of typical activity. As such, they are often the least obvious or intrusive assessments, and sometimes the least time consuming. They are also, however, more subject to "opportunity to observe" effects—an assessment may call on a rating or report of a specific behavior or skill that does not occur within a given context. While observational methods can provide information about child ability, they may be influenced by other factors related to the observer—how rigorously observations are made and recorded, any assumptions the observer may have about the performance of a specific child or group of children, and various interpretations of the target behaviors or skills.

All assessments are "standardized"

In early childhood, there is great sensitivity to the idea of "standardized assessment." The popular concern is that of very young children completing paper and pencil assessments en masse, similar to perceptions of large-scale standardized assessments used for older children. The use of this type of assessment is not appropriate for young children. However, the concept of standardization is relevant. Briefly, standardization means that an assessment is administered in the same way, each time it is administered (regardless of who is delivering and who is responding to the assessment). Violating standardization certainly undermines the assessment's reliability, but also threatens its validity. For example, an item on a direct mathematics assessment may have been developed to allow children to use some manipulable (e.g., counters, blocks) to help solve a basic addition problem. When conducting this assessment, all

children should have access to the appropriate manipulable. Likewise, in a direct assessment, even if in the estimation of the assessor the child guesses the correct response, the response given is the one accepted, and the scoring protocol for the assessment would likely (if it is psychometrically sound) account for some proportion of correct guesses. Assessments that are conducted "in context," such as authentic assessments, may come close to violating standardization if they are completed in different contexts for some children than others. For example, authentic assessment of reading done for most children during "reading group" but for some children during a session of targeted individual literacy activity may provide skewed results for these children.

With these general concepts as background, it is important to place the assessment itself into a larger system context. As described below, the assessment context will consider some of these characteristics.

Considerations for Large-Scale Assessments

FRAMING AN EARLY CHILDHOOD ASSESSMENT SYSTEM

High-quality early childhood education is supported by assessments aligned with instructional goals and approaches. Assessment, however, does not refer simply to the tool being used; it refers to an interconnected system of decisions and activity. In addition to selecting an assessment tool or tools, the system requires supports and procedures to effectively and appropriately administer the assessment, as well as a data management and analysis system that captures the results of the assessments and allows the data to be used appropriately. These three components—selection, administration, and utilization—collectively comprise the assessment system as it is defined here.

Assessment, however, does not refer simply to the tool being utilized; it refers to an interconnected system of decisions and activity.

The three components of the assessment system are connected and should be strategically and appropriately linked to ensure that the assessment system is supporting the goals not only of the assessment program but of the education program as a whole. Choices made relative to one component will have implications in each of the others. Understanding these implications enables planners to purposefully and intentionally design assessment systems that align with their early childhood programs, which themselves should align with education systems serving older children in the state. Failure to do so creates the risk for misalignment, with potentially unintended consequences (Meisels 1987; Neisworth & Bagnato 2004). For example, a specific assessment may be selected because of its ease of administration, but result in data too limited to inform instruction or evaluate a program's effectiveness. Likewise, an assessment may be administered to a sample of children served, rather than all children, to reduce costs or allow for more in-depth assessment, but these data cannot then be used to inform instruction for all children or for any individual child.

To assist the decision making and planning necessary to deploy the type of assessment system called for by the Early Learning Challenge, this guidance is

organized around the three components of an assessment system—selection, administration, and utilization. For each component, best practices are highlighted and appropriate cautions or caveats provided. It is not the intention of this guidance to advocate for one assessment over another, or even to advocate for one approach over another. This guidance is intended, however, to advocate for taking a systematic approach to assessment. With such an approach, the implications of decisions made within each component for others are identified so that they may be made intentionally by system developers.

ASSESSMENT SELECTION

The current state of the field in early childhood assessment is captured by the National Academy report (Snow & Van Hemel 2008). While there are hundreds of assessment products for young children on the market today, there is unevenness in the degree to which they cover important domains of school readiness, as well as the degree to which they are appropriate for diverse populations, primarily those children who are English language learners (ELLs) or children with disabilities.[7] Available assessments also vary in their quality as measures (reliability and validity). The variation in assessments along these multiple characteristics needs to be carefully considered when selecting specific assessments. However, it should be noted that one option is to develop a new assessment tool, rather than use existing assessment instruments. Addressing this possibility is not specifically included here, but many of the considerations given in selecting an assessment also apply to constructed assessments, as do the implications of these considerations for other aspects of the assessment system.

WHAT IS THE PURPOSE OF THE ASSESSMENT?

The National Education Goals Panel identified four purposes for assessment, including to support instruction, to identify those with special needs, for program evaluation, and for high stakes accountability (Shepard, Kagan, & Wurtz 1998). Assessments are designed to be psychometrically strongest when used for specific purposes. Screening assessments are designed to have their greatest reliability and validity when used to identify children who may be at risk for or experiencing developmental delays and need additional diagnostic follow-up. Using screening instruments to assess child outcomes in other ways (that is, degree of skill) fails to capitalize on the strength of the assessment and may yield non-reliable or even invalid results when used differently. Articulating the purposes of an assessment is necessary for selecting an appropriate assessment tool or tools.

Assessments are designed to be psychometrically strongest when used for specific purposes.

CONSIDERATIONS AND CAVEATS:

- Clearly identifying the purpose of assessment is closely tied to the utilization aspects of the assessment system. Importantly, the design of the assessment is driven by its purpose. How the results of an assessment are used may or may

not be consistent with its purpose and therefore may be inconsistent with its underlying design.

- Using assessments designed for one purpose for another purpose threatens the assessment's psychometric soundness. However, the way in which assessment data are used could be modified to capitalize on the assessment's psychometric strength while still providing important utility. For example, while not an optimal measure for change over time, screening measures can be used to indicate how the proportion of children at risk changes over time (i.e., the percentage of children identified for further diagnostic assessment may be reported over time to describe changes in the size of that group, even though the data cannot be used to measure specific degrees of growth in the same area).
- As states grow comprehensive data systems, data from a range of assessments and other sources of information may be captured increasing the temptation to conduct a broader range of analyses than the data warrant, based upon how they were obtained. Even when analyses are conducted a long time after initial collection, the purpose and best use of assessment data need to be considered before conducting analyses and drawing conclusions from them.
- Use of kindergarten readiness assessments as a means of screening children into or out of kindergarten is inconsistent with generally accepted best practices and NAEYC's formal position on the inappropriate use of kindergarten assessments to keep an age-eligible child from enrolling (NAEYC and National Association of Early Childhood Specialists in State Departments of Education [NAECS/SDE] 2001).
- The purpose of assessment should be clearly communicated to professionals within the education community, policy makers, and children and their families. In addition, the intended uses of the results of assessment should be articulated so that the purpose and utilization components of the assessment system are clearly linked.

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HOW PSYCHOMETRICALLY SOUND IS THE ASSESSMENT?

As noted above, the best measure of the quality of an assessment is its psychometric properties, chiefly reliability and validity. There are general guidelines and standards available for most psychometric statistics (e.g., AERA, APA, & NCME 1999). Generally speaking, assessments can be judged as either meeting or exceeding these standards or not—modest variations in psychometric statistics across assessments that are otherwise psychometrically sound do not mean a great deal in practice. However, while reliability statistics may be presented along comparable lines (i.e., test-retest reliability assessed two-weeks

apart), variations in how these psychometrics were established create complexity. This is especially likely for validity data, because assessment validity may be reported in a number of ways, oftentimes using different benchmarks for validation. Some validity data may be based upon predictive validity (especially validity data for screening tools), while others may present validation data against any number of other assessments of the same domain of interest. The assessments against which any specific assessment is validated are themselves often of varying psychometric quality—a given assessment may be highly correlated (i.e., valid) with another assessment which may be more or less psychometrically sound itself.

CONSIDERATIONS AND CAVEATS:

- Assessments are primarily judged by their psychometric properties—if psychometric data do not meet or exceed standards then the assessment should not be considered. There are general guidelines and standards available for most psychometric statistics (e.g., AERA, APA, and NCME 1999).
- Psychometric data that are available are often collected under optimal conditions which may or not be achievable during implementation. As a result, they may be somewhat weaker in application. If psychometric data for the population to whom the assessment will be administered are not available, either because the developer does not provide them for the groups of interest or because the assessment is under development, use of the assessment may be considered, but plans for establishing its psychometric properties should be built into the assessment program.
- Psychometric data for two assessments may not be provided in easily comparable ways (i.e., comparing apples with oranges). In such cases, additional psychometric study, consultation with psychometric and content experts, or both, may be necessary to identify the strongest measure.

WHAT IS THE CONTENT OF THE ASSESSMENT?

By definition, assessments provide means of evaluating individuals' skills, abilities, or traits. Identifying what information is of interest is therefore a critical step in selecting an assessment. While the language in the Early Learning Challenge indicates the need for kindergarten readiness assessments, there are continuing debates about the definition of readiness, including what domains should be included and how they should be assessed (see, e.g., Snow 2006). In addition, some domains of interest in early education have a wide selection of assessments currently on the market, while other domains are captured by fewer assessments (e.g., Snow & Van Hemel 2008). Finally, some assessments are designed to provide information across multiple domains. In this case, the specific content of the assessment that contributes to the measurement of domains should be considered in addition to the utility of the assessment as a whole.

CONSIDERATIONS AND CAVEATS:

- Determine what is important to measure first, then find ways of mea uring it, rather than considering what measures currently exist and assume that those are the most important domains to measure. Such a strategy may reinforce the perceived importance of domains because they can be assessed (Kowalski, Brown, & Pretti-Frontczak 2005), even though contemporary research is demonstrating the importance of multiple domains of early childhood development (e.g., Diamond 2010; Snow 2007).
- Broad spectrum assessments (typically referred to as "readiness scales") may have greater psychometric strength around some domains than others. While these assessments may provide psychometrically adequate or sound "overall" indicators, domain or subscale scores may not be as vigorous.
- Assessment titles may suggest certain content or domain coverage, but the content of the assessment should be examined to ensure that it is capturing what is presumed. For example, the Peabody Picture Vocabulary Test (PPVT) is a measure of receptive vocabulary (i.e., words that a child recognizes only) and not productive vocabulary (i.e., words a child can produce).
- Some domains of interest in early education have a wide selection of assessments currently on the market, while other domains are captured by fewer assessments (see Berry, Bridges, & Zaslow 2004; Bagnato, Neisworth, & Pretti-Frontczak 2010; Boller et al. 2010; Brown et al. 2007; Halle et al. 2011; Snow & Van Hemel 2008 for reviews).
- The content of the assessment should align with state standards and curriculum goals for the children assessed. As noted above, in early childhood, especially in prekindergarten settings, variations in state early learning standards and curriculum use means that an assessment may align with the state standards and be informative for evaluation purposes (e.g., Roach et al. 2010), but may not align closely with locally used curriculum and so have less utility in informing instruction.

Determine what is important to measure first, then find ways of measuring it, rather than considering what measures currently exist and assume that those are the most important domains to measure.

WHAT IS THE COST OF THE ASSESSMENT?

The total costs associated with an assessment system can vary dramatically based upon a number of decisions, but are generally high. Depending upon the funding source(s) for adopting an assessment system, the potential drawing of funds away from direct services is a possibility that must be weighed against the ultimate value of the information obtained from the assessment. The costs are spread throughout the system (and will be noted as appropriate). However, with regard to the selection of an assessment, there are a few drivers.

CONSIDERATIONS AND CAVEATS:

- Assessment prices vary considerably in terms of direct purchasing or development costs, as well as the ongoing cost of training (in some cases) and scoring (in some cases). The cost and training demands are also related to issues of administration, as noted below.
- Assessments, like other education resources, typically go through cycles of revision or elimination, which can create recurrent costs as assessments revise over time or need to be replaced.
- Assessments for young children may exist within products lines, typically within publishers or developers. In some cases, there may be vertical alignment (i.e., a series of assessments appropriate to children of different ages that have established psychometric linkages) that may affect costs and/or utility when considered within the larger education system needs.
- Some schools or programs use a curriculum with an integrated or linked assessment. These schools may have an established use history and experience with specific assessments, and the school system may also have paid for use of the materials over a number of years. As a result, the challenges and costs of adding or changing assessments may be an important consideration. Likewise, programs may be under a mandate through their funding source to include specific assessments. In these cases, any additional assessments should be used based upon their capacity to add valuable information about the children being served, either through greater psychometric strength, greater domain coverage, or greater potential to meet additional purposes of assessment.
- Some costs are not so obviously linked to funding money. Time spent preparing for and conducting an assessment that does not ultimately provide information (e.g., the selected tool was not aligned with curriculum or standards) is wasted and needs to be recovered for teachers, program administrators, and children.

ADMINISTRATION

An assessment system must also include consideration of several issues related to the administration of assessment tools—who assesses the child, when, how often, and what degree of training and support is necessary to ensure that administration yields the most psychometrically sound results. Administration also considers which children are assessed, if all children are assessed or a sample of children, if there are assessments in multiple languages and screening for English proficiency.

Who assesses the child?

Assessments for young children include direct assessment instruments, almost exclusively individually administered, or observational measures completed by parents, teachers, or other adults. While these designs have important differences, underlying each is the expectation that there is some relationship between the

child and assessor. Even if the assessor is an adult not previously known by the child, training in administration of early childhood assessment includes rapport-building. This relationship context is important in the direct administration of assessments to encourage the child's participation, but it is also important in observational and rating scale assessments, which often rely upon some experience of the child by the assessor.

The nature of the assessment sometimes determines the assessor; in authentic assessment, the child is assessed by the teacher or caregiver. For many direct assessments, assessors trained specifically on the administration of the assessment are typically used, although it is possible to train teachers on the administration of many measures. However, direct measures (and other measures, as well) require varying amounts of training and experience to administer, making the match between assessor and instrument critical. Determining who will fill the assessor role has consequences for costs, time, and training, as well as implications for data quality.

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The purpose of the assessment may also inform the characteristics of the assessor. When the purpose is to inform instruction, the assessment is most typically conducted by the teacher. When the purpose is to measure program effectiveness, the use of assessors other than the child's teacher is often viewed as providing a more objective assessment, although as noted above, it is still important that a relationship exist with the child, even if only through rapport-building. The increasingly cultural and linguistic diversity of children in early education programs raises important questions about the language of assessment (see below). Children who are dual language learners may be assessed in multiple languages, which requires that assessors who are fluent in other languages be able to conduct assessments.

Finally, the assessor should be trained, and able to demonstrate competence, in conducting assessments with young children. In the context of observational measures, this includes consistency of item interpretation and rating criteria, regardless of setting. For direct assessment methods, the need for training includes general procedures in conducting direct child assessments such as rapport-building, avoiding unintended coaching, correct and incorrect use of prompts. For all assessment strategies, training that addresses best practices in "stage setting" (i.e., identifying and using adequate space, minimizing noise and distraction), may also be necessary (e.g., Begeny & Buchanan 2010). Likewise, the importance of conducting the assessment in the same way for all children (see discussion of standardization, above) within a classroom, program, and system should be underscored. Finally, an assessment system should establish a means through which assessor competence in conducting the selected assessment tools can be demonstrated. Typically, competence is either assumed, due to established qualifications or credentials, or assumed as the outcome of some targeted training. However, procedures for certifying that assessors can appropriately conduct assessments using the intended tools, with the target children, in the expected programs can be established.

CONSIDERATIONS AND CAVEATS:

- Best practice in early childhood assessment suggests that assessment of young children be conducted by either an individual with an existing relationship with the child, or by a previously unknown individual who takes time to establish a rapport with the child before the assessment begins.
- The complexity and administration demands of the selected assessment(s) inform the necessary skills and experiences for assessors. They also inform training and ongoing monitoring of administration required to ensure appropriate administration. For many direct assessments, assessors trained specifically on the administration of the assessment are typically used, although it is possible to train teachers on the administration of many measures, especially those that rely on observation, rather than direct assessment.
- In system-wide assessment programs, the qualifications, training, and role of the assessor should be common across the system. Variations here, including potential assessor effects (e.g., Waterman et. al 2012), threaten the validity of the results.
- Generally speaking, assessments completed by individuals close to the child are well suited for some purposes (e.g., informing instruction), but tend to be discouraged when used for other purposes (e.g., evaluation).

When and how often are assessments completed?

There are two time dimensions to consider in defining a kindergarten readiness assessment system—the frequency of assessment and when it occurs. To most effectively inform instruction, assessment should be ongoing to provide continuous feedback to the teacher on children's progress. To be used for program evaluation purposes, multiple assessments are necessary to allow for the measurement of growth during the program. As a result, decisions about the frequency of assessment are tied to the purpose of the assessment.

However, the use of readiness assessments for children once they are enrolled can provide important information about the children being served and areas of comparative need.

In considering the timing of kindergarten readiness in relation to date of entry, there is an important distinction to be made between kindergarten readiness assessment as a means of screening children for placement in kindergarten and kindergarten readiness assessment as a means of determining the general level of abilities of entering kindergartners. In general, using readiness assessments to place children into kindergarten classes has had limited success (e.g., Meisels 1987; La Paro & Pianta 2000), and using kindergarten readiness assessments as means of limiting access to kindergarten is viewed as inappropriate practice (NAEYC & NAECS/SDE 2001). However, the use of readiness assessments for children once they are enrolled can provide important information about the children being served and areas of comparative need (e.g., Brown et al. 2007). By definition, kindergarten readiness assessments used to

screen children into kindergarten must occur prior to kindergarten entry (and they may result in denying access). Assessing the skill set of children about to enroll or enrolled in kindergarten may occur in the months prior to kindergarten entry, but most typically occurs once the kindergarten year has begun.

CONSIDERATIONS AND CAVEATS:

- Single point-in-time assessments can provide a snapshot of children's performance, but cannot be used to examine change in children over time.
- Single point-in-time snapshots may be used to examine successive cohorts of children entering kindergarten in a state or locality to estimate changes in the populations of children served over time.
- To describe change over time in children, whether the purpose is to inform instruction or to evaluate programs, assessments of the same children must be completed at multiple time points. Single point-in-time assessment data cannot provide developmental data on individual children.
- When using a single point in time to assess children once enrolled in kindergarten, the timing should allow for a brief period of adjustment to the classroom and school routines, but not be delayed so far into the school year that the results are driven not only by kindergarten readiness but also by children's response to instruction during the first part of the kindergarten year. To allow comparability across groups of children, assessments should be implemented at about the same time for all children to avoid variations in performance based in part on children's variations in exposure to instruction.
- The majority of young children have experiences outside of the home during the year prior to kindergarten and they are spread across a wide range of programs and settings. Because of this dispersion in the population of children, conducting kindergarten readiness assessments prior to the beginning of the kindergarten year can be logistically and practically daunting.

What children are assessed?

The NAEYC and NAECS/SDE position statement on curriculum, assessment, and instruction advocates for the use of ongoing assessment to inform instructional progress and guide instruction to be developmentally appropriate for each child (NAEYC & NAECS/SDE 2003). This system assumes that all children are engaged in the assessment process. However, that is not necessarily the case depending upon the purpose of assessment and how the results will be used. Assessments used to evaluate programs, for example, can utilize a sample of children from the targeted program to estimate effects. Reducing the number of children assessed reduces the overall time burden on programs, or maintains the overall time burden but allows for longer assessment times per child. An additional alternative for evaluation purposes is matrix sampling. Under this design, a larger assessment is broken into smaller pieces, and each child is administered a portion of the total assessment. The data can then be combined to estimate program effects. The

decision to assess all children, or a sample, affects both cost and potential uses of the assessment data.

CONSIDERATIONS AND CAVEATS:

- The intention to assess all children or a sample of children should be informed by the purpose of the assessment and how the data will be used. The total number of children to be assessed has implications for costs as well as time burden on children and programs.
- To use assessments to screen for developmental disabilities, or to guide instruction, it is necessary for all children to be assessed; however, for other purposes, sampling strategies may be used.
- If a sample of children is to be used for a statewide assessment program, all children should participate in local or other assessment programs to provide information on their progress to inform instruction.
- If a sample of children is to be used, the sample should be designed to allow for estimates for children of different groups and should be based upon a random draw. The sample should provide adequate statistical power to establish estimates with minimal sampling error.
- An alternative sample-based approach, called matrix sampling, breaks a larger assessment into smaller pieces, and each child is administered a portion of the total assessment (see, e.g., Childs & Jaciw 2003). The data can then be combined to estimate program effects. This approach is taken in the National Assessment of Education Progress (NAEP), the so-called Nation's Report Card.
- Considerations should also be given for identifiable groups of children. For example, accommodations may or may not be necessary for children with disabilities. Likewise, children who are dual language learners, and may or may not be assessed in multiple languages, would be an important group to identify. Being able to identify groups based upon known risk factors, such as income (typically denoted as eligibility for free or reduced-price lunch in K–12 systems, possibly by receipt of services through federally funded programs for early education) and race/ethnicity may also be necessary if the purpose of the assessment is to measure effectiveness.

This diversity in linguistic and cultural backgrounds presents a number of complex considerations for early childhood education, generally, and assessment in early childhood especially.

HOW ARE ASSESSMENTS IN MULTIPLE LANGUAGES MANAGED?

There is a well-documented trend in the U.S. population toward greater diversity, including greater presence of young children coming from homes where English is either secondary or not spoken at all. While many of these children are exposed to English through programs prior to school entry, many are not, or many are exposed but have very limited English skills. This diversity in linguistic and cultural backgrounds presents a number of complex considerations for early childhood education, generally, and

assessment in early childhood especially (e.g., Espinosa 2005). How these children are assessed is driven a great deal by the purpose of the assessment and how the data will be used. For example, a Spanish language version of a math assessment will be a more accurate indicator of a Spanish speaking child's math abilities than will an assessment of mathematics given in English. However, the assessment in English may be a better index in the child's progress toward showing mathematics skills in the language in which he or she is most likely to be assessed as an older child.

CONSIDERATIONS AND CAVEATS:

- The NAEYC position statement on assessment of young ELLs (2005) captures the research consensus that ELL children be assessed in their home language where possible, and assessed in English only if they have an appropriate level of proficiency to provide for reasonable estimates of skills when assessed in English.
- The language of assessment is tied to the purpose of the assessment. If the purpose is to assess children's understanding of concepts or underlying skills, then assessment in the child's primary language may be appropriate. If the purpose is to assess the child's progress in English, then assessment in English would be more important.
- Will the assessment be conducted in languages other than English? If so, are there appropriate versions of the same assessment, with documented psychometric properties that are sound for all languages of administration?
- How will data from multiple languages be pooled, reported, and analyzed?
- If assessing in multiple languages, how will children be screened for assessment in a non-English language? The Early Childhood Longitudinal Study, Birth Cohort (ECLS-B) (Najarian et al. 2010) study utilized a screen with a relatively low level of English proficiency required for children to be assessed in English, while the Early Childhood Longitudinal Study, Kindergarten Cohort of 1998 (ECLS-K) (Rock & Pollack 2002) utilized a higher level of demonstrated proficiency.
- If being assessed in a language other than English, the assessments should be conducted by assessors fluent in the language of assessment.
- If assessed in languages other than English, the language of assessment should be reported and the results of assessment interpreted as the child's skills or abilities as demonstrated in English. This avoids confusion between demonstration of skill in a second language for dual language learners and the potential for a different level of skill when assessed in another language.

UTILIZATION

The expected uses of data resulting from an assessment are tied to the purpose of the assessment, as noted earlier is discussing the section of assessment tools. When discussing utilization, the focus is on the outcome of the selected assessments—the data that they produce. Assessments of young children yield data tied to the assessment. These data are then used by teachers, caregivers, parents, program developers, policy makers, and others in a range of ways. When data result from an assessment intended to guide instruction, immediate access to and use of data are important in guiding teachers' classroom activities, so timeliness is tied to the usefulness of the data. When data from assessments are intended to serve as means of monitoring programs or estimating impact, additional steps may need to be taken to integrate data, ensure their quality, and generate analytic models to measure effectiveness. For these uses, more time is needed to ensure appropriate preparation for and use of the data, but the relevance of the data for making programmatic or policy decisions will decline over time. Beyond serving the immediate purpose(s) of assessment, data emanating from assessment systems can be used more systematically. The integration of assessment data with other data within a larger data system can support federal and state program development and inform policies. Such datasets may also be critical sources of new knowledge within the research community. Finally, once assessment data have been generated, a number of considerations concerning data confidentially and security arise that warrant discussion.

When discussing utilization, the focus is on the outcome of the selected assessments—the data that they produce.

TIMELINESS OF USE

Assessments are useful tools in so far as they are able to provide useable information, regardless of the purpose of assessment, in a timely way. However, stakeholders must balance the desire to use data quickly to inform educational practices and the need to assure appropriate quality in completing scoring and interpreting the data to provide feedback on program effectiveness. For teachers conducting authentic assessment to inform their instruction, the connection time between assessment and use of the result may be minutes. Other assessments strategies, including those that involve large-scale standardized assessments, or the completion of a large number of direct child assessments that require analyses before scores may be reported, often require data processing and analyses, potentially causing a delay of weeks or months between assessment and reporting. Whether assessments yield data very quickly or require substantial analyses before reporting, assessment data should be captured through secure data systems and processed through data quality procedures. These processes ensure that data are secure and error-free, but also create a lag

Stakeholders must balance the desire to use data quickly to inform educational practices and the need to assure appropriate quality in completing scoring and interpreting the data to provide feedback on program effectiveness.

between when assessments are administered and when their results may be known. As a result, it is important to develop realistic expectations for how quickly data from assessments can be used.

CONSIDERATIONS AND CAVEATS:

- The desire for rapid turnaround between assessment and data must be balanced with time to complete necessary data quality, and potentially data analytic, processes.
- Assessments used to inform instruction or screen for potential risk should yield results as quickly as possible.
- When data reporting lags behind the date of assessment, the discrepancy should be shared; data from a fall 2009 kindergarten readiness assessment that are released the following year should clearly be identified as being based upon the kindergartners from the previous fall.

Use of assessment data to ensure developmentally appropriate early education

The first two purposes for assessment articulated by the Education Goals Panel focus on individual children—using assessment to guide instruction and using instruction to identify children who may be in need of special services. Assessments to inform instruction provide data that can guide teachers toward instructional approaches to reach children's learning needs. Using assessments this way provides teaches with valuable feedback on their instruction and allows them to tailor it to more effectively support children's development. Likewise, assessments used to screen for the possible need for special services should lead directly to a response, in this case, more thorough assessment to move toward diagnostics. Assessments used to inform instruction or screen for potential weaknesses are invaluable for improving early education for children, but are not well suited for other purposes.

CONSIDERATIONS AND CAVEATS:

- Ongoing assessment, especially when it is conducted within the context of typically occurring activity (e.g., authentic assessment) provides information to teachers about children's current competencies that can be used to inform instruction.
- Assessments designed to inform instruction and to identify potential need for additional services should be administered to all children so that all children may benefit from them.
- Data obtained from assessments used for screening purposes should be linked to a systematic sequence of events when a child is identified to be at risk. This system should include additional diagnostic assessment and the provision of services to meet any identified special needs (Meisels & Atkins-Burnett 2005).
- Assessments should not be used to determine a child's eligibility for enrollment in kindergarten or continued receipt of kindergarten instruction.

Use of assessment data for evaluation and accountability purposes

The third and fourth purposes for assessment outlined by the National Education Goals Panel focus on the use of assessments to evaluate program effectiveness and for program accountability. While there is agreement that early childhood programs require evaluation, there is growing concern about the appropriateness of some early childhood assessment measures when used to evaluate programs and in the context of high-stakes assessment. As the National Academy's report Eager to Learn (Bowman, Donovan, & Burns 2001) noted, "uses of assessment data for purposes external to the classroom, rather than to improve educational practice directly, place a particularly heavy burden both on the assessment instruments and on the responsible adults." One consequence of this is that assessments used for other purposes, such as to inform instruction, are adapted, modified, or even misused for evaluation and accountability purposes. Snow and Van Hemel (2008, 343–344) underscore this in concluding that "there are not many tools designed for large scale program evaluation, so tools designed for other purposes often are adapted (e.g., shortened or administered differently) out of necessity, without sufficiently investigating the validity of the adapted tools in their new form and for their new purpose."

CONSIDERATIONS AND CAVEATS:

- While there is agreement that early childhood programs should require evaluation, there is growing concern about the appropriateness of some early childhood assessments as a means of evaluating programs and in the context of high-stakes assessment. The concern is especially with the use of measures intended to guide instruction or to screen for developmental problems used instead for accountability purposes.
- Because of the importance placed upon the results of studies examining program effectiveness, only assessments designed to yield such data and those with the greatest psychometric strength should be employed.
- Assessment results are only one data element in analyses of program effectiveness and on their own do little to clarify the relative roles of specific programs, prior life events, and other factors that correlate with school readiness.
- Assessment data used for evaluation or high stakes purposes do not need to be collected from all children. Assessing a sample of children can provide the data necessary for such analyses. In general, sampling costs less, and also requires less time, for children (especially when matrix sampling is used) than an assessment conducted with all children.

Use of assessment data in analyses within comprehensive data systems

As noted previously, the decisions about assessments and their implementation are important in ensuring that best practices in early childhood assessment are maintained. Ultimately, though, it is the results of these assessments (that is, the resulting scores) that will become part of data systems envisioned under ELC.

While the construction of complex, integrated data systems holds the promise for a wide range of positive outcomes for children, families, and programs, there is also the potential for harm. Once data systems are constructed, the temptation to analyze the data may precede the thoughtful, deliberate planning that is essential to ensure valid findings. Depth of data does not lead to depth of analytic capability.

Depth of data does not lead to depth of analytic capability.

CONSIDERATIONS AND CAVEATS:

- In using data from kindergarten readiness assessments, it is important to consider the children's age at assessment, as well as accounting for variations in how much time has elapsed since the beginning of the school year; both age at assessment and duration of school prior to assessment can result in differences in scores (see, e.g., Denton Flanagan & McPhee 2009).
- Assessment data captured in a comprehensive data system allow for a number of critical analyses, including the tracking of trends in the kindergarten population over time.
- Kindergarten readiness assessment data should be analyzed in ways consistent with the purposes of the assessment and the psychometric strength of the assessment. Assessments used to inform instruction may yield assessment data not appropriate for evaluative purposes.
- Within larger data systems, the wealth of data leads to the expectation that important differences may be explained (e.g., the kindergarten entry achievement gap). However, in the absence of experimental manipulations, or sufficient data to model pre-existing differences among children, families, and programs (i.e., selection effects), the analyses that can be conducted yield correlational findings only.
- Readiness assessments do not ensure that data systems have captured the breadth of information about the child's prior developmental and educational experiences necessary to support analysis of readiness data as measures of the effectiveness of earlier experiences.
- Readiness assessments provide only one measure of a program's effectiveness that should be combined with data about the quality of the program, as well as non-program factors.

Need for data confidentiality and security

Data produced by child assessments, as well as other data that may be included in a comprehensive data system, or even a more modest, program-level data system, should be treated as confidential and stored according to best practices for ensuring confidentiality and data security.[8] Doing so requires activity before, during, and after assessments have been completed. Before assessment data are collected, data systems and processes should be in place to capture data as necessary. Parents should be informed of assessment plans, and any necessary consent obtained. In some situations, parents may also need to provide consent

for data collected locally to be shared into larger data systems. Throughout assessment and data collection, the physical and electronic storage of assessment data should be secured. In some cases this may also require removal of personally identifying information from assessment records to ensure confidentiality. As the data system is built, and especially if data are to be integrated into larger systems, additional steps may be necessary to ensure data security and confidentiality. If not already done, personal information may be stripped from data records in this process.

CONSIDERATIONS AND CAVEATS:

- Conducting assessments, especially as a part of a program to inform instruction, may not require parental consent, but consent may be necessary for conducting other assessments and/or for sharing the results of assessments (data).
- Federal and/or state programs may have requirements for consent and data protection procedures, while individual programs may need to develop such guidelines.
- Data from assessments used to evaluate programs can be made confidential by removal of personally identifying information without affecting the data usefulness in evaluation. However, data that are intended for use over time (i.e., longitudinal) must have some means of linking a specific child's data together over time, even if that information is not personally identifying.
- If data are to be stored and maintained for long periods, it may become necessary to obtain consent from the children for continued use of their data once they reach the age of legal consent.
- The process of obtaining consent provides an important opportunity for programs to engage families.

SUMMARY AND CONCLUSION

Early childhood assessment systems, properly developed and implemented, can contribute greatly to the success of early childhood programs. Systems that effectively screen for follow-up children at risk for developmental delays can identify young and very young children for intervention services. Systems that inform a teacher's instruction better allow for targeted instruction and support to further children's learning and development. Systems that provide a portrait of skills children have as they enter public school systems can inform curriculum decisions. And assessments that can provide evidence of growth tied to participation in programs can guide implementation and policy decisions. Effective early childhood assessment systems exist within a larger early childhood system that provides programs to young children and supports teachers' professional growth. In designing early childhood assessment systems, fundamental decisions made about instrument selection, administration, and data utilization are interconnected, and decisions made about one aspect of an

assessment system can drive other options. This paper is intended to provide background for state and local policy makers, systems' builders, and program developers and implementers as assessment systems for young children are contemplated. An intentionally designed system for assessing young children is a necessary component of effective early childhood programs.

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ENDNOTES:

1 Program Standard 4: The program is informed by ongoing systematic, formal, and informal assessment approaches to provide information on children's learning and development. These assessments occur within the context of reciprocal communications with families and with sensitivity to the cultural contexts in which children develop. Assessment results are used to benefit children by informing sound decisions about children, teaching, and program improvement.

2 Candidates prepared in early childhood degree programs understand that child observation, documentation, and other forms of assessment are central to the practice of all early childhood professionals. They know about and understand the goals, benefits, and uses of assessment. They know about and use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals, to positively influence the development of every child.

3 Lack of funding is, of course, one of a number of factors that limit participation of eligible families. Lack of awareness, difficulty navigating procedures, and parental choice to not participate or use other types of programs are also factors in the limited reach of these federal programs.

4 In addition, states provide differing models of kindergarten programs, including transitional kindergarten and two-year kindergarten. Some states allow for kindergartners to be held back to repeat a year of kindergarten before progressing into first grade.

5 Throughout this paper, we use the terms "young children" and "early childhood" to mean children from birth to age 8, reflecting the NAEYC definition of early childhood. Most of the current impetus for assessment, however, is focused on children in preschool and older.

6 It is not the intent of this guidance to provide details about psychometrics. There are many assessment textbooks and other resources available to provide this depth of coverage.

7 For further discussion about assessing ELLs, see NAEYC (2005). For further discussion on assessing children with disabilities, see DEC (2007).

8 While most contemporary discussion about data security occurs within the context of electronic or digital systems, many of the same concerns arise when the data are captured and stored physically. This is especially likely when assessments are used to inform instruction (where data on responses may not be captured at all), or when assessment data are considered at a classroom or program level, where electronic systems are less likely to be present than in statewide or program-wide contexts.

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Making the Link Between Health and School Readiness

Head Start[1] is a school readiness program. The health-related activities required by the Head Start Program Performance Standards (HSPPS) are designed to ensure that every child who enters the program achieves his or her optimal development.

Children enter the program at different developmental levels and with a variety of health needs. Promptly identifying and treating children's health issues and promoting children's health prepares children for school. Helping families understand developmental screening and referral, and proactive prevention when health issues affect children's learning supports children's school readiness.

This online tool is designed to help programs better understand the *link between their school readiness goals and their health service plans*. It will help them design school readiness goals that integrate meaningful health strategies. Well-targeted, actionable health promotion, prevention, and treatment can help achieve those goals.

This online tool is meant to be used by:

- ***Education leaders and school readiness teams*** to
  - Understand the link between child health and school readiness;
  - Develop health strategies that support school readiness goals; and
  - Integrate specific health services into school readiness plans.
- ***Health managers and health staff*** to
  - Offer talking points about the link between child health and school readiness;
  - Ensure health services plans, procedures, and protocols align with the program's school readiness goals; and
  - Develop health strategies to include in school readiness plans.
- ***All program leaders*** to
  - Help staff, families, partners, and policy makers understand the link between health and school readiness;
  - Describe health strategies that promote children's achievement of school readiness goals; and
  - Advocate for the inclusion of health services in a comprehensive approach to children's educational services.

Please read How Program Leaders Can Use This Tool to strengthen school readiness and health services plans.

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[1]Head Start is used as an inclusive term for all program options offered by Early Head Start, Head Start, Migrant and Seasonal Head Start, and Alaska Native American Indian programs. Sections identify Early Head Start or Head Start when appropriate.

How Program Leaders Can Use this Tool

This tool uses a five-step process for examining the *links between health and learning* for each of the five essential domains of school readiness in the Child Development and Early Learning Framework (CDELF). The domains are arranged alphabetically so that programs can select them in any order.

Step 1: Select a starting point.
This tool is organized around sample school readiness goals for each of the five essential learning domains. To begin, select a domain on the Links between Health and the Five Essential Domains of the Child Development and Early Learning Framework page.

Step 2: Review the content of the learning domain.
Read:

- A ***short statement*** about the link between children's health and the specific learning domain.
- ***Research Connections*** with science-informed evidence related to the domain.
- ***A printable table including:***
  - ***Examples*** of school readiness goals for infants and toddlers related to that domain developed by the Early Head Start National Resource Center.
  - ***Examples*** of school readiness goals for preschool children related to that domain developed by the National Center on Quality Teaching and Learning.
  - ***Suggested health strategies*** that support the goal with links for further information.

Step 3: Review the suggested health strategies.
Program leaders may find new strategies that may be helpful additions to health services and school readiness plans. In addition, this tool includes research connections to validate the science-informed strategies already written in plans.

Step 4: Continue with other domains.
Depending on each program's planning needs, program leaders may explore other domains and strategies to support the program's school readiness goals and improve child outcomes.

Step 5: Discuss ideas with the school readiness and health teams.
This tool can help program teams begin to brainstorm new health activities to include in school readiness and health services plans.

Links Between Health and the Five Essential Domains of the Child Development and Early Learning Framework (CDELF)

Head Start provides "health, educational, nutritional, social, and other services that are determined, based on family needs assessments, to be necessary."[2] Staff coordinate and deliver these services as part of a "whole child" approach to child development. All staff impact child development through the health services they deliver. By promoting health and safety and helping to identify health concerns, staff play a critical role in school readiness.

Each of the five domain pages describes the links between health and an essential learning domain of school readiness.

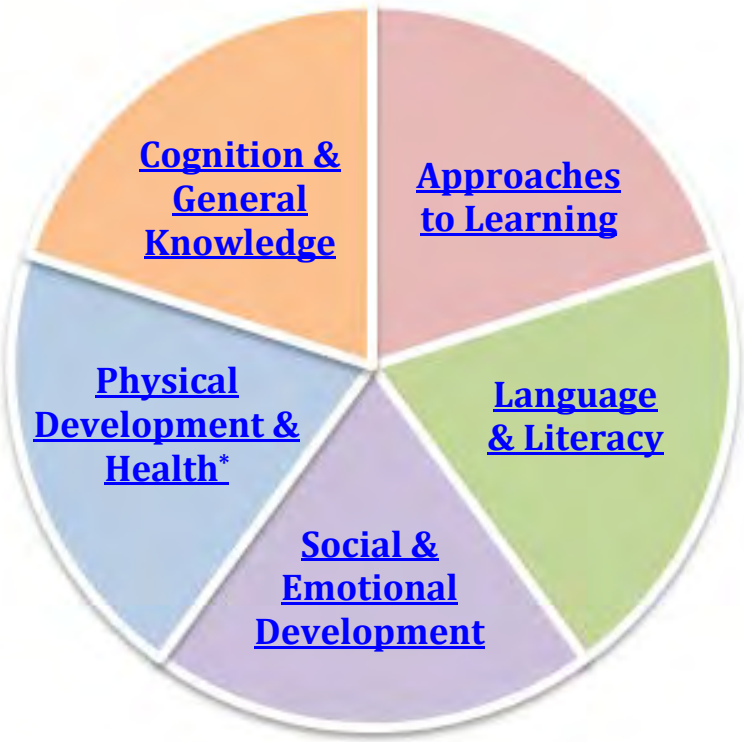
Each domain page includes:

- A ***short statement*** about the link between children's health and the specific learning domain.
- ***Research Connections*** with science-informed evidence related to the domain.
- ***A printable table including:***
  - ***Examples*** of school readiness goals for infants and toddlers related to that domain developed by the Early Head Start National Resource Center.
  - ***Examples*** of school readiness goals for preschool children related to that domain developed by the National Center on Quality Teaching and Learning.
  - ***Suggested health strategies*** that support the goal with links for further information.

Background information
In 1990, federal and state leaders convened the National Education Goals Panel, a group of national education experts, to identify five domains critical to school success. The five domains of school readiness represent a holistic vision of development that recognizes the importance of comprehensive services to ensure each child's success in school and life. Development in each of these domains depends on the coordination of high-quality comprehensive services.

[2] H.R. 1429--110th Congress: Improving Head Start for School Readiness Act of 2007. Section 636(2). (2007). Retrieved from http://www.govtrack.us/congress/bills/110/hr142

Connect to examples of school readiness goals and health services that support them by selecting a domain below:



Programs may have school readiness goals other than the examples featured in the table. After reviewing each domain, use the Guide to Other School Readiness Goals to find links to health services for these topics.

*The National Education Goals Panel and 45 CFR 1307(b)(2)(ii) refer to this domain as physical well-being and motor development. Snow, C. E. & Van Hemel, S. B. (Eds.) (2008). *Early Childhood Assessment: Why, what, and how*? (p. 87). National Research Council of the National Academies. Washington, DC: National Academies Press.

Approaches to Learning

What Is the Link Between Health and Approaches to Learning?

Approaches to Learning are the ways in which children learn. These include children's "openness and curiosity to tasks and challenges, task persistence, imagination, attentiveness, and cognitive learning style (e.g., how children process information)."[5]

Staff build trusting relationships that help children engage in learning using strategies such as:

- Learning children's interests
- Observing children's behaviors
- Planning based on children's social and emotional development, learning style, and information from the daily health check

Research Connections

Research "supports the notion that paying attention and persisting on tasks are foundational skills that are critical early in life and continue to positively predict social and academic outcomes throughout childhood and into adulthood."[3] By the time children are two years old, their early experiences influence whether they can confidently explore their environment, and have the persistence they will need to master the many challenges when learning new skills. Children who experience significant levels of stress at an early age are less likely to develop these characteristics because of the effect of stress on early brain development.[4]

Examples of School Readiness Goals

The following printable table includes sample goals developed by the Early Head Start National Resource Center and the National Center on Quality Teaching and Learning. Review the links to health services in the third column and find strategies to accomplish your Approaches to Learning school readiness goals. If program school readiness goals address topics that are different from the examples offered, find links to health services here.

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[3] McClelland, M. M., Acock, A. C., Piccinin, A., Rhea, S. A., & Stallings, M. C. (2013). Relations between preschool attention span-persistence and age 25 educational outcomes. *Early Childhood Research Quarterly, 28*(2), 314–324. Retrieved from http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/31860/Preschool%20attention%20%20later%20outcomes_7-17-12%20FINAL%5B1%5D.pdf?sequence=1

[4] National Scientific Council on the Developing Child. (2005). *Excessive stress disrupts the architecture of the brain* (Working Paper No. 3). Retrieved from http://developingchild.harvard.edu/index.php/resources/reports_and_working_papers/working_papers/wp3/

[5] Hair, E., Halle, T., Terry-Humen, E., Lavelle, B. & Calkins, J. (2006). Children's school readiness in the ECLS-K: Predictions to academic, health, and social outcomes in first grade. *Early Childhood Research Quarterly*, *21*, 431–454. Retrieved from http://childtrends.org/wp-content/uploads/2013/01/First-Grade-Readiness.pdf

EARLY HEAD START	HEAD START	Links to Health Services
Goal 1: Children will demonstrate interest, curiosity, and eagerness in exploring the world around them.	*Goal 1:* Children will show an interest in varied topics and activities, an eagerness to learn, creativity, and independence in their interactions with activities and materials.	**Mental Health** • Helping children develop pro-social behaviors that help them engage in learning. • Using behavioral screening results to support children's social and emotional development and approaches to learning. **Nutrition and Physical Activity** • Helping families make informed decisions about breast and formula feeding during the early years. • Offering nutritious, culturally-appropriate meals that meet children's needs and give them the energy to learn. • Providing age-appropriate amounts of physical activity in children's daily routines to support positive behaviors and promote physical health. **Physical Health** • Using health data to make decisions about how to individualize services to meet each child's needs. **Safety and Injury Prevention** • Creating and maintaining safe environments that engage children and support their healthy development. • Identifying and reporting suspected child abuse and neglect to protect children from maltreatment..
Goal 2: Children will develop persistence in learning and discovery.	*Goal 2:* Children will demonstrate persistence when working with materials, activities, and information.	
Goal 3: Children will learn and use words to describe what they are thinking and doing.	*Goal 3:* Children will learn and use words and concepts that parallel the information available in activities and materials.	

Cognition & General Knowledge

What Is the Link Between Health and Cognition & General Knowledge?

Healthy brain development lays down the foundation for all future learning. As they grow, it allows children to question, analyze, remember, and make links between things they learn. Head Start health promotion activities may help to prevent illnesses and alleviate family stresses that impact children's brain development. Health services that support children's cognitive development improve children's ability to learn and express what they know.

Research Connections
To memorize, problem solve, and connect learning, a child's brain needs to make critical neurological connections.[6] "Skills crucial to success in school, including the ability to regulate one's urges (inhibition), the ability to hold some information in mind while attending to something else (working memory), and the ability to switch attention or mental focus (cognitive flexibility), are shaped through the give and take of the relationships in which babies engage during the first two years of life."[7]

Staff support healthy brain development and cognitive growth by:

- Using health information to identify and refer children for evaluation and/or treatment of cognitive delays. This information comes from:
  - Screening and assessment,
  - Children's well-child visits,
  - Observations by families and home visitors and daily health checks, and
  - Ongoing communication with families and children's medical and dental home;
- Making adaptations for children who may need individualized support (including children with disabilities) to fully participate in learning environments; and
- Building relationships with health care professionals or special education and related service providers.

Examples of School Readiness Goals
The following printable table includes sample goals developed by the Early Head Start National Resource Center and the National Center on Quality Teaching and Learning. Review the links to health services in the third column and find strategies

[6] High, P. (2011, October). Early brain and child development: Implications for the life course and opportunities for advocacy. Presentation at the First Annual Head Start Leadership Institute, Washington, D.C.

[7] Lally, J.R. (2010) "School Readiness Begins in Infancy." Phi Delta Kappan.92 (3): 17–21.

to accomplish your Cognition and General Knowledge school readiness goals. If program school readiness goals address topics that are different from the examples offered, find links to health services here.

EARLY HEAD START	HEAD START	Links to Health Services
Goal 1: Children will learn and begin to use math concepts during daily routines and experiences.	*Goal 1:* Children will use math regularly and in everyday routines to count, compare, relate, identify patterns, and problem solve.	**Children with Special Health Care Needs and/or Disabilities** • Modifying and adapting services to meet children's unique developmental needs. • Increasing staff knowledge and skills on inclusive practices to promote children's learning. **Physical Health** • Capitalizing on partnerships to expand health resources that promote optimal brain development. • Using health data to make decisions about how to individualize services to meet each child's needs. **Sanitation and Hygiene** • Integrating school readiness into health policies and procedures to keep children healthy and engaged in learning. • Promoting healthy habits to prevent illness and improve child participation in learning experiences and activities. **Services to Pregnant Women and Expectant Families** • Supporting healthy beginnings for infants and their families that promote nurturing relationships to sustain learning throughout a child's life. • Planning continuous supports and services for infants and their families to promote positive transitions and ongoing learning.
Goal 2: Children will use all of their senses to investigate their environment to discover what objects and people do, how things work, and how they can make things happen.	*Goal 2:* Children will use observation and manipulation, ask questions, make predictions, and develop hypotheses to gain a better understanding of information and activities in their surroundings.	
Goal 3: Children will begin to develop and demonstrate the ability to remember and connect new and known experiences and information.	*Goal 3:* Children will use their skills in remembering information and in being aware of their own thinking.	

Language & Literacy

What Is the Link Between Health and Language & Literacy?

A child's physical development has a direct impact on the ability to develop and use language. Hearing and vision provide access to the sounds and sights associated with verbal and written communication skills. Children need to be able to communicate "needs, wants, and thoughts verbally"[10] to be successful in school. Health services help children to develop effective communication skills and learn how to engage in meaningful language and literacy experiences including maintaining use of their home language.

Research Connections:
Language . . . is the principal way we formulate thoughts and convey them to others."[8] Children develop neurological connections to receive and process information, speak, read, and write. "Speech requires motor planning and precise and complex coordination of breathing, sound production, and articulation. Language requires complex and integrated brain function."[9] Their physical wellness impacts the musculature necessary to form words.

Staff promote children's language and literacy development including:

- Sensory screening to ensure children are physically able to participate in language and literacy activities;
- Well-child visits to ensure children's physical health promotes language development; and
- Creating language-rich environments and experiences that helps the child
    - Practice using language to express themselves and communicate with others, and
    - Practice engaging in literacy experiences and activities.

Examples of School Readiness Goals

The following printable table includes sample goals developed by the Early Head Start National Resource Center and the National Center on Quality Teaching and Learning. Review the links to health services in the third column and find strategies

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[8] Caplan, D. (2007). Speech, language and reading. In F. E. Bloom, M. F. Beal, & D. J. Kupfer *(Eds.), The Dana Guide to Brain Health. Retrieved from* http://www.dana.org/news/brainhealth/detail.aspx?id=10038

[9] McCormick, L., Loeb, D. F., & Schiefelbusch, R. L. (1997). *Supporting children with communication difficulties in inclusive settings: School-based language intervention* (p. 85). Needham Heights, MA: Allyn & Bacon.

[10] California Childcare Health Program. (2006). *School readiness and health*. San Francisco, CA: University of California, San Francisco School of Nursing, Department of Family Health Care Nursing.

to accomplish your Language and Literacy school readiness goals. If program school readiness goals address topics that are different from the examples offered, find possible links to health services here.

EARLY HEAD START	HEAD START	Links to Health Services
Goal 1: Children will demonstrate receptive and expressive language skills and communication strategies in their home language/s (may be English or other language/s).	*Goal 1:* Children will build, use, and comprehend increasingly complex and varied vocabulary.	**Children with Special Health Care Needs and/or Disabilities** • Modifying and adapting services to meet children's unique developmental needs. **Family Health Literacy** • Promoting relationship-based competencies for all staff to support school readiness connections between a child's home and the program. • Cultivating effective partnerships to support healthy child development and promote school readiness. **Mental Health** • Helping children develop pro-social behaviors that help them engage in learning. • Developing a mental health education program for families and staff to encourage supportive, nurturing relationships. **Oral Health** • Promoting access to oral health care so children are better able to eat, speak, and focus on learning. • Capitalizing on partnerships to expand oral health resources that support children's ongoing engagement in learning. **Physical Health** • Capitalizing on partnerships to expand health resources to promote optimal brain development.
Goal 2: Children will understand and begin to use oral language for conversation and communication.	*Goal 2:* Children will use and comprehend oral language for conversation and communication.	
Goal 3: Children will hear and distinguish the sounds and rhythms of language.	*Goal 3:* Children can identify and discriminate sounds within words as separate from the word itself.	
Goal 4: Children will begin to learn and discriminate how print works.	*Goal 4:* Children will use and understand print as a system of visible marks that represent the sounds within words and words themselves.	
Goal 5: Children will engage with stories and books.	*Goal 5:* Children will engage with literature in developmentally appropriate ways.	
	Goal 6: Children who are dual language learners (DLLs) will demonstrate increased competency in their home language while developing proficiency in English.	

Physical Development & Health

What Is the Link Between Health and Physical Development & Health?

In order for children to develop strong muscles and healthy bodies, they need to engage in physical activity, access healthy nutrition, get adequate rest, and practice healthy and safe behaviors. Learning to how to stay healthy can reduce illness and improve attendance to improve educational outcomes.[11]
Staff support physical development and health using strategies that improve children's:

- Gross motor development to build balance and coordination that are important for movement and physical activity;
- Fine motor development to develop drawing and writing skills; and
- Adaptive skills to function in early learning environments.

Research Connections:
In a national survey of 1448 kindergarten teachers carried out by the National Center for Education Statistics, teachers reported that "being physically healthy, rested and well-nourished . . . were the most essential qualities for children to be ready for kindergarten."[12] From conception, children's environments can impact their ability to fight disease and make them vulnerable to health issues later in life.[13]

Examples of School Readiness Goals

The following printable table includes sample goals developed by the Early Head Start National Resource Center and the National Center on Quality Teaching and Learning. Review the links to health services in the third column and find strategies to accomplish your Physical Development and Health school readiness goals. If program school readiness goals address topics that are different from the examples offered, find possible links to health services here.

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[11] Connolly, F. and Olson, L.S. (2012). *Early elementary performance and attendance in Baltimore City schools' pre-kindergarten and kindergarten*. Baltimore: Baltimore Education Research Consortium. Retrieved from http://www.attendanceworks.org/research/

[12] Hair, E., Halle, T., Terry-Humen, E., Lavelle, B. & Calkins, J. (2006). Children's school readiness in the ECLS-K: Predictions to academic, health, and social outcomes in first grade. *Early Childhood Research Quarterly*, *21*, 431–454. Retrieved from http://childtrends.org/wp-content/uploads/2013/01/First-Grade-Readiness.pdf

[13] Center on the Developing Child at Harvard University (2010). *The foundations of lifelong health are built in early childhood*. Retrieved from http://www.developingchild.harvard.edu

EARLY HEAD START	HEAD START	Links to Health Services
Goal 1: Children will develop control of large muscles for movement, navigation, and balance.	*Goal 1:* Children will demonstrate control of large muscles for movement, navigation, and balance.	**Children with special health care needs and/or disabilities** • Modifying and adapting services to meet children's unique developmental needs. • Increasing staff knowledge and skills on inclusive practices to promote children's access to learning. **Family health literacy** • Providing engaging, empowering, and action-oriented health education programs that are designed for and with families to support child development in culturally and linguistically responsive and meaningful ways. • Cultivating effective partnerships to support healthy child development and promote school readiness. **Nutrition and physical activity** • Providing age appropriate amounts of physical activity in children's daily routines to support positive behaviors and promote physical health. **Physical health** • Using health data to make decisions about how to individualize services to meet each child's needs. **Safety and injury prevention** • Educating children, staff and families on ways to avoid injuries to ensure children learn safely. • Creating and maintaining safe environments that engage children and support their healthy development. **Sanitation and hygiene** • Promoting healthy habits to prevent illness and improve child participation. • Integrating school readiness into health policies and procedures to keep children healthy and engaged in learning.
Goal 2: Children will develop control of small muscles for manipulation and exploration.	*Goal 2:* Children will demonstrate control of small muscles for such purposes as using utensils, self-care, building, writing, and manipulation.	
Goal 3: Children will learn and begin to demonstrate healthy and safe habits.	*Goal 3:* Children will identify and practice healthy and safe habits.	

Social & Emotional Development

What Is the Link Between Health and Social & Emotional Development?
The quality of children's early experiences has a direct effect on their feelings, behavior, and ability to relate to others. When children have relationships with caregivers (both family members and staff) who provide consistent, nurturing, and responsive caregiving, they form secure attachments and positive relationships.

Staff support children's social and emotional development by:

- Developing strong and secure relationships;
- Helping to support a strong sense of self;
- Helping them to manage their emotions and express themselves;
- Helping them feel capable as learners;
- Minimizing the impacts of toxic stress; and
  Teaching them to manage their feelings, behaviors, and follow rules and routines.

Research Connections:
"Social and emotional development in young children has to do with how young children feel about themselves . . . how they behave . . . and how they relate to others, especially people who matter to them (e.g., parents, teachers, and friends)."[14] Children who experience high levels of chronic stress due to extreme economic insecurity or other significant life stressors demonstrate more mental health problems, behavioral issues, and problems with executive functioning and self-regulation that make it harder for them to learn.[15]

Examples of School Readiness Goals

The following printable table includes sample goals developed by the Early Head Start National Resource Center and the National Center on Quality Teaching and Learning. Review the links to health services in the third column and find strategies to accomplish your Social and Emotional Development school readiness goals. If program school readiness goals address topics that are different from the examples offered, find possible links to health services here.

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[14] Knitzer, J., & J. Lefkowitz, J. (2005). *Resources to promote social and emotional health and school readiness in young children and families: A community guide*. New York: National Center for Children in Poverty, Columbia University Mailman School of Public Health. Retrieved from http://www.nccp.org/publications/pdf/text_648.pdf

[15] Shonkoff, J. P., & Phillips, D. A. (Eds.) (2000). *From neurons to neighborhoods: The science of early childhood development.* Washington: National Academy Press.

EARLY HEAD START	HEAD START	Links to Health Services
Goal 1: Children will develop and engage in positive relationships and interactions with adults.	*Goal 1:* Children will engage in and maintain positive adult-child relationships and interactions.	Family Health Literacy • Providing engaging, empowering, and action-oriented health education programs that are designed for and with families to support child development in culturally and linguistically responsive and meaningful ways. • Promoting relationship-based competencies for all staff to support school readiness connections between a child's home and the program. Mental Health • Helping children develop pro-social behaviors that help them engage in learning. • Using behavioral screening results to support children's social and emotional development and approaches to learning. • Developing a mental health education program for families and staff to encourage supportive, nurturing relationships. Safety and Injury Prevention • Creating and maintaining safe environments that engage children and support their healthy development. • Identifying and reporting suspected child abuse and neglect to protect children from maltreatment. Services to Pregnant Women and Expectant Families • Supporting healthy beginnings for infants and their families to promote nurturing relationships that sustain learning throughout a child's life. • Capitalizing on partnerships to expand school readiness and health activities that support access to and engagement in learning.
Goal 2: Children will begin to develop personal relationships with peers.	*Goal 2:* Children will engage in and maintain positive peer relationships.	
Goal 3: Children will begin to develop and demonstrate control over some of their feelings and behaviors (self-regulation).	*Goal 3:* Children will display levels of attention, emotional regulation, and behavior in the classroom that are appropriate to the situation and supports available.	
Goal 4: Children will begin to learn to internalize rules, routines, and directions.	*Goal 4:* Children will learn and internalize (follow) classroom rules, routines, and directions.	
Goal 5: Children will begin to develop and demonstrate a positive sense of self, competence, and an identity that is rooted in their family and culture.	*Goal 5:* All children will develop and display a sense of self-confidence in their abilities, and a strong identity that is rooted in their family and culture.	

Healthy Children Are Ready to Learn

Being Healthy Is Critical To School Readiness

Health and school readiness begin long before a child enters a classroom. "Striking disparities in what children know and can do are evident well before they enter kindergarten. These differences are strongly associated with social and economic circumstances and they are predictive of subsequent academic performance (Shonkoff and Phillips, 2000)." Young children who are healthy and safe are more prepared for school.

Head Start Program Performance Standards (HSPPS) are listed to show relevant and related information within the HSPPS. Information in this document is not intended to be a summary of the HSPPS.

How Does Health Affect School Readiness?

Children Who Are Physically Healthy Can Fully Participate In Learning

"*Virtually every aspect of early human development - from the brain's evolving circuitry to the child's capacity for empathy, is affected by the environment and experiences that are encountered in a cumulative fashion, beginning in the prenatal period and extending throughout the early childhood years* (Shonkoff and Phillips, 2000)*.*"

- **Health.** When children have ongoing care and immunizations (a medical home) needed to keep them healthy, they are more prepared for school. When children are sick, they can access immediate care and return to program activities. Time spent learning leads to academic success. *1304.20(a)*
- **Oral health.** Children with healthy teeth are better able to eat, speak, and focus on learning. Children need ongoing oral health care from a partnership between families and oral health professionals (a dental home). *1304.20(a)*
- **Motor development.** Activities that get children moving build large and small muscles. Strong large and small muscles support later reading, writing, and math skills. *1304.21(a)(5)(i); 1304.21(b)(3)*
- **Physical activity.** Children need daily exercise to be fit in both mind and body. *1304.21(a)(5)(i-ii)*
- **Nutrition.** Children who eat nutritious food during every meal stay healthy and have energy to learn. *1304.23(b)*
- **Sleep.** When children get a good night's sleep, they can pay attention, remember what they learn, and manage their feelings (Owens et. al., 2012).

Children Who Are Mentally Healthy Can Focus On Learning

- **Mental health.** Children who feel good about themselves can learn new skills. When children can share their feelings, they learn how to interact well with others. When children are well liked, they do better in school. *1304.24*
- **Self-regulation.** Children who can manage their feelings and behavior can be actively involved in learning. *1304.21(a)(3)(i)(c)*

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- **Prosocial behavior**. Children who can get along with others and follow directions are able to focus on learning. *1304.24*
- **Positive experiences.** A child's experiences affect how his or her brain develops. Learning happens when environments make children feel safe and valued. Children benefit from relationships with adults they know and interact with often. *1304.21(b)(1)*
- **Play.** When children play, they use their imagination and creativity. These skills help them grow in all developmental areas. *1304.21(a)(4)(i)*

Family Health and Wellness Support Healthy Child Development

- **Prenatal services.** Prenatal services set the stage for children's healthy development. *1304.40(c)*
- **Nurturing and responsive relationships.** Relationships that respond to a child's needs build healthy brain development. Beginning at birth, daily interactions with adults shape children's school readiness skills. Positive early relationships help them relate to others. Also, positive early relationships teach children how to behave in learning environments. *1304.21*
- **Health literacy.** Families can keep their child healthy when they have and can use basic health information. *1304.20(f)(2)*
- **Cultural and linguistic responsiveness.** Families need information in their own language to keep their children healthy and ready for school. Information should also reflect their home culture. *1304.20(f)(2)*
- **Family wellness.** When families have access to services that keep them healthy and financially secure, they can support their children's learning. *1304.40*

Comprehensive Services Ensure Children Are Ready For School

- **Promotion and prevention.** Services that promote health and prevent illness and injury help children succeed in school. When children are healthy, they can focus on what they are learning.
- **Daily child health checks.** Checking children's health every day helps identify problems that have an impact on learning. *1304.20(d)*
- **Screening**: Screening (vision, hearing, developmental and behavioral) helps determine whether a child needs additional help. Early identification puts children on track for success in school. *1304.20(b)*
- **Early intervention and treatment.** Early intervention and treatment for children with special health needs or disabilities helps them develop strategies for learning.
- **Access to specialized professionals.** Children benefit from working with staff members who are experts in disabilities, mental health, and health. These specialists provide children the necessary services to make educational progress. *1304.52(b)-(g)*
- **Individualization.** Children do best when they receive support that is targeted to their needs. *1304.20(c)(1)(ii)*

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Coordinated Systems Support Health Services

- **Management systems to support health services.** Services for children and families need internal systems to maintain and improve them. These include planning, communication, record keeping and reporting, ongoing monitoring, and self-assessment. *1304.51*
- **Communication and collaboration.** Often, children and families get support from more than one service provider. Services are most effective when service providers share information with each other. *1304.41*
- **Safe and secure environments.** Children need a safe environment to explore and to take risks, build curiosity, and actively engage in learning. *1304.22(d)*
- **Daily environmental safety checks.** Children can play safely when staff members check environments before each use.

References

Owens, J.A., Wise, M., Akanli, L., Alfano, C., Alves, R., Anders, T., et. al. (2012). A letter in defense of sleep recommendations. *Pediatrics*, 129(3):548 -556. Retrieved from http://pediatrics.aappublications.org/content/early/2012/02/08/peds.2011-2039.abstract/reply#pediatrics_el_52937

Shonkoff, J.P. and Phillips, D.A. (Eds.); Committee on Integrating the Science of Early Childhood Development; Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education, National Research Council and Institute of Medicine. (2000). *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Washington, D.C.: National Academy Press.

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Good Start Grow Smart

South Carolina Early Learning Standards for 3, 4, & 5 Year-Old Children

Physical Development and Health

Introduction to Physical Development and Health

Young children use their senses and bodies to explore and master their physical environment. Their self-esteem is closely related to what they can do physically, and they often describe their competence according to their physical accomplishments. Young children need to spend much time each day, both indoors and outdoors, engaged in physical activity, using well chosen materials, in order to develop the skills of body coordination, control, and balance. While mastering these large muscle skills, they are also learning to use the finer muscles of arms, hands, and fingers to build hand-eye coordination, strength, control and object manipulation. Learning acquired through the body builds a strong base for time and space concepts, problem-solving, and literacy and mathematical skills. Also important for this age child are the development of self-care skills, formation of good health habits, and the knowledge and use of age-appropriate safety practices.

Most young children are by nature physically active and enjoy moving to explore their environments. Unfortunately, recent societal changes -- motorized transportation, higher junk food consumption, increased television and computer usage, and less freedom for independent, outside play -- have led to decreased physical activity and a corresponding rise in the number of children who are overweight and/or obese. Childhood inactivity and lack of fitness should be a major concern for several reasons, including its tendency to lead to adult obesity and its involvement as a major risk factor for a number of diseases. Physical activity, however, is much more than a strategy to avoid obesity. Regular physical activity helps young children build strong bodies, establish life-long habits of wellness and may, through its positive effect on mental health, increase student's capacity for learning.

Physical Development and Health – Children with different needs and abilities

A child may have difficulty moving, coordinating, balancing, or holding/releasing but you can structure play and activities to compensate for the child's physical difference. In all play and movement activities, be aware of the child's needs and interests and enter into the spirit of fun and respect for a child's achievement.

Young children with different motor abilities may need the opportunities to "move within the world" in a different perspective. They may be slower in attaining motor milestones, gaining strength, control, release, balance, and coordination. Children with multiple different needs find opportunities to develop large motor skills and enhance play through physical activities. Some children, such as those with autism or hyperactivity, benefit greatly from rigorous physical activity—jumping, running, and dancing.

No two children move their bodies and play in the same way. Teachers and parents are encouraged to choose play activities and games that provide the most success for each child.

Consider:

- choosing activities that the child likes;
- adapting, as needed, to the child's needs; and
- organizing activities so that they are inclusive—child and his friends.

Children enjoy play. They like games that require teamwork, sharing, taking turns, and fantasy. Children who do not have different needs may learn from a single experience; many children with different needs may require repetition of many experiences before they learn from it. The environment in which the child plays is very important. Be aware of safety and health concerns at all times. Children on certain medications for seizures or other health conditions may be allergic to sunlight. Teachers must be knowledgeable of medications and side-effects.

Consider:

- TIME. Keeping play periods short—end before child gives out. Give time to explore.
- COMFORT. Keep the child comfortable and relaxed.
- NOISE. Be aware of excessive or distracting noises.
- LIGHT. Avoid glaring sunlight.
- MOVEMENT. Avoid quick movement.
- WATER. Warm water helps relax muscles.
- UNDERSTANDING. Physically guide or demonstrate if needed.
- TOYS/ACTIVITIES. Select toys and activities that encourage inclusion.
- MODEL. Guide, model, or join in the game.
- ENCOURAGE. Praise, accentuate the positive, and encourage to keep trying.
- FUN. Participate and be enthusiastic by your body actions and voice.
- DESCRIBE. Talk about lights, shapes, sizes, rules.

Teachers can help the child get the play and movement experiences he needs by adapting the physical environment. Children with motor impairments who have good cognitive skills may find computer skills are critical to their development in both academics and communication. Remember, if it isn't FUN, it isn't PLAY.

Some activities may need adaptations, others the child may find extremely difficult or not be able to participate in certain activities. Do not frustrate the child. Be aware of what the child needs to play and have fun:

What POSITIONS support and allow freedom?
What EQUIPMENT or modifications are needed?
What ACTIVITIES promote safe movement for the child?

Physical Development and Health

Provide as many opportunities as possible for the child to enjoy play activities. Outside activities provide opportunities for developing social skills, addressing safety and accessibility, playing with outside equipment, and healthy, physical exercise.

Painting (fine motor) – Enjoy making pictures or patterns with hands, fingers, or feet.
Snapshots:

- Child can use feet or toes versus hands or fingers.
- Tape the paper to the table surface.
- Add salt or sand for a change of texture.

All children facing the challenge of different physical needs, need to develop respect for themselves and independence. Assistive technology devices assist children with self-help skills. Clothing/bathing adaptations support children in becoming independent. After basic health care needs are met, acceptance and encouragement are the next most basic needs of children with different abilities. We should never assume that a technology-dependent child cannot be included in the community.

Physical Development and Health

SOUTH CAROLINA KINDERGARTEN
ACADEMIC STANDARDS - PHYSICAL DEVELOPMENT AND HEALTH

Physical Development Goal: Children engage in play to develop their physical bodies
Health Goal: Children use play and other activities as a means to understand healthy behavior

PD 1. Gross Motor Development: Children increasingly move their bodies in ways that demonstrate control, balance, and coordination.

PD 2. Fine Motor Control: Children use their fingers and hands in ways that develop hand to eye coordination, strength, control and small object manipulation.

PD 3. Personal Health: Children understand how daily activity and healthy behavior promote overall personal health, physical fitness and safety.

Physical Development and Health

PD 1. Gross Motor Development. Children increasingly move their bodies in ways that demonstrate control, balance, and coordination.

3-Year Olds

PD-3K-1.1
Move with some balance and control while walking, running, jumping, marching and hopping.

Snapshots:

- Moves around classroom without bumping into furniture or other children.
- Alternates feet when going up steps; coming down steps may still be one step at a time without alternating feet.
- Balances on one foot for few seconds before falling.

PD-3K-1.2
Coordinate movements to perform simple tasks.

Snapshots:

- Catches a large ball with arms stiffly extended.
- Throws a ball into a large basket.
- Kicks a large ball in a forward direction.
- Pedals a tricycle around a flat surface, steering widely around corners.

4-Year Olds

PD-4K-1.1
Move with balance and control while walking, running, jumping, marching, hopping, and galloping.

Snapshots:

- Moves around classroom or playground on narrow paths, easily avoiding collisions.
- Goes up and down steps alternating feet most of the time.
- Balances on one foot for 5-7 seconds before breaking into a hop.

PD-4K-1.2
Coordinate movements to perform more complex tasks.

Snapshots:

- Catches a ball with arms bent at elbows to adjust to direction ball is traveling.
- Throws a ball in right direction, aiming at a target with reasonable accuracy.
- Runs up to and kicks a soccer ball.
- Rides a “big wheel” or tricycle at varying speeds, turning corners sharply.

5-Year Olds

PD-K-1.1
Move with balance and control, varying speed, rhythm, gait, and direction.

Snapshots:

- Moves through an obstacle course, forward and sideways, using a variety of movements with ease.
- Goes up and down steps alternating feet.
- Balances on each foot alternately, using arms outstretched for aid in balancing

PD-K-1.2
Coordinate movements to perform variety of tasks.

Snapshots:

- Moves body into position to catch ball, then throws in the right direction.
- Throws a ball overhand for 10-15 feet, with good accuracy.
- Kicks a moving soccer ball using a smooth running step.
- Begins to ride a two-wheeled bicycle with training wheels.

Physical Development and Health

PD2. Fine Motor Development: Children use their fingers and hands in ways that develop hand to eye coordination, strength, control and object manipulation.

3-Year Olds

PD-3K-2.1
Use strength and control to perform simple tasks.

Snapshots:

- Puts interlocking blocks together and takes them apart.
- Manipulates play-dough, frequently leaning or rising to knees in order to use arm and shoulder muscles as well as those of hands.
- Experiments with use of scissors, frequently bending or tearing paper rather than cutting.
- Tries to use a paper punch but needs adult assistance.

PD-3K-2.2
Use hand-eye coordination to perform simple tasks.

Snapshots:

- Turns large, knobbed puzzle piece different ways to find right fit.
- Builds a tall tower, 8-10 blocks high.

4-Year Olds

PD-4K-2.1
Use strength and control to perform more complex tasks.

Snapshots:

- Puts together and pulls apart small interlocking blocks with relative ease.
- Shapes play-dough with tools such as cookie cutters and rolling pins as well as with fists and fingers.
- Cuts along a line or around a large shape, often leaving a large margin.
- Needs both hands to press down paper punch to make holes.

PD-4K-2.2
Use hand-eye coordination to perform more complex tasks.

Snapshots:

- Fits 6-12 piece wooden puzzle into frame.
- Strings beads or lengths of straws onto a piece of yarn.

5-Year Olds

PD-K-2.1
Use strength and control to accomplish a variety of skilled tasks.

Snapshots:

- Constructs planned projects out of small interlocking blocks, table blocks and other building materials.
- Sculpts play-dough into recognizable shapes, using variety of tools and techniques.
- Uses scissors to cut shapes and pictures, occasionally straying from the line.
- Uses a paper punch without assistance.

PD-K-2.2
Use hand-eye coordination to perform wide variety of tasks.

Snapshots:

- Uses picture and shape clues to assemble 18-25 piece wooden or cardboard puzzle.
- Uses scissors, tape, stapler, and paper punch to create 3-D objects such as house or airplane.

Physical Development and Health

3-Year Olds

PD-3K-2.3
Explore the use of various drawing tools.

Snapshots:

- Uses large easel brushes, crayons, chalk and finger paint to create lines, circular shapes, or masses of color on paper.
- Holds a drawing or writing tool with a fisted grasp, sometimes switching hands or form of grasp.
- Forms irregular, wavy lines and labels them “writing” or “ my name”.

4-Year Olds

PD-4K-2.3
Show beginning control of drawing and writing tools.

Snapshots:

- Uses markers, smaller brushes, and crayons to form circular, vertical, and horizontal lines into shapes that they name while drawing or after picture is completed.
- Holds a drawing or writing tool with a pincer grasp, using other hand, fingers wide spread, to keep paper still.
- Recognizes some letters of name and tries to form them, often going from bottom to top.

5-Year Olds

PD-K-2.3
Use drawing and writing tools with some control and purpose.

Snapshots:

- Uses a variety of drawing tools to make repeating patterns and to incorporate circular, vertical, horizontal, and diagonal lines into recognizable drawings.
- Holds a drawing or writing tool with a mature grasp, using preferred hand consistently with appropriate pressure.
- Prints letters in first name or copies alphabet or simple words (inconsistent size discrimination and left-right reversals are common.)

Physical Development and Health

PD3. Personal Health: Children understand how daily activity and healthy behavior promote overall personal health, physical fitness, and safety.

3-Year Olds

PD-3K-3.1
Perform simple self-care tasks.

Snapshots:

- Puts on and takes off some outside clothing (sweaters, jackets, hats, etc.).
- Pulls up pants after toileting (help frequently needed with zippers, belts and snaps.)
- Feeds self at meals (frequently using fingers with spoon held in fisted grasp of other hand). Pours juice or milk from small pitcher into glass.

PD-3K-3.2
Follow basic health rules with reminders.

Snapshots:

- Washes hands after toileting or before eating.
- Tries to blow into a tissue or wipe nose when s/he has a cold.

4-Year Olds

PD-4K-3.1
Perform some self-care tasks independently.

Snapshots:

- Puts on and takes off all clothing items (may get shoes on wrong foot and require assistance with tying laces and belts).
- Uses toilet independently with mastery of zippers and most buttons.
- Feeds self at meals, usually with fork held between thumb and fingers. Pours juice or milk without spilling (may need help opening paper-wrapped food items).

PD-4K-3.2
Follow basic health rules most of the time.

Snapshots:

- Tries different foods that are introduced by the teacher as nutritious, and discusses with classmates what “nutritious” means.
- Covers mouth when coughing or sneezing.
- Wears protective clothing willingly when weather is bad.

5-Year Olds

PD-K-3.1
Perform most self-care tasks independently.

Snapshots:

- Manages most clothing and almost all fasteners (may still need help with separating zipper and tying shoes).
- Takes care of toileting needs, asks for help only with suspenders or other complicated clothing.
- Feeds self, choosing fork or spoon as appropriate to type of food, spreads soft food onto crackers or bread with a knife, pours juice or milk without spilling.

PD-K-3.2
Show understanding of and follow basic health rules.

Snapshots:

- Participates in exercise activities willingly.
- Discusses why you should brush teeth after eating and before bedtime.

Physical Development and Health

3-Year Olds

PD-3K-3.3
Follow basic safety rules with reminders.

Snapshots:

- Leaves the room only when given permission to do so.
- Holds someone's hand whenever walking in parking lot or crossing street.
- Knows some common safety rules that have been discussed (i.e., "Don't run in front of swings").

PD-3K-3.4
Demonstrate adequate stamina for typical activities.

Snapshots:

- Eats enough at meals to replenish energy.
- Falls asleep easily at nap time and
- awakens with adequate energy.
- Leaves activity for brief rest but quickly recovers energy and rejoins.

4-Year Olds

PD-4K-3.3
Follow basic safety rules most of the time.

Snapshots:

- Carries pencils and scissors pointed downwards to avoid accidents.
- Responds quickly when adult explains fire drill procedures.
- Discusses traffic safety as they engage in dramatic play or build block cities.

PD-4K-3.4
Demonstrate adequate stamina and strength for program activities.

Snapshots:

- Enjoys active learning and almost always participates enthusiastically.
- Shows pride in strength and ability to pick up or move large objects.

5-Year Olds

PD-K-3.3
Show understanding of and follow basic safety rules.

Snapshots:

- Remembers to put on seat belt when going home in a car.
- Responds quickly to fire drill signal.
- Cleans up water on the floor to avoid an accident.

PD-K-3.4
Demonstrate adequate stamina and strength for program activities.

Snapshots:

- Challenges self to master new equipment and skills (i.e. climbing, swinging, jumping, etc.).
- Attends school regularly, rarely misses several days in a row.

Kindergarten Entry Assessments: Practices and Policies

December 2013

In the following report, Hanover Research reviews literature regarding early childhood school readiness and assessment practices. In addition, we profile exemplary states that are developing comprehensive kindergarten entry assessment systems.

HANOVER RESEARCH

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EXECUTIVE SUMMARY AND KEY FINDINGS

INTRODUCTION

In 2011, the initial round of the Race to the Top – Early Learning Challenge (RTT-ELC) grant program cast a spotlight on early childhood assessment. Indeed, a primary focus of the Early Learning Challenge program is to support states' development and use of high-quality assessments at kindergarten entry.[1] Prior to 2011, many states had no systematic method for collecting extensive data on kindergarteners. However, kindergarten entry assessments (KEAs) are now increasingly common.[2]

Simply put, KEAs are evaluations "conducted within the first few months of kindergarten to collect data on children."[3] While KEAs may be used to collect demographic data and determine children's living conditions, they often serve to assess children's developmental skills. In other words, KEAs are used to determine early childhood school readiness. Statewide early assessment systems vary greatly in terms of the instruments used and the types of learning that are assessed.[4] As such, this report is intended to assist educators in defining school readiness and developing an effective early childhood assessment system.

This report is divided into the following two sections:

- **Section I** reviews literature pertaining to early childhood school readiness and assessment. In this section, we examine definitions of school readiness, identify best practices in assessment, and discuss off-the-shelf KEAs.
- **Section II** profiles three RTT-ELC grant recipients and examines their activities in developing statewide early childhood assessment systems. The three states profiled are Washington, Maryland, and North Carolina.

In addition to the above two sections, the Appendix provides samples of school readiness definitions and indicators for Virginia, Kentucky, Washington, and Maryland.

[1] "Race to the Top – Early Learning Challenge: Executive Summary." U.S. Department of Education, August 2013, pp. 11-15. http://www2.ed.gov/programs/racetothetop-earlylearningchallenge/2013-executive-summary.doc
[2] Maxwell, K., C. Scott-Little, J. Pruette, and K. Taylor. "Kindergarten Entry Assessment: Smart Start Conference." North Carolina Department of Public Instruction, May 2013, p. 5. http://rtt-elc-k3assessment.ncdpi.wikispaces.net/file/view/KEA+Smart+Start+Presentation+May+13+final.pdf
[3] Ibid., p. 4.
[4] Ibid., p. 5.

KEY FINDINGS

- **Early childhood school readiness encompasses the socio-emotional, physical, and cognitive skills that enable a child to succeed in an early learning environment.** While the exact developmental areas and indicators vary across states and organizations, general consensus now holds that readiness should be evaluated according to five domains:
    - Physical and motor development
    - Social and emotional development
    - Language and communicative development
    - Approaches to learning
    - Cognitive development or general knowledge
- **At a minimum, early childhood assessments should evaluate children using behavioral indicators across the above five domains of development.** While past assessments concentrated on literacy and math, evaluations must also include social, emotional, and physical factors in order to be meaningful. Some assessments also include factors related to self-expression, such as arts and creativity.
- **The primary purpose of early childhood assessment should be formative assessment and instructional improvement.** However, kindergarten entry assessments may also be used for other reasons, such as screening and accountability. Establishing a comprehensive school readiness system can also improve public awareness about the skills necessary for success in early learning.
- **Kindergarten entry assessments should be part of a comprehensive system that includes supporting infrastructure.** Effective early childhood assessment systems involve regular professional development, opportunities for collaboration between kindergarten teachers and early childcare providers, family engagement, and actionable data reporting. For instance, Washington's assessment system emphasizes family connection and early learning collaboration.
- **Because it is crucial that assessments align with state learning standards, exemplary states develop original assessment instruments that fit their unique priorities.** One emerging trend is to use an off-the-shelf device, such as Teaching Strategies GOLD or Work Sampling System, and to customize the assessment to align with standards and meet the needs of stakeholders.
- **Kindergarten entry assessments should gather input from multiple sources, including teachers and families, because children's behavior is likely to vary across settings**. Furthermore, assessments should generate a holistic child profile that includes family conditions and environmental factors, in addition to skills and abilities.
- **Decision-makers should take a proactive approach to developing a community-specific definition of school readiness.** Experts suggest different communities and stakeholder groups have different priorities regarding school readiness. As such, education providers should engage communities, possibly through discussion forums, to reach a common understanding.

SECTION I: LITERATURE REVIEW

This section reviews the research literature on early childhood school readiness and assessment. First, it discusses definitions of school readiness, including various dimensions of childhood development. Next, it identifies best practices in early childhood assessment and examines trends in state-sponsored kindergarten entry assessments.

DEFINING SCHOOL READINESS

Broadly defined, school readiness means that a child is prepared to enter and benefit from a social, educational environment. **A child's level of school readiness thus encompasses a wide range of developmental skills and competencies, and is heavily influenced by home and preschool experiences**.[5] When considering school readiness, experts emphasize that schools must ultimately be prepared to meet the needs of all children. Education providers should be committed to offering developmentally appropriate programs and engaging parents, rather than simply labeling a child "ready" or "not ready."[6] In fact, some states define school readiness to reflect this multitude of factors. For instance, Virginia's definition of school readiness includes "the capabilities of children, their families, schools, and communities that will best promote student success in kindergarten and beyond."[7]

Because of variations in young children's cognitive abilities and home environments, it is not reasonable to expect all students to be adequately prepared to learn early reading, writing, and mathematics skills by the time they enter kindergarten.[8] As such, it remains a school's responsibility to "educate all children who are old enough to legally attend school, regardless of their skills."[9] Indeed, school readiness should not be confused with eligibility to begin school. All states have established an age requirement that determines when children are legally eligible to enter kindergarten, which is typically five years of age by a certain date cut-off.[10] While some experts highly value the fairness of these policies, which call for equal treatment of all children, research demonstrates that age is not the best way to gauge whether a child is truly ready for a school environment.[11] Some states take this distinction into consideration in their policies. For instance, Wisconsin's definition of school

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[5] "School Readiness—Preparing Children for Kindergarten and Beyond: Information for Parents." National Association of School Psychologists, 2004, p. 1. http://www.nasponline.org/resources/handouts/schoolreadiness.pdf

[6] Kagan, S. L. Co-director, National Center for Children and Families, Columbia University. Telephone interview, September 18, 2013.

[7] "Virginia's Definition of School Readiness." Virginia Board of Education, p. 1. http://www.doe.virginia.gov/instruction/early_childhood/school_readiness/va_school_readiness_definition.pdf

[8] "School Readiness—Preparing Children," Op. cit., p. 1.

[9] Maxwell, K. L. and R. M. Clifford. "School Readiness Assessment." *Young Children,* January 2004, p. 1. http://journal.naeyc.org/btj/200401/Maxwell.pdf

[10] "Defining School Readiness." Texas Early Learning Council, Sept. 2011, p. 5. http://earlylearningtexas.org/media/10138/trends%20in%20school%20readiness%20final%2011-1.pdf

[11] [1] "School Readiness—Preparing Children," Op. cit., p. 1.
[2] "Kindergarten Readiness: Is Your Child Ready for School?" Baby Center, March 2012. http://www.babycenter.com/0_kindergarten-readiness-is-your-child-ready-for-school_67232.bc

readiness "recognizes a child's eligibility for kindergarten based on age, while also stressing a set of 'conditions' that will allow a child to be successful."[12]

Age eligibility aside, however, researchers note that "a common definition of school readiness remains elusive."[13] In general, definitions of school readiness include sets of skills that are perceived as being instrumental to children's success in the early learning environment.[14] However, the exact developmental areas and indicators vary across states and organizations.

For instance, one simple definition states that a child's abilities to "think logically, speak clearly, and interact well with other children and adults are all critically important to success in school."[15] However, general consensus holds that school readiness is more complex and refers to **the physical, emotional, behavioral, and cognitive skills "needed to learn, work, and function successfully in school."**[16] Indeed, in a synthesis of input from over 200 scholars, the National Education Goals Panel (NEGP) determined that school readiness should consider a child's progress in five key areas:

- Physical and motor development
- Social and emotional development
- Language and communicative development
- Approaches to learning
- Cognitive development or general knowledge[17]

In efforts to standardize measures of progress in these five domains, organizations have created straightforward indicators of children's actions that signify they are "ready" for school. For instance, the National Association of School Psychologists (NASP) has determined that children equipped for early success typically demonstrate the ability to follow simple rules, dress independently, and recite the alphabet, among other abilities (Figure 1.1).[18] Behavioral indicators like these have become the foundation for definitions of school readiness, and therefore early learning standards and early childhood assessment.

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[12] "Defining School Readiness," Op. cit., p. 5.
[13] Maxwell and Clifford, Op. cit., p. 8.
[14] "Defining School Readiness," Op. cit., p. 5.
[15] "Kindergarten Readiness: Is Your Child Ready for School?" Op. cit.
[16] [1] "School Readiness—Preparing Children," Op. cit., p. 1.
[2] "Kindergarten Readiness: Is Your Child Ready for School?" Op. cit.
[17] [1] Kagan, S. L. "Children's Readiness for School: Issues in Assessment." *International Journal of Early Childhood,* 35:1/2, 2003, p. 116.
[2] Shepard, L., S. L. Kagan, and E. Wurtz. "Principles and Recommendations for Early Childhood Assessments." National Education Goals Panel, February 1998, p. 6. http://govinfo.library.unt.edu/negp/reports/prinrec.pdf
[18] "School Readiness—Preparing Children," Op. cit., p. 2.

Figure 1.1: NASP's Characteristics of School Readiness

- Follow structured daily routines.
- Work independently with supervision.
- Get along with and cooperate with other children.
- Write their own name or to acquire the skill with instruction.
- Recite the alphabet (or quickly learn with instruction).
- Identify sound units in words and to recognize rhyme.
- Dress independently.
- Listen and pay attention to what someone else is saying.
- Play with other children.
- Work with puzzles, scissors, coloring, paints, etc.
- Count or acquire the skill with instruction.
- Identify both shapes and colors.
- Follow simple rules.

Source: National Association of School Psychologists[19]

While these indicators provide a more nuanced approach to readiness than age alone, educators and policymakers should avoid applying too rigid a definition of readiness, which may inadvertently neglect variation in children's access to developmental opportunities.[20] Section II of this report profiles definitions of school readiness and related initiatives in Washington, Maryland, and North Carolina. In addition, the Appendix presents definitions and indicators of school readiness from Virginia and Kentucky (Figures A.1 to A.3) to further indicate the range of state policies in this area.

Finally, **experts recommend that decision-makers take a highly proactive approach in developing a community-specific definition of school readiness.** Because parents, preschool teachers, and kindergarten teachers likely have different views of school readiness, communities should strive toward a common understanding. Holding discussion forums where all parties meet to discuss and reach a consensus on school readiness can help ensure that the definition used addresses the needs of all stakeholders.[21] This practice can also increase public awareness about the skills necessary to succeed in kindergarten and assist parents in effectively preparing their children for a formal early learning environment.[22]

[19] Table items taken verbatim from: Ibid.
[20] "Where We Stand on School Readiness." National Association for the Education of Young Children, p. 1. http://www.naeyc.org/files/naeyc/file/positions/Readiness.pdf
[21] Maxwell and Clifford, Op. cit., p. 9.
[22] "Defining School Readiness," Op. cit., p. 5.

BEST PRACTICES IN EARLY CHILDHOOD ASSESSMENT

Early assessment can lead to better outcomes for children by informing instructional practices and program development. To positively influence children's well-being, research indicates that assessments must be "well-designed, implemented effectively, developed in the context of systematic planning, and are interpreted and used appropriately."[23]

PURPOSE

Any assessment must have a clearly defined purpose in order to be effective. While the goals of an early childhood assessment will vary depending on the context, they may include high-stakes accountability, instructional improvement, identification of children in need of additional services, and trend evaluation. While administering high-stakes assessments to young children is generally discouraged, the latter three reasons are considered necessary for developing a high-quality educational program. Researchers also caution that assessments have indeed been used for reasons other than their intended purpose. For instance, using early childhood tests to assess school readiness has "resulted in children being kept out of school unnecessarily."[24]

Currently, practitioners use assessments for a host of reasons, but **the primary purpose of every KEA should be formative assessment and instructional improvement**.[25] Using one assessment device for multiple purposes may be problematic as each goal often requires different methodologies and instruments.[26] However, researchers acknowledge that states and other providers face great pressure to use the same assessment instrument for multiple purposes. To minimize negative effects, decision-makers should fully commit to instructional improvement, and address secondary objectives thereafter.[27] To this end, assessments should comprise a comprehensive evaluation of children's development, including physical, cognitive, and social competencies.

CONTENT

First and foremost, assessments should determine what children know and can do. **Children's abilities should be evaluated based on the five dimensions of school readiness** outlined above and presented again in Figure 1.2 on the following page. Assessments that determine development in these domains typically involve observations of how well a child can perform a related task. Researchers note that "any assessment that reduces readiness to fewer than these five dimensions is inadequate."[28] Some reports suggest assessments should even be expanded beyond these traditional considerations to include domains such as "art, music, creativity, and interpersonal skills."[29]

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[23] Snow, C. E., and S. B. Van Hemel. "Early Childhood Assessment: Why, What, and How." The National Academies Press, 2008, p. 12. http://www.nap.edu/openbook.php?record_id=12446&page=R1
[24] Kagan, "Children's Readiness for School," Op. cit., p. 117.
[25] Kagan, Telephone interview, Op. cit.
[26] Kagan, "Children's Readiness for School," Op. cit., p. 117.
[27] Kagan, Telephone interview, Op. cit.
[28] Kagan, "Children's Readiness for School," Op. cit., p. 118.
[29] Snow and Van Hemel, Op. cit., p. 5.

Figure 1.2: Indicators of What Children Know and Can Do

DIMENSION	SAMPLE INDICATORS (HOW WELL CHILDREN…)
Physical and motor development	▪ Walk balance beams ▪ Cut ▪ Do puzzles
Social and emotional development	▪ Accept responsibility for their actions ▪ Take turns ▪ Form and maintain relationships
Language and communicative development	▪ Use and comprehend language ▪ Initiate and sustain discussions ▪ Understand and discuss pictures
Approaches to learning	▪ Demonstrate motivation and curiosity ▪ Persist at tasks ▪ Use materials in innovative ways
Cognitive development or general knowledge	▪ Match shapes and sort colors ▪ Ascribe value to numbers ▪ Demonstrate awareness of cause and effect

Source: Kagan, S. L.[30]

One crucial process in implementing meaningful entry assessments is **aligning the assessment device with the state's learning standards.** The Council of Chief State School Officers (CCSSO) describes alignment of early learning standards and Common Core State Standards as a key principle of kindergarten readiness assessment.[31] To this end, researchers have developed set methodologies for conducting alignment analyses. These analyses can assess the degree of alignment between a given off-the-shelf assessment and a state's early learning standards, and design an approach for creating a truly cohesive assessment system.[32]

Another factor to consider when evaluating kindergarten entry assessments is the degree of burden it places on education practitioners. Critics contend that the exacting data collection and entry processes necessary in some off-the-shelf assessments may create undue time constraints for teachers, resulting in negative consequences for students.[33] In fact, experts suggest that assessment creators have not sufficiently emphasized item analysis, a process that ensures each question or indicator measures a different behavior. For instance, assessments may evaluate a student's pincer grip by asking them to button a shirt *and* use a scissors, when one or the other would be sufficient.[34] This may help to explain why several states have tailored off-the-shelf assessments by retaining key indicators and eliminating others.

[30] Table items adapted from: Kagan, Op. cit., p. 118.
[31] "Moving Forward with Kindergarten Readiness Assessment Efforts." Council of Chief State School Officers, June 2011, p. 3. http://www.ccsso.org/Documents/CCSSO_K-Assessment_Final_7-12-11.pdf
[32] Kagan, Telephone interview, Op. cit.
[33] "Do Not Go for the GOLD (Teaching Strategies GOLD) for Early Childhood Classrooms." Peg with Pen, September 2, 2013. http://www.pegwithpen.com/2013/09/do-not-go-for-gold-teaching-strategies.html
[34] Kagan, Telephone interview, Op. cit.

In addition to measuring children's skills, assessments should evaluate the broader environment of children's upbringing. This includes family conditions and access to support services, as high-quality home and preschool environments are associated with greater school readiness. In fact, research suggests high-quality learning environments in children's early years have long-lasting effects that persist well into elementary grades.[35] These types of data are typically collected for the purpose of trend assessment and are reported as aggregated percentages, rather than by individual child. Environmental indicators should address children's health conditions, family income, access to childcare, and any other factors that may affect their physical, social, and cognitive development.[36]

Given that assessments evaluate a wide range of content, **researchers emphasize the importance of using multiple sources of information.** While educational assessments typically focus on testing students themselves, early childhood assessments should also draw from teacher and family observations because children's skills can vary across settings. For instance, teachers' observations may be useful for evaluating children's social skills and problem behaviors, while families' observations can provide information regarding health and learning approaches.[37]

System

To be effective, early childhood assessments should be integrated into a larger system that offers "a strong infrastructure to support children's care and education."[38] Such infrastructure is key to ensuring that assessments can efficiently assist in the process of instructional improvement. The system should include:

- **Standards:** A comprehensive, well-articulated set of standards for both program quality and children's learning.
- **Assessments:** Multiple approaches to documenting program quality, as well as children's learning and development. Assessments should be aligned to standards.
- **Reporting:** An integrated database of assessment instruments and results that also provides information on how scores relate to standards and produces reports for various stakeholder groups.
- **Professional development:** Ongoing opportunities for policy makers, program directors, administrators, and practitioners to further their understanding of standards and learn to use assessment results for their own purposes.
- **Opportunity to learn:** Procedures to assess children's environments and whether they offer safety, enjoyment, and high-quality support for development and learning.
- **Inclusion:** Procedures for ensuring that all children served by the program will be assessed fairly, regardless of their language, culture, or disabilities.

[35] Winter, S. M. and M. F. Kelley. "Forty Years of School Readiness Research: What Have We Learned?" *Childhood Education,* 84:5, 2008, p. 263.
[36] Kagan, "Children's Readiness for School," Op. cit., pp. 118-119.
[37] Maxwell and Clifford, Op. cit., p. 7.
[38] Snow and Van Hemel, Op. cit., p. 8.

- **Resources:** Assurance that the financial resources needed to ensure the development and implementation of the system will be available.
- **Monitoring and evaluation:** Continuous monitoring of the system itself to ensure that it is operating effectively and that all elements are working together to serve the interests of the children.[39]

All components should form a coherent system in which curriculum, instruction, and assessment are all aligned with early learning and development standards. The notion that assessment instruments are one piece of a larger, comprehensive system is consistent with emerging practices among RTT-ELC winners. For instance, as described in Section II, Washington's kindergarten entry assessment represents a single component of a broader infrastructure, which also includes formalized opportunities for parental engagement and collaboration among education practitioners.

Kindergarten Entry Assessment Practices

Determining the most effective assessment instrument can be a challenge for administrators and other decision-makers. A wide range of off-the-shelf assessment devices exist, and many of them emphasize different aspects of learning and development.[40] As such, researchers recommend the following set of guiding questions for selecting a kindergarten entry assessment:

- **What is your definition of school readiness?** Will the five domains of development suit your needs? Do you already collect information in certain areas, or will you need new assessment tools?
- **What is your purpose or purposes?** If the purpose of the assessment is to improve learning, does the content of the assessment match the curriculum content?
- **What are the characteristics of the children to be assessed?** Characteristics may include children's age, English proficiency, race/ethnicity, and disabilities. The assessments tools selected should be designed to be used with children similar to the ones you will assess.
- **What are the technical properties of the assessment?** Is there evidence of adequate validity and reliability? Different purposes require different standards of technical properties.[41]

Given that states have different priorities for early childhood education, they naturally select different methods for developing and implementing entry assessments. Some states do not conduct kindergarten entry assessments at all, other states use off-the-shelf instruments, and others have developed comprehensive assessment systems from scratch.

[39] Bulleted items adapted from: Ibid., pp. 8-9.
[40] Niemeyer, J. and C. Scott-Little. "Assessing Kindergarten Children: A Compendium of Assessment Instruments." SERVE Center, University of North Carolina at Greensboro, 2002, p. 2. http://www.serve.org/uploads/publications/assesskindergarteninstruments.pdf
[41] Bulleted items adapted from: Maxwell and Clifford, Op. cit., p. 6.

A review of 2011 RTT-ELC applications provides insight into states' kindergarten entry assessment practices. As presented in Figure 1.3, of the 37 states that submitted applications, 13 states indicated they did not use kindergarten assessments and one was not specific about its methods. Of the remaining 23 states, nine were using state-developed assessments, four were using a version of Work Sampling System, three were using Teaching Strategies GOLD, two were using other multi-domain systems, and five were using systems that only assessed language and literacy.

Figure 1.3: KEA Types among RTT-ELC Applications

KEA Type	State	
State-Developed	▪ California ▪ Connecticut ▪ Hawai'i ▪ Kansas ▪ Missouri	▪ North Carolina ▪ Pennsylvania ▪ Puerto Rico ▪ Vermont
Work Sampling System	▪ Maryland ▪ Michigan	▪ Minnesota ▪ New Jersey
Teaching Strategies GOLD	▪ Colorado ▪ Delaware	▪ Washington
Other Multi-Domain Assessment	▪ Arkansas	▪ Florida
Simplified Language and Literacy Assessment	▪ Iowa ▪ Mississippi ▪ New Mexico	▪ Ohio ▪ Oklahoma
No Assessment or Non-Specific Assessment	▪ Arizona ▪ District of Columbia ▪ Georgia ▪ Illinois ▪ Kentucky ▪ Maine ▪ Massachusetts	▪ Nebraska ▪ Nevada ▪ New York ▪ Oregon ▪ Rhode Island ▪ West Virginia ▪ Wisconsin

Source: Early Learning Challenge Collaborative[42]

However, kindergarten entry assessments are becoming increasingly common. National attention to early childhood learning and assessment has spurred many states to improve their system or implement a new system. Of the 37 RTT-ELC applicants, 35 proposed using the funds to develop or improve a KEA system.[43] A recent report from May 2013 indicates that 43 states currently use a kindergarten entry assessment or have plans to develop one.[44]

One trend observed among RTT-ELC winners **is adopting a proprietary assessment device as a starting point and then customizing the system to suit the state's priorities.** As Figure 1.3 indicates, Work Sampling System and Teaching Strategies GOLD are the most common off-the-shelf KEAs. Maryland, Ohio, and Minnesota plan to use adapted versions of Work

[42] Wat, A., C. Bruner, A. Hanus, and C. Scott-Little. "Review of State KEA Plans Proposed for the Early Learning Challenge." Early Learning Challenge Collaborative, November 1, 2012, p. 3. Retrieved from: http://www.elccollaborative.org/assessment/77-kindergarten-entry-assessment.html

[43] Ibid.

[44] Maxwell, et al., Op. cit., p. 5.

Sampling System, while Washington and Delaware plan to use adapted versions of Teaching Strategies GOLD.[45] States taking this approach pick and choose certain assessment items to use as part of their systems, and discard or de-emphasize remaining items. The retained items are a result of alignment analyses, which identify the assessment indicators most pertinent to state learning standards. Figures A.4 and A.6 in the Appendix present the structures of Teaching Strategies GOLD and Work Sampling System, respectively.

Another trend observed is collaboration among states. Indeed, one of the Early Learning Challenge Collaborative's top ten recommendations to RTT-ELC winners is to "collaborate with other states in KEA development."[46] A prime example is the collaboration between Maryland and Ohio, discussed in Section II, which experts have referred to as the "most sophisticated work in the country."[47] Maryland and Ohio are working together to create a comprehensive early childhood assessment that they will eventually make available for purchase to other states.

Another incentive for collaboration may be the U.S. Department of Education's Grants for Enhanced Assessment Instruments, which are awarded to improve the quality of state assessments, measure academic achievement, and chart student progress over time.[48] In 2013, Maryland, North Carolina, and Texas were all awarded grants of approximately $5 million to support the development and implementation of kindergarten entry assessments. Maryland and North Carolina have opted to form state consortia to bolster these efforts.[49]

[45] Bornfreund, L. "Race to the Top – Early Learning Challenge Winners." New America Foundation, March 13, 2012, pp. 17-19. http://earlyed.newamerica.net/sites/newamerica.net/files/articles/Race%20to%20the%20Top%20Series_0.pdf

[46] "Top Ten Recommendations for State Leaders Implementing Kindergarten Entry Assessments." Early Learning Challenge Collaborative, p. 4. Retrieved from: http://www.elccollaborative.org/assessment/77-kindergarten-entry-assessment.html

[47] Kagan, Telephone interview, Op. cit.

[48] "Grants for Enhanced Assessment Instruments." U.S. Department of Education. http://www2.ed.gov/programs/eag/index.html

[49] "EAG Awards Made Through a 2013 Competition." U.S. Department of Education. http://www2.ed.gov/programs/eag/awards13.html

SECTION II: STATE PROFILES

This section profiles three states that are using RTT-ELC grant funding to enhance their early childhood assessment systems: Washington, Maryland, and North Carolina. Each of these states is approaching assessment differently. Washington will use an adapted version of Teaching Strategies GOLD, Maryland will use an adapted version of Work Sampling System, and North Carolina will create an original device.

WASHINGTON

Washington's current early childhood assessment system began in 2008 when the Department of Early Learning contracted with an independent organization to evaluate the viability of a statewide system. The resultant study concluded that a "statewide kindergarten assessment process could complement and strengthen what local schools are already doing."[51] Researchers recommended a planning strategy for Washington that included a planning stage (2009-2010), pilot stage (2010-2011), and a voluntary use stage (2011-2013), after which all districts would be required to use the assessment statewide.[52]

Figure 2.1: Washington RTT-ELC Performance Targets for KEA

- 100% of all children
- 100% of kindergarten teacher trained
- 75% of these children are "ready" in 3 out of 4 domains
- 90% of trained teachers find the training helpful for instruction
- 95% of families participate
- 70% of early learning professionals participate

Source: U.S. Department of Education[50]

Washington advanced its push toward a statewide kindergarten assessment when it won a Race to the Top – Early Learning Challenge grant in 2011.[53] Its application outlined goals and an implementation strategy for the **Washington Kindergarten Inventory of Developing Skills (WaKIDS)** system, which at that time was already in the pilot stage. The ultimate goal of the project was to "[s]cale a high-quality kindergarten assessment that informs early elementary teachers, early learning programs, parents, and policy-makers."[54] As indicated in Figure 2.1, Washington established ambitious performance targets for the program, including assessing all kindergarteners and training all teachers by the end of the grant in 2015.

Washington's assessment scheme coincides with 2011 legislation that authorizes state funding to ensure all children have access to all-day kindergarten programs by the 2017-

[50] "Project Plan Report: 2012 - WA - Department of Early Learning: PR Award #: S412A120035." U.S. Department of Education, February 5, 2013, p. 8. http://www2.ed.gov/programs/racetothetop-earlylearningchallenge/state-scope-of-work/wasow.pdf

[51] Golan, S., D. Petersen, and D. Spiker. "Kindergarten Assessment Process Planning Report." SRI International, December 8, 2008, p. 30. http://www.k12.wa.us/WaKIDS/pubdocs/KindergartenAssessment_SRIreport.pdf

[52] Ibid., p. 29.

[53] "RTT – ELC Phase 1." U.S. Department of Education. http://www2.ed.gov/programs/racetothetop-earlylearningchallenge/awards-phase-1.html

[54] "Project Plan Report: 2012 - WA - Department of Early Learning," Op. cit., p. 8.

2018 school year.[55] In a related bill, lawmakers required all state-funded kindergarten programs to use WaKIDS.[56] About 22,000 of Washington's 80,000 kindergarteners participated in WaKIDS in the 2012-2013 school year, and this portion will continue to increase as the state improves funding for full-day kindergarten programs.[57]

The WaKIDS process assesses children's strengths, welcomes students and their families to kindergarten, and examines factors that enable children to be successful in school.[58] The WaKIDS system comprises three components:

- Whole-child assessment
- Family connection
- Early learning collaboration[59]

The **whole-child assessment component is an adaptation of Teaching Strategies GOLD** and informs teachers about socio-emotional, physical, cognitive, language, literacy, and mathematics development.[60] After piloting Teaching Strategies GOLD, Work Sampling System, and Developing Skills Checklist, Washington decided GOLD offered the greatest potential for building a "Pre-K [through] third grade continuum of data" and the best framework for providing joint professional development.[61] The WaKIDS tailored version assesses children on six of GOLD's 10 development domains, and uses 19 of GOLD's 38 learning objectives. WaKIDS assesses the following six domains:

- Social-emotional
- Physical
- Language
- Literacy
- Cognitive
- Mathematics[62]

Washington opted not to assess children in Science and Technology, the Arts, Social Studies, or English Language Acquisition. Figure A.4 in the Appendix presents a complete version of GOLD's 38 learning objectives and indicates which objectives Washington retained. The decision to eliminate certain domains and objectives appears to be the result of an

[55] "RCW 28A.150.315: Voluntary all-day kindergarten programs — Funding — Identification of skills, knowledge, and characteristics — Assessments." Washington State Legislature. http://apps.leg.wa.gov/rcw/default.aspx?cite=28A.150.315

[56] "RCW 28A.655.080: Washington kindergarten inventory of developing skills — Implementation and administration — Work group — Reports — Grants — Waivers." Washington State Legislature. http://apps.leg.wa.gov/rcw/default.aspx?cite=28A.655.080

[57] "What is WaKIDS?" State of Washington Office of Superintendent of Public Instruction. http://www.k12.wa.us/WaKIDS/pubdocs/WhatIsWaKIDS.pdf

[58] Ibid.

[59] Bulleted items taken verbatim from: WaKIDS." State of Washington Office of Superintendent of Public Instruction. State of Washington Office of Superintendent of Public Instruction.

[60] Ibid.

[61] Joseph, G. E., et al. "WaKIDS Pilot: Second Report." University of Washington Childcare Quality and Early Learning Center for Research and Training, June 2011, p. ix. http://www.k12.wa.us/WaKIDS/pubdocs/WaKIDSUWReport2011.pdf

[62] Bulleted items taken verbatim from: Joseph, G. E. and D. McCutchen. "Inter-rater Reliability and Concurrent Validity Study of the Washington Kindergarten Inventory of Developing Skills (WaKIDS)." University of Washington, June 2013, p. 4. http://www.k12.wa.us/WaKIDS/pubdocs/WaKIDS_Report072613.pdf

alignment analysis that compared Washington's early learning standards to GOLD's objectives and indicators.[63]

Teachers are required to administer the whole-child assessment during the first few weeks of the school year and report results by October 31. However, schools can choose to administer GOLD up to three times per year. The WaKIDS guiding documents indicate that "[b]ecause GOLD is an observational assessment, teachers can assess more than one student and objective at one time."[64] Furthermore, educators are encouraged to progress with instruction while the assessment period is in session. Teachers should not be concerned about students gaining skills before or after their assessment because GOLD is intended to simply provide a snapshot of student performance. In fact, Washington educators use Teaching Strategies GOLD for interim and formative assessment, but use separate instruments for screening and summative assessment.[65]

The **family connection component** of WaKIDS "provides an opportunity for families to meet individually with their child's kindergarten teacher at the beginning of the school year."[66] In July 2013, Washington lawmakers authorized schools to set aside three full days at the beginning of the school year for family connection.[67] Teachers and families meet for 20 to 40 minutes to become familiar with each other and address any concerns going into the school year. The family connection is designed to welcome families to school, smooth entry into kindergarten, establish a relationship between families and teachers, and create a safe environment for families to share sensitive information about their children.[68] Educators are encouraged to use a guide booklet, Introducing Me!, in which students fill out information about themselves and their families. Figure A.5 in the Appendix presents questions that appear on "Introducing Me!" WaKIDS does not require teachers to officially report anything regarding family connection, but collects feedback annually through a survey.[69]

The **early learning collaboration component** is intended to "increase communication and build connections between kindergarten teachers and early learning providers."[70] This component is still being developed, but Washington is determined to build a "seamless P-3

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[63] "Alignment of Teaching Strategies GOLD Objectives for Development and Learning: Birth through Kindergarten with Washington State Early Learning and Development Guidelines." Teaching Strategies, LLC, 2012, pp. 1-85. http://www.k12.wa.us/WaKIDS/pubdocs/AlignmentTSGoldwithWaEarlyLrngDevGuidelines.pdf

[64] "Principal Series: 3: Whole-Child Assessment." State of Washington Office of Superintendent of Public Instruction. State of Washington Office of Superintendent of Public Instruction, August 13, 2013, p. 1. http://www.k12.wa.us/WaKIDS/pubdocs/3_WholeChildAssessment.pdf

[65] Ibid.

[66] "WaKIDS: Family Connection." State of Washington Office of Superintendent of Public Instruction. http://www.k12.wa.us/WaKIDS/Family/default.aspx

[67] "Second Substitute House Bill 1723." Washington State Legislature, 63rd Legislature, 2013 Regular Session, April 25, 2013, pp. 1-14. http://apps.leg.wa.gov/documents/billdocs/2013-14/Pdf/Bills/House%20Passed%20Legislature/1723-S2.PL.pdf

[68] Principal Series: 2: Family Connection." State of Washington Office of Superintendent of Public Instruction, August 13, 2013, p. 1. http://www.k12.wa.us/WaKIDS/pubdocs/2_FamilyConnection.pdf

[69] Ibid., p. 2.

[70] "WaKIDS - Early Learning Collaboration Framework." State of Washington Office of Superintendent of Public Instruction, p. 1. http://www.k12.wa.us/WaKIDS/Collaboration/pubdocs/WaKIDS_Early_Learning_Collaboration_Framework.pdf

system" in which early education providers and K-12 providers inform and influence each other. The goals of the structured collaboration are to:

- Build and strengthen relationships between early learning providers and kindergarten teachers;
- Develop a shared understanding and common expectations for kindergarten readiness;
- Share emerging best practices within and across regions;
- Share and better familiarize districts and the early learning community with Teaching Strategies GOLD, the data being collected, and the reports that can be generated;
- Analyze regional WaKIDS data to inform practice and improve future school readiness; and
- Coordinate with districts and elementary schools to engage kindergarten teachers, elementary principals and administrators in the Educational Service Districts/Coalition events.[71]

The collaboration is organized according to Washington's nine Educational Service Districts, which comprise geographical clusters of school districts. Neighboring districts form Early Learning Regional Coalitions, which hold meetings, promote awareness of early learning, and communicate implementation processes.[72] The collaboration component is led by a steering committee that works with WaKIDS data and develops collaboration action plans.[73]

MARYLAND

The Maryland Model for School Readiness (MMSR) is the state's current "assessment and instructional system designed to provide parents, teachers, and early childhood providers with a common understanding of what children know and are able to do upon entering school."[74] MMSR was first conceived in 1995 and initially piloted in 1997. The system has gained significance through the years, particularly in 2000 when Maryland's Department of Budget and Management began using information collected by MMSR for budgeting decisions. At that time, Maryland lawmakers demonstrated a renewed commitment to school readiness and made the goal of increasing the percentage of children "fully ready" for kindergarten from 49 percent in 2000 to 75 percent in 2008.[75]

The MMSR framework defines school readiness, learning standards, and assessment methods, all of which are closely related.[76] Maryland's definition of school readiness explains that children must be adequately developed across several dimensions so that they are capable of benefitting from school:

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[71] Bulleted items taken verbatim from: Ibid., p. 1.
[72] Ibid., pp. 4-5
[73] Ibid., p. 2.
[74] "Maryland Model for School Readiness." Maryland Department of Education. http://marylandpublicschools.org/MSDE/divisions/child_care/early_learning/MMSR.htm
[75] "A Look at Maryland's Early Childhood Data System." National Conference of State Legislators, 2010, p. 3. http://www.ncsl.org/documents/educ/MDReport.pdf
[76] "Maryland Model for School Readiness (MMSR): Framework and Standards for Prekindergarten." Maryland State Department of Education, 2009, p. 6. http://mdk12.org/instruction/ensure/MMSR/MMSRpkFrameworkAndStandards.pdf

> MMSR defines school readiness as the state of early development that enables an individual child to engage in and benefit from early learning experiences. As a result of family nurturing and interactions with others, a young child in this stage has reached certain levels of **social and emotional development, cognition and general knowledge, language development, and physical well-being and motor development.** School readiness acknowledges individual approaches toward learning as well as the unique experiences and backgrounds of each child.[77]

The developmental factors described in Maryland's school readiness definition are consistent with best practice literature in that they include social, cognitive, and physical dimensions. Furthermore, the definition of readiness aligns with Maryland's early childhood learning standards and assessment instruments, both of which include social, cognitive, and physical elements.

MMSR learning standards are "broad, measurable statement[s] of what students should know and be able to do" and are aligned to the commercially available Work Sampling System (WSS).[78] The standards are organized slightly differently than WSS, but include similar content. Figure 2.2 presents Maryland's interpretation of the MMSR standards' basic alignment with WSS.

Figure 2.2: MMSR – WSS Alignment

MMSR Standards	Work Sampling System Dimensions
Personal and Social Development	Personal and Social Development
Language and Literacy Development	Language and Literacy Development
Cognition and General Knowledge ▪ Mathematics ▪ Science ▪ Social Studies ▪ The Arts	Mathematical Thinking
	Scientific Thinking
	Social Studies
	The Arts
Physical Development and Health ▪ Physical Education ▪ Health Education	Physical Development and Health

Source: Maryland State Department of Education[79]

Each standard contains components, indicators, and learning objectives that describe student behavior. MMSR standards are intended to be used throughout the school year to guide instruction and formative assessment. Figure A.6 in the Appendix presents the structure of the MMSR standards, including its components and indicators.

In addition, MMSR defines "exemplars" for each indicator, which are descriptions of skills and behaviors that teachers can look for when evaluating each standard. For each indicator,

[77] Ibid., p. 8.
[78] Ibid., p. 9.
[79] Table items taken verbatim from: Ibid., p. 13.

the MMSR provides three exemplars that denote a student's skill level as "proficient," "in process," or "needs development." The exemplars inform summative, portfolio-based assessments that are administered by teachers in the fall and spring of each year. The spring exemplars are notably more advanced than the fall exemplars, as students are expected to progress throughout the school year.[80]

Maryland aligns its early education standards to the complete version of the Work Sampling System, but only selected 30 key performance indicators from a total of 66 to include on the official state report.[81] The Maryland Department of Education collects summative assessment data based on these 30 WWS indicators during the first quarter of fall. After collecting reports from all kindergarten teachers, the Department:

- Merges enrollment and demographic data with assessment information
- Creates data file on all students
- Analyzes data according to MMSR K Assessment construct
- Verifies data and conducts reliability analyses
- Issues annual report and disseminates this report to districts, policymakers, and the early childhood community[82]

The 2011-2012 MMSR annual report, the most recent report published, shows that Maryland has increased the portion of children "fully ready" for school considerably over the previous decade. In 2001, the year after Maryland renewed its commitment to prepare all young children for school and thus the baseline year for future data analysis, 49 percent of kindergarteners were deemed "fully ready," 44 percent were deemed "approaching," and 7 percent were deemed "developing." In 2011, 83 percent were "fully ready," 15 percent were "approaching," and 3 percent were "developing."[83]

To expand upon this success, **Maryland pledged to revamp its early childhood education system, once again using Race to the Top – Early Learning Challenge grant funding.** In fact, Maryland scored 19.6 points out of a possible 20 points on the KEA portion of its 2011 RTT-ELC application, which was the highest total achieved among applicants.[84] Maryland has teamed with the Ohio Department of Education, also a winner of RTT-ELC grant funding, to create the **Early Childhood Comprehensive Assessment System (EC CAS)**, an extensive device for evaluating childhood readiness. The two states began developing the system in 2011, are piloting the system in 2013, and will use the system statewide by fall 2014.

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[80] "Assessment Guidelines: MMSR Exemplars." Maryland Department of Education. http://www.mdk12.org/instruction/ensure/MMSR/MMSR_FP.html

[81] "Maryland Model for School Readiness 2011-2012." Maryland State Department of Education, 2012, p. 4. http://www.marylandpublicschools.org/NR/rdonlyres/BCFF0F0E-33E5-48DA-8F11-28CF333816C2/31940/2011_12_statereport_web_.pdf

[82] Bulleted items adapted from: "Maryland Model for School Readiness (MMSR): Kindergarten Assessment." Maryland Department of Education, August 2009, p. 7. http://marylandpublicschools.org/NR/rdonlyres/264017F7-E1A1-469B-8C9D-F824AAF21159/31749/MMSR_ppttext1.pdf

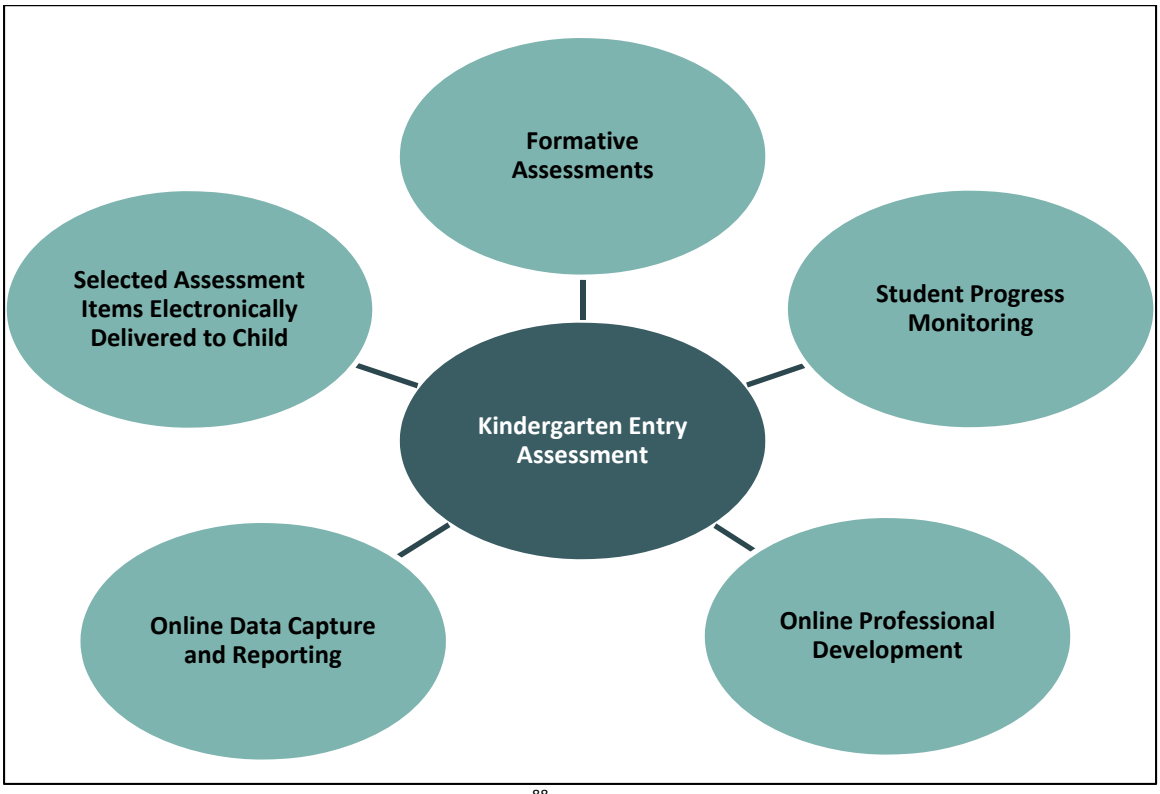
[83] "Maryland Model for School Readiness 2011-2012," Op. cit., p. 1.

[84] Bornfreund, Op. cit., p. 17.

Maryland and Ohio plan to make the system available to other state for purchase once it is completed.[85]

The stated goals of the EC CAS are to generate reliable information "on all domains of school readiness from [the] ages to 36 to 72 months" and to produce reports that are "useful to families, early childhood educators, and policy makers for supporting the development and progress of children."[86] The Kindergarten Entry Assessment will be the cornerstone of the new system, but it will also include formative assessments, screening devices, professional development, and technology infrastructure, as presented in Figure 2.3.[87]

Figure 2.3: Maryland and Ohio's Early Childhood Comprehensive Assessment System



Source: Maryland and Ohio Departments of Education[88]

[85] Ibid., p. 18.
[86] "Scope of Work: 2012 - Maryland – SEA: PR Award #: S412A120016." U.S. Department of Education, January 28, 2013, p. 11. http://www2.ed.gov/programs/racetothetop-earlylearningchallenge/state-scope-of-work/mdsow.pdf
[87] "The Early Childhood Comprehensive Assessment System (EC-CAS): A Partnership to Promote School Readiness by the Maryland and Ohio Departments of Education." Maryland and Ohio Departments of Education, pp. 1-2. http://www.earlychildhoodohio.org/files/elcg/Early_Childhood_Comprehensive_Assessment_System.pdf
[88] Grafwallner, R., et al. "Early Childhood Comprehensive Assessment System (EC CAS)." Maryland and Ohio Departments of Education, June 21, 2013, p. 4. Retrieved from: https://ccsso.confex.com/ccsso/2013/webprogram/Session3480.html

The Kindergarten Entry Assessment appears to stem from Work Sampling System indicators in that it evaluates student progress on the same seven dimensions of readiness. However, the KEA has been expanded beyond observational checklists to include direct assessment and technology-supported performance tasks.[89] The KEA will be administered during a six- to eight-week window during the fall semester of kindergarten and each of the seven domains takes approximately 15 minutes to administer.[90] KEA will be used to "inform stakeholders, guide decision making about professional development needs, and help teachers meet each student's individual needs."[91]

Formative assessments will also evaluate children across the seven dimensions of readiness, but will be based on "research-supported learning paths" that define knowledge and skills appropriate for children at six-month age intervals.[92] Educators will be required to administer formative assessments during the fall and spring of every school year when children are between the ages of 36 to 72 months and have the option to use the instruments continuously throughout their curriculum.[93] Figure 2.4 provides an overview of the assessment process in the EC CAS. Unlike KEA data, which serves largely to inform stakeholders on statewide progress, these formative assessment data equip caregivers and teachers to track student progress, plan intervention strategies, and design lesson plans in real time.[94]

Figure 2.4: EC CAS KEA Design

<table>
<tr><th rowspan="2">Readiness Domain</th><th colspan="7">Age (Months)</th></tr>
<tr><th>36</th><th>42</th><th>48</th><th>54</th><th>60</th><th>66</th><th>72</th></tr>
<tr><td>Social Foundations</td><td colspan="5" rowspan="7">Formative assessment: development represents a continuum of changing behaviors</td><td colspan="1" rowspan="7">Summative assessment: KEA "snapshot" of readiness</td><td colspan="1" rowspan="7">Formative assessment</td></tr>
<tr><td>Language and Literacy</td></tr>
<tr><td>Mathematics</td></tr>
<tr><td>Physical Well-Being and Motor Development</td></tr>
<tr><td>Science</td></tr>
<tr><td>Social Studies</td></tr>
<tr><td>The Arts</td></tr>
</table>

Sources: Maryland and Ohio Departments of Education[95]

All assessments will be fully aligned with several sets of standards to ensure EC CAS is relevant for all students at the local, regional, and national levels. EC CAS is aligned with:

- Common Core State Standards

[89] Siddens, S. and T. Otto. "Early Childhood Comprehensive Assessment System: Partnership Between Maryland and Ohio." Maryland and Ohio Departments of Education, p. 13. http://ohioedconference.files.wordpress.com/2012/11/earlychildhoodcomprehensiveassessmentsystem_siddens.pdf
[90] Ibid., p. 20
[91] "The Early Childhood Comprehensive Assessment System (EC-CAS): A Partnership to Promote School Readiness by the Maryland and Ohio Departments of Education," Op. cit., p. 2.
[92] Ibid.
[93] Siddens and Otto, Op. cit., p. 20.
[94] "The Early Childhood Comprehensive Assessment System (EC-CAS)," Op. cit., p. 2.
[95] Table items adapted from: Grafwallner, R., et al., Op. cit., p. 17.

- Birth to Kindergarten Entry Standards in Maryland and Ohio
- Head Start Early Learning Framework
- Early Child Outcomes required for Individuals with Disabilities Education Act (IDEA) reporting
- Standards for English language learners
    - World-Class Instructional Design and Assessment (WIDA)
    - Council of Chief State School Officers (CCSSO)[96]

Furthermore, the assessments are integrated with early educator professional development efforts. Professional development addresses all three stages of the assessments: pre-administration, administration, and post-administration. Addressing all stages ensures that educators understand how to "administer assessments to various populations, interpret assessment scores, communicate results to families, and use data to make instructional decisions and individualize instruction."[97] Training relies heavily on technology and includes web-based learning modules and resources, online coaching and technical assistance, and virtual simulators.[98]

Clearly, **technology plays a crucial role in the implementation of EC CAS.** The centerpiece of Maryland and Ohio's technology approach is the Online Reporting System (ORS), the user's online interface accessible by computer or tablet. The ORS is where teachers "real-world observations or scores from any performance item."[99] Educators also use the ORS to determine students' KEA completion status, download supporting resources, access contextualized professional development, and upload artifacts to students' longitudinal profiles.[100]

NORTH CAROLINA

North Carolina currently administers a state-developed kindergarten entry assessment that evaluates children's ability in literacy and mathematics. The device is also used as a formative assessment tool, and is administered periodically through first and second grade as well. Currently, North Carolina is in the process of using RTT-ELC grant funding to revamp and expand this system.[101] In addition to RTT-ELC funding, North Carolina's efforts were recently bolstered by a $6.1 million Enhanced Assessment Instrument grant from the U.S. Department of Education.[102]

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[96] Bulleted items adapted from the following two sources: [1] Ibid., p. 8.
[2] Siddens and Otto, Op. cit., p. 18.
[97] "The Early Childhood Comprehensive Assessment System (EC-CAS)," Op. cit., p. 2.
[98] Grafwallner, R., et al., Op. cit., p. 28.
[99] Ibid., p. 31.
[100] Ibid.
[101] Bornfreund, Op. cit., pp. 19-20.
[102] "N.C. Awarded $6.1 Million for Kindergarten Entry Assessments." *News & Record,* September 12, 2013. http://www.news-record.com/news/local_news/article_5d95a8d8-1bd6-11e3-9ffc-001a4bcf6878.html

To refine the state's assessment tool so that it can help reduce the readiness gap at kindergarten entry and by the end of third grade,[103] North Carolina Department of Public Instruction (NC DPI) will join a consortium of eight other states and three research partners, SRI International, the BUILD Initiative, and Child Trends, to create a new K-3 assessment system. The consortium states seek to develop a more integrated system to support KEA, noting "that a KEA as part of a K-3 formative assessment will provide more meaningful and useful information for teachers than a stand-alone KEA."[104]

As such, **the primary purpose of the K-3 Assessment will be to provide formative feedback and inform instruction throughout the school year.** A secondary purpose will be to provide a snapshot of children's performance at kindergarten entry. As mandated by North Carolina's state legislature, the initial administration of the assessment will screen all students in early language, literacy, and math within the first 30 days of kindergarten.[105] Within the first 60 days of enrollment, the process will generate a "Child Profile" that will serve as the baseline for the broader K-3 Assessment.[106] The system will not be used for accountability or high-stakes purposes, such as program or teacher evaluations.

North Carolina's K-3 Assessment will measure **five domains of development, including physical health and development; emotional and social development; approaches to play and learning; language and literacy; and general cognition**.[107] The K-3 Assessment will align to North Carolina's Early Learning and Development Standards, Common Core State Standards, and North Carolina Essential Standards.[108]

NC DPI and its three research partners will lead the development process, but consortium states will provide support by participating in calls and meetings, sharing state-developed materials, reviewing assessment-related documents, engaging stakeholders, and piloting or field-testing assessment and technology instruments. The project is organized around seven key activity areas, each of which is led by a NC DPI or one of the research partners:

- Overall project management
- Across- and within-state stakeholder engagement
- Validation of assessment content
- Enhancement of professional development materials

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[103] Bornfreund, Op. cit., p. 20.

[104] "Abstract – Enhanced Assessment for the Consortium (EAC) Project Submitted by North Carolina's Department of Public Instruction (CFDA 84.368A)." U.S. Department of Education. http://www2.ed.gov/programs/eag/awards13.html

[105] "K-3 Assessment Overview." North Carolina Department of Public Instruction. http://rtt-elc-k3assessment.ncdpi.wikispaces.net/file/view/K-3%20Assessment%20One-pager.docx/417949684/K-3%20Assessment%20One-pager.docx

[106] "K-3 Assessment Wiki: Frequently Asked Questions." North Carolina's Department of Public Instruction. http://rtt-elc-k3assessment.ncdpi.wikispaces.net/FAQ

[107] "Project Plan Report: 2012 - NC - Early Childhood Advisory Council: PR Award #: S412A120027." U.S. Department of Education, February 5, 2013, pp. 13-14. http://www2.ed.gov/programs/racetothetop-earlylearningchallenge/state-scope-of-work/ncsow.pdf

[108] "K-3 Assessment." Office of Early Learning, North Carolina Department of Public Instruction. http://www.ncpublicschools.org/earlylearning/k-3assessment/

- Pilot and field testing
- Psychometric analyses and performance levels
- Technology[109]

Decision-makers have established a clear timeline for implementation and defined the responsibilities of various stakeholder groups. The stakeholder responsibilities are outlined in Figure 2.5. The system is scheduled to be fully developed by August 2014 and fully implemented by December 2015. Moreover, NC DPI has assigned and disclosed clear responsibilities to itself, school districts, schools, and teachers.[110]

Figure 2.5: Stakeholder Responsibilities

STAKEHOLDER	RESPONSIBILITY
State	▪ Develop a K-3 Assessment that includes a kindergarten entry assessment process that generates a Child Profile ▪ Conduct pilot testing for validity, reliability, and usability testing for appropriate and effective implementation ▪ Provide professional development to regions to support scaling-up and implementation ▪ Provide coaching and technical assistance to regions to support sustainability
Local education agencies	▪ Establish a District Implementation Team to manage the K-3 Assessment scale-up and implementation ▪ Develop a continuous improvement process that includes the use of data to inform ongoing professional development to ensure sustainability
Schools	▪ Identify individual(s) to lead the K-3 Assessment implementation effort in the school ▪ Provide time for teachers and staff to participate in professional development on the assessment ▪ Use assessment data to inform continuous improvement planning and to provide ongoing support for sustainability
Teachers	▪ Implement the K-3 Assessment following the administration guidelines ▪ Use assessment data to guide instruction ▪ Engage in a process of continuous improvement to transform instruction based on assessment data

Source: North Carolina Department of Public Instruction[111]

North Carolina's Office of Early Learning will seek stakeholder input throughout the development of the new system. It plans to engage teachers, administrators, families, and community members via mailing lists and the K-3 Assessment Wiki. The listserv allows educators and families to stay updated with the latest news and initiatives, learn about professional development opportunities, and discover new and pertinent resources. The K-3 Assessment Wiki is a website devoted entirely to the new assessment system and includes general information, presentations, resources, and contact information.[112]

[109] Bulleted items taken verbatim from: "Abstract," Op. cit.
[110] "K-3 Assessment Overview," Op. cit.
[111] Table items adapted from: Ibid.
[112] "K-3 Assessment Wiki." North Carolina Department of Public Instruction. http://rtt-elc-k3assessment.ncdpi.wikispaces.net/

APPENDIX

Figure A.1 presents Virginia's definition of school readiness, which encompasses children, families, schools, and communities. Figure A.2 presents Virginia's indicators for school readiness on each component.

Figure A.1: Virginia's Definition of School Readiness

AREA	DESCRIPTION OF READINESS
Ready Children	A ready child is prepared socially, personally, physical, and intellectually within the developmental domains addressed in Virginia's six Foundation Blocks for Early Learning: literacy, mathematics, science, history and social science, physical and motor development, and personal and social development. Children develop holistically; growth and development in one area depends upon development in other areas.
Ready Families	A ready family has adults who understand they are the most important people in the child's life and take responsibility for the child's school readiness through direct, frequent, and positive involvement and interest in the child. Adults recognize their role as the child's first and most important teacher, providing steady and supportive relationships, ensuring safe and consistent environments, promoting good health, and fostering curiosity, excitement about learning, determination, and self-control.
Ready Schools	A ready school accepts all children and provides a seamless transition to a high-quality learning environment by engaging the whole community. A ready school welcomes all children with opportunities to enhance and build confidence in their skills, knowledge, and abilities. Children in ready schools are led by skilled teachers, who recognize, reinforce, and extend children's strengths and who are sensitive to cultural values and individual differences.
Ready Communities	A ready community plays a crucial part in supporting families in their role as primary stewards of children's readiness. Ready communities, including businesses, faith-based organizations, early childhood service providers, community groups, and local governments, work together to support children's school and long term success by providing families affordable access to information, services, high-quality child care, and early learning opportunities.

Source: Virginia Department of Education[113]

[113] "Virginia's Definition of School Readiness," Op. cit., p. 1.

Figure A.2: Virginia's Indicators for School Readiness

COMPONENT	INDICATOR
Ready Children…	
Communicate effectively with adults and children by:	Labeling objects and feelings;
	Providing sample descriptions for events;
	Effectively conveying information, desires, and needs; and
	Using simple language and grammar to solve problems and to negotiate social interactions with adults and peers.
Display emerging literacy skills by:	Showing interest in and interacting with books as they are read by adults;
	Answering questions;
	Learning to use new words and tell stories;
	Recognizing and producing speech sounds, such as rhymes, beginning sounds, and letter sounds;
	Identifying the letters of the alphabet;
	Learning about print concepts from books, signs, and household objects; and
	Engaging in drawing and pretend writing and writing their name, letters, and other printed symbols.
Show an interest and skill in mathematics by:	Counting and using numbers to describe and compare;
	Recognizing and sorting simple shapes and describing their position;
	Identifying simple patterns;
	Making comparisons based on length, weight, time, temperature, and size; and
	Using objects in play, experimenting with materials, building blocks, and puzzles.
Build early science skills by:	Exploring and showing curiosity;
	Asking and answering questions about nature, why things happen, and how things work;
	Identifying patterns and changes in daily life; and
	Making observations based on the five senses.
Learn about history and social studies by:	Interacting with their family, peers, religious, and social communities;
	Recognizing ways in which people are alike and different; and
	Recognizing the relationships between people, places, and times.
Enhance physical and motor development by:	Learning to control their bodies;
	Strengthening their muscles;
	Practicing different movements;
	Participating in regular physical activity; and
	Practicing healthy living and appropriate daily care routines.
Exhibit personal and social skills and a sense of self-worth by:	Feeling secure and valued in theirs relationships;
	Expressing their emotions and taking pride in their accomplishments;
	Recognizing the consequences of their actions;
	Showing self-control; and
	Cooperating with others, using nonphysical ways to resolve conflicts.

Component	Indicator
Ready Families…	
Interact with their children, helping them to develop listening and communication skills and to express their feelings, needs, and wants. Adults:	Read to and speak with children regularly and respectfully;
	Appreciate the child's view of the child;
	Encourage exploration of the world in which they live;
	Are trustworthy and dependable; and
	Engage with children with joy, warmth, and comfort.
Encourage and act as the bridge to positive social relationships. Adults:	Help children learn to cooperate with others;
	Help children follow simple directions and complete basic tasks;
	Foster friendships with other children;
	Teach children routines and how to respond to rules and structure;
	Help children learn how to handle disappointments; and
	Expose children to and help them describe different people, places, and things.
Ensure their children are healthy by:	Completing all appropriate eye, ear, dental, and other medical screenings as well as immunizations.
Ready Schools…	
Smooth the transition between home and school by:	Communicating kindergarten standards and other school information to families through activities such as home visits, telephone calls, questionnaires, and kindergarten visitation days; and
	Forming effective relationships with parents and early childhood programs to share children's pre-kindergarten experiences and to assess their development.
Support instruction and staff development by:	Employing highly qualified teachers;
	Maintaining appropriate class sizes;
	Encouraging professional development; and
	Using best practices in the classroom.
Support teachers in:	Assessing the individual needs of children, designing instruction based on those needs, and regularly monitoring students' progress.
Partner with communities by participating in activities such as:	Recreational and enrichment programs;
	Family literacy activities;
	Before and after school care;
	Open houses; and
	Communication with other early childhood education programs in the community.
Provide resources and services to address the diverse and individual needs of students including:	Educational services;
	Health and mental health services; and
	Social services
Emphasize the importance of early childhood education by:	Regularly reviewing the quality, appropriateness, and alignment of the curriculum across all grades and phases of development; and
	Regularly focusing on and supporting the quality of teachers' interactions with children at all grade levels.

Component	Indicator
Ready Communities…	
Promote collaboration to reach the most vulnerable children and families through diverse channels of communication by:	Supporting effective, innovative strategies; and
	Building a sustainable, comprehensive system that maximizes resources.
Ensure all children have access to high-quality early care and education programs.	N/A
Provide accessible and affordable family services related to physical health, mental health, and lifelong learning, such as:	Literacy, English language learning, parenting skills, and adult education;
	Home visitation programs;
	Basic health care and nutrition services, including prenatal care;
	Mental health counseling;
	Early identification and treatment for children with disabilities and other special needs;
	Drug and alcohol counseling;
	Family court services; and
	Child abuse prevention.
Promote public assets such as:	Parks, libraries, recreational facilities, civic and cultural venues, and other opportunities to provide a better quality of life for families, encourage early learning opportunities, and foster community participation.
Regularly assess and use the following in program planning and resource allocation:	Children, families, schools, and community resources with regard to their role in school readiness.

Source: Virginia Department of Education[114]

[114] Ibid., pp. 1-3.

Figure A.3 presents Kentucky's definition of school readiness and indicators for three development areas. This definition and associated indicators were recommended by the Kentucky Governor's Task Force on Early Childhood Development and Education.

Figure A.3: Kentucky Definition and Indicators of School Readiness

COMPONENT	INDICATOR (MY CHILD…)
School readiness means each child enters school ready to benefit from early learning experiences that best promote the child's success. The Task Force recognized five developmental areas for school readiness: ▪ ***Approaches to learning;*** ▪ ***Health and physical well-being;*** ▪ ***Language and communication development;*** ▪ ***Social and emotional development; and*** ▪ ***Cognitive and general knowledge.***	
Health and Physical Well-Being	Eats a balanced diet
	Gets plenty of rest
	Receives regular medical and dental care
	Has had all necessary immunizations
	Can run, jump, climb, and does other activities that develop large muscles
	Uses pencils, scissors, etc., and does other activities that develop small muscles
Emotional and Social Preparation	Follows simple rules and routines
	Is able to express his or her own needs and wants
	Is curious and motivated to learn
	Is learning to explore and try new things
	Has opportunities to be with other children and to play/share with others
	Is able to be away from parents/family without being upset
	Is able to work well alone
	Has the ability to focus and listen
Language, Math, and General Knowledge	Uses 5-6 word sentences
	Sings simple songs
	Recognizes and says simple rhymes
	Is learning to write her name and address
	Is learning to count and play counting games
	Is learning to identify and name shapes and colors
	Has opportunities to listen to and make music and to dance
	Knows the difference between print and pictures
	Listens to stories read to them
	Has opportunities to notice similarities and differences
	Understands simple concepts of time (e.g., today, yesterday, tomorrow)
	Is learning to sort and classify objects

Source: Kentucky Department of Education[115]

[115] "School Readiness Definition." Kentucky Department of Education. http://education.ky.gov/educational/pre/pages/school-readiness-definition.aspx

Figure A.4 presents a complete list of Teaching Strategies GOLD's 10 development domains and 38 underlying learning objectives. Domains and objectives with an asterisk represent items that Washington has included in its state-sponsored kindergarten entry assessment, WaKIDS.

Figure A.4: Teaching Strategies GOLD and WaKIDS

OBJECTIVES
Social-Emotional*
1. Regulates own emotions and behaviors*   a. Manages feelings   b. Follows limits and expectations*   c. Takes care of own needs appropriately*
2. Establishes and sustains positive relationships*   a. Forms relationships with adults   b. Responds to emotional cues   c. Interacts with peers*   d. Makes friends*
3. Participates cooperatively and constructively in group situations   a. Balances needs and rights of self and others   b. Solves social problems
Physical*
4. Demonstrates traveling skills*
5. Demonstrates balancing skills*
6. Demonstrates gross-motor manipulative skills*
7. Demonstrates fine-motor strength and coordination*   a. Uses fingers and hands*   b. Uses writing and drawing tools*
Language*
8. Listens to and understands increasingly complex language   a. Comprehends language   b. Follows directions
9. Uses language to express thoughts and needs*   a. Uses an expanding expressive vocabulary*   b. Speaks clearly*   c. Uses conventional grammar*   d. Tells about another time or place*
10. Uses appropriate conversational and other communication skills*   a. Engages in conversations*   b. Uses social rules of language*
Cognitive*
11. Demonstrates positive approaches to learning*   a. Attends and engages   b. Persists   c. Solves problems*   d. Shows curiosity and motivation*   e. Shows flexibility and inventiveness in thinking*

OBJECTIVES
12. Remembers and connects experiences*   a. Recognizes and recalls*   b. Makes connections
13. Uses classification skills*
14. Uses symbols and images to represent something not present   a. Thinks symbolically   b. Engages in sociodramatic play
Literacy*
15. Demonstrates phonological awareness*   a. Notices and discriminates rhyme*   b. Notices and discriminates alliteration*   c. Notices and discriminates smaller and smaller units of sound*
16. Demonstrates knowledge of the alphabet*   a. Identifies and names letters*   b. Uses letter–sound knowledge*
17. Demonstrates knowledge of print and its uses*   a. Uses and appreciates books   b. Uses print concepts*
18. Comprehends and responds to books and other texts*   a. Interacts during read-alouds and book conversations*   b. Uses emergent reading skills*   c. Retells stories*
19. Demonstrates emergent writing skills*   a. Writes name*   b. Writes to convey meaning*
Mathematics*
20. Uses number concepts and operations*   a. Counts*   b. Quantifies*   c. Connects numerals with their quantities*
21. Explores and describes spatial relationships and shapes*   a. Understands spatial relationships   b. Understands shapes*
22. Compares and measures*
23. Demonstrates knowledge of patterns
Science and Technology
24. Uses scientific inquiry skills
25. Demonstrates knowledge of the characteristics of living things
26. Demonstrates knowledge of the physical properties of objects and materials
27. Demonstrates knowledge of Earth's environment
28. Uses tools and other technology to perform tasks
Social Studies
29. Demonstrates knowledge about self
30. Shows basic understanding of people and how they live
31. Explores change related to familiar people or places
32. Demonstrates simple geographic knowledge

OBJECTIVES
The Arts
33. Explores the visual arts
34. Explores musical concepts and expression
35. Explores dance and movement concepts
36. Explores drama through actions and language
English Language Acquisition
37. Demonstrates progress in listening to and understanding English
38. Demonstrates progress in speaking English

Source: Teaching Strategies, LLC[116]

[116] [1] "Teaching Strategies GOLD: Touring Guide." Teaching Strategies, Inc., pp. 4-5.
[2] "Alignment of Teaching Strategies GOLD Objectives for Development and Learning," Op. cit., pp. 1-85.

Figure A.5: WaKIDS Family Connection Guide

Welcome to Kindergarten!

- My name is:
- I like to be called:
- My favorite thing to celebrate is:
- Special people in my life are:
- People in my family are:
- I live with:
- The best way to reach my family is:
- The best time to reach my family is:

About My Family...

- We speak the following languages in my family:
- Some things I'd like you to know about my family:
- I live with _____ other children. Their names and ages are:
- Comments:

About...

- My favorite food is:
- My favorite book is:
- My favorite toy is:
- My favorite thing to play is:
- Other favorites:
- I am good at so many things, like:
- Before kindergarten, during the day I usually spent time doing:
  - ✓ Things I like to do:
  - ✓ Listen to stories
  - ✓ Draw and color
  - ✓ Play with other children
  - ✓ Play quiet games
  - ✓ Play physical games
  - ✓ Play outside
  - ✓ Play with things I can stack
  - ✓ Sing songs
  - ✓ Play make believe and use my imagination
- Things I do not like to do:
- When I feel tired, I might:
- When I feel angry, I might:
- When I feel sad, I might:
- When I feel excited, I might:
- When I feel hungry, I might:
- When I feel frustrated, I might:
- Here are other things that I want you to know about me:

Source: Washington Department of Early Learning[117]

[117] "Introducing Me!" Washington Department of Early Learning, May 2013, pp. 1-6. http://www.k12.wa.us/WaKIDS/pubdocs/IntroducingMe.pdf

Figure A.6 presents a complete list of Work Sampling System's 66 indicators on its kindergarten checklist. Indicators with an asterisk represent items that Maryland included on its state-sponsored kindergarten entry assessment, MMSR. Please note that Work Sampling System has been revised and the most recent edition does not precisely align with the older version that Maryland uses.

Figure A.6: Work Sampling System and MMSR

COMPONENT	INDICATOR
Social and Personal*	
Self-Concept*	Demonstrates self confidence
	Shows initiative and self-direction*
Self-Control*	Follows classroom rules and routines*
	Uses classroom materials purposefully and respectfully*
	Manages transitions and adapts to changes in routine
Approaches to Learning	Shows eagerness and curiosity as a learner
	Sustains attention to a task, persisting even after encountering difficulty
	Approaches tasks with flexibility and inventiveness
Interaction with Others*	Interacts easily with one or more children*
	Interacts easily with familiar adults
	Shows empathy and caring for others
	Seeks adult help and begins to use simple strategies to resolve conflicts
Language and Literacy*	
Listening*	Gains meaning by listening*
	Follows directions that involve a series of actions
	Demonstrates beginning phonemic awareness*
Speaking*	Speaks clearly and conveys ideas effectively*
	Uses expanded vocabulary and language for a variety
Reading*	Shows interest in and knowledge about books and reading
	Shows some understanding of concepts about print*
	Knows letters, sounds, and how they form words
	Comprehends and responds to fiction and non-fiction text*
Writing*	Represents stories through pictures, dictation, and play
	Uses letter-like shapes, symbols, letters, and words to convey meaning*
	Understands purposes for writing
Mathematical Thinking*	
Mathematical Processes*	Begins to use and explain strategies to solve mathematical problems*
	Uses words and representations to describe mathematical ideas
Numbers and Operations*	Shows understanding of number and quantity*
	Begins to understand relationships between quantities
Patterns, Relationships, and Functions*	Sorts objects into subgroups, classifying and comparing
	Recognizes duplicates and extends patterns*
Geometry and Spatial	Recognizes and describes some attributes of shapes*

Component	Indicator
Relations*	Shows understanding of and uses direction, location, and position words
Measurement	Orders, compares and describes objects by size, length, and weight
	Explores common instruments for measuring during work and play
	Estimates and measures using non-standard and standard units
	Shows awareness of time concepts
Statistics	Begins to collect data and make records using lists or graphs
Scientific Thinking*	
Inquiry*	Seeks information through observation, exploration, and investigations*
	Uses simple tools and equipment to extend the senses and gather data*
	Forms explanations and communicates scientific information
Physical Science*	Identifies, describes, and compares properties of objects*
Life Science*	Observes and describes characteristics, basic needs, etc. of living things*
Earth Science	Explores and identifies properties of rocks, soil, water and air
	Begins to observe and describe simple seasonal and weather changes
Social Studies*	
People, Past and Present*	Identifies similarities/differences in people's characteristics, habits, etc.*
	Demonstrates beginning awareness of state and country
	Shows awareness of time and how the past influences people's lives
Human Interdependence*	Begins to understand how people rely on others for goods and services
	Describes some people's jobs and what is required to perform them*
	Begins to be aware of technology and how it affects life*
Citizenship and Government*	Demonstrates awareness of the reasons for rules*
	Shows beginning understanding of what it means to be a leader
People and Where They Live	Shows awareness of relationship between people and where they live
The Arts*	
Expression and Representation*	Participates in group music experience*
	Participates in creative movement, dance, and drama*
	Uses a variety of art materials to express ideas and emotions.*
Understanding Appreciation*	Respond to artistic creations or events*
Physical Development and Health*	
Gross Motor Development*	Moves with balance and control*
Fine Motor Development*	Uses strength and control to accomplish tasks
	Uses eye-hand coordination to perform tasks*
	Uses writing and drawing tools with some control
Personal Health and Safety*	Performs self-care tasks competently*
	Shows beginning understanding of and follows health and safety rules*

Source: Maryland State Department of Education[118]

[118] [1] "Maryland Model for School Readiness 2011-2012," Op. cit., pp. A1-A5.
[2] ""Maryland Model for School Readiness (MMSR): Kindergarten Expanded Exemplars ~ Fall/Entry." Maryland State Department of Education, January 8, 2010, pp. 1-99. http://mdk12.org/instruction/mmsrexemplars/pdf/ExemplarsKindergarten_Fall.pdf

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TOP TEN RECOMMENDATIONS for State Leaders Implementing Kindergarten Entry Assessments

A Unique Opportunity to Support Success for Early Learners

Kindergarten entry is a unique moment in time for gauging children's development and using assessment data to both look backward and look forward. Since public school systems serve most kindergartners, they have an opportunity to both obtain a statewide perspective on students' developmental status at a critical juncture and to use that information to inform early childhood and early elementary practices and policies. Based on the BUILD Initiative's review of the Race to the Top – Early Learning Challenge (RTTT-ELC) plans, we have developed a top 10 list of recommendations for state leaders as they move forward in implementing Kindergarten Entry Assessments, or KEAs, with or without the support of the RTTT-ELC funding.

1 INVOLVE THE RIGHT PEOPLE; LISTEN TO DIVERSE VOICES:

– parents, early care and education providers, public education leaders, policymakers, researchers, child and education advocates, and researchers.

Different stakeholders can add valuable perspectives to the process of developing KEAs. For instance, parents can offer perspectives on how KEAs can help them further their child's learning. Parents can also help ensure that KEAs are developed in ways that recognize, respond to, and are appropriate for children of different backgrounds and learning styles. Teachers can bring real-world perspectives to considerations of how KEAs can best be integrated into and aligned with classroom activities, parent-teacher conferences, and ongoing instruction and support to ensure children's learning. Including diverse stakeholders in the KEA process can also help build broad ownership for the appropriate use of KEAs.

2 USE RESEARCH IN THE DESIGN:

The KEA assessment should include the five domains of physical, social/emotional, language/literacy, cognitive development (including early mathematics and science), and approaches to learning.

Relying on a strong research base, the National Education Goals Panel determined that these five domains of development are essential for preparing young children for future success. Efforts to establish expectations that the KEAs will cover all five domains should include reviewing:

(a) your state's early learning guidelines for 4-year-old children,
(b) kindergarten progress reports/report cards,
(c) the Common Core end-of-kindergarten standards,
(d) other state or local standards for kindergarten students,
(e) research and guidance on appropriate standards and assessments for young Dual Language Learners, and
(f) research on indicators that predict later success in school, including in the area of executive functioning.

The KEA assessment should include the five domains of physical, social/emotional, language/literacy, cognitive development (including early mathematics and science), and approaches to learning.

3 LINK TOOLS TO GOALS.

Determine how to select or develop your KEA assessment instrument and related materials for professional development, and management and reporting of KEA data based on the goals your state has established for using the KEA.

This involves gaining clarity and consensus on the questions and audiences that the KEA is expected to address, as well as on the purposes it is meant to meet. Doing so will inform the design of the instrument; the data systems needed to capture, analyze, and report the results; and the guidance, training, and supports different audiences need to use the data. It will also help states weigh the relative advantages of various options about design and implementation, such as:

- Adopting an existing assessment tool, developing a new one, or collaborating with other states in a development effort;
- Requiring a common statewide KEA or giving districts choices about the instrument that best fits their needs; and
- Conducting the assessment with all kindergartners in the state or using a sampling approach.

States also need to develop safeguards against misusing the KEA. The National Research Council report, *Early Childhood Assessments: Why, What, and How*, provides research-based guidance for policymaking in this area.

Finally, policymakers should recognize that limitations exist on the potential for KEAs alone to answer some questions. For example KEA results generally are not enough to demonstrate which early childhood programs, kindergarten teachers, or curricula are effective or ineffective in helping students learn. These results can, however, suggest areas for additional attention and investigation, and certainly can help to identify specific issues of concern that need additional attention.

4 KEEP *ALL* KIDS IN MIND.

Ensuring that KEAs are reliable and valid instruments for all children involves, for example, designing and administering KEAS in ways that take into account the needs and circumstances of children who are dual-language learners, have disabilities or developmental delays, or belong to cultural groups that differ from the mainstream in their modes of communication and social and emotional self-expression.

5 THINK CONTINUOUS QUALITY IMPROVEMENT.

Develop training and quality assurance mechanisms to make sure that KEA assessments are implemented and the data used consistently, accurately, and appropriately. This involves supporting and monitoring kindergarten teachers as they administer KEA assessments and use data to improve instruction through coaches, online platforms, regional centers, and higher education programs. Make provisions for periodic refresher training, oversight, spot-checking of how assessments are administered, and ongoing reliability and validity studies.

6 PUT KEA RESULTS IN CONTEXT:

Identify and use other information to complement the KEA, including reports from parents and information about neighborhoods and communities.

Using additional information to complement KEAs both can help place the KEA results in proper context, producing a more complete picture of the child and the child's background. Efforts to identify and use complementary information involve deciding how the KEA will be aligned with other early childhood and early elementary assessments and data efforts to allow for longitudinal analyses of children's development from birth to kindergarten entry, for example, or from kindergarten through third grade. This work also involves deciding how KEA information may be used at a neighborhood level in conjunction with other information to identify geographic areas where particular attention to developing services and supports in the early years is warranted.

7 TIMING AND FORMAT MATTER: REPORT KEA RESULTS IN EASY-TO-USE FORMATS

If KEA results are to contribute to a continuous improvement strategy for early care and education providers, it is important to make the extra effort needed for these providers to receive assessment results about their children and their varied levels of proficiency in a timely manner. It is also important for states and districts to present the data in formats that are useful to early childhood teachers and directors (ask them!), and to offer teachers and directors the necessary time, training, and supports to analyze and use the data.

8 GET PEOPLE READY TO USE THE RESULTS:

States should work with school districts to develop materials that give parents guidance on how to use KEA data, to help their children to continue progress in all domains of learning and development, including success on the Common Core and other end-of-kindergarten standards.

9 ALIGN THE ASSESSMENT WITH EDUCATOR PRACTICES (AND VICE VERSA):

With a holistic orientation to child development, a KEA can be an opportunity to align early elementary curriculum and practice with the comprehensive standards found in high-quality early care and education programs – for example, standards for social-emotional development, approaches to learning, and physical and motor development. KEA results can be used as a focal point for joint professional development activities to stimulate dialogue between early care and education providers and public school teachers and administrators about how to improve practice in the preschool years and in grades K-3. The introduction of KEAs can also raise the possibility of expanding the scope of K-3 formative assessments so that local and state-level stakeholders have a more aligned and comprehensive assessment system to inform their practice and policies.

10 COLLABORATE WITH OTHER STATES IN KEA DEVELOPMENT.

This collaboration can include sharing resources to develop, pilot, and validate assessment tools; creating technology platforms to store, manage and generate reports; and developing training and materials to help varied audiences understand and use KEA assessment information. The work on training and materials may involve developing common, open-source guides and resources, and ensuring that KEA resources designed for parent and community use are both available in home languages and culturally appropriate and responsive to families and children from different backgrounds and cultures.

Looking Back – and Forward

An aligned assessment system from birth through third grade can provide a longitudinal perspective on children's developmental status with respect to a common set of outcomes that are associated with or predictive of school success. In turn, knowing the factors that influence the birth-to-third grade trajectory allows states to identify practices and policies that support such success. In other words, KEAs can provide data that can be used to inform efforts to improve the array of programs designed to promote school readiness – looking back – and to promote children's continued growth – looking forward – in all domains of learning and development through the early elementary years.

Fast Fact: Information and Resources on Developing State Policy on Kindergarten Entry Assessment (KEA)

February 2014[1]

Information Request:
CEELO was asked to provide information on how other states are approaching the development and implementation of KEA as part of a comprehensive assessment system. Specifically, the request asked for information about KEA measures used by other states, the processes states have used to develop their KEA state policy, and how states are supporting the training and professional development of practitioners and administrators in various settings.

Background:
This state has recently received supplemental Race to the Top- Early Learning Challenge funding to develop a policy to implement a kindergarten entry assessment process. The state implements a four-year-old kindergarten program, and collaborates with other state agencies to support the use of its state's model early learning standards and implement its comprehensive screening and assessment system.

What We Learned:

- Development and implementation of state policies to support developmentally appropriate, valid and useful kindergarten entry assessment requires a multi-stage long-term process.
- It is important to engage diverse stakeholders, use research, link assessments to goals, and develop a plan to support training and professional development when developing a KEA.
- Defining and operationalizing the term "school readiness" is critically important to assure the KEA measure accurately assesses key domains of development.
- It is important to determining how data from the KEA will be used and who will be using the data when developing policies and guidance for a new KEA. Who will use the data and how the data will be used has implications for the current system for reporting data, at the local level or state level (NCSL, Stedron & Berger, 2010).
- For RTT-ELC states, it is important to consider up front whether the state plans to link KEA data with their state's longitudinal data system.

Recommendations for Stakeholders:

- Review the information contained in this resource, and identify specific questions or state examples or resources that would be most helpful for the committee to review in the initial exploration stages of the state's effort to develop KEA policies and approaches.
- Determine the goals, guiding principles, and purposes for the KEA in relation to the state's goals for children and in concert with a comprehensive approach to early childhood assessment.
- Engage in a process of gaining input from all key stakeholders to assure the KEA reflects the priorities of administrators, teachers and parents.

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[1] This KEA Fast Fact was updated on 02/11/2014 to include resources obtained after it was first published on February 1, 2014.

- Review the validity and reliability of existing tools and consider the alignment of existing measures with the state's definition of school readiness after engaging in a process of gaining stakeholder buy-in of key definitions and domains. (CEELO can provide this information by request.)
- Assure professional development and supports are in place so that administrators, teachers, and parents can use KEA information to support children's development.

What We Did

To inform the state's early childhood leaders, CEELO reviewed existing definitions of kindergarten entry assessment (KEA). Next, we conducted online searches of state education agency websites to find current state policies on the development and implementation of a kindergarten entry assessment (KEA). We also performed secondary analysis of data reported in the 2013 State of Preschool Yearbook. In addition, we reviewed key documents produced by national organizations and states on the development and implementation of KEAs. Finally, we analyzed the findings to determine if key themes arose regarding the development and implementation of KEAs.

We used the definition of KEA provided by the U.S. Department of Education to refine our search to identify state policies around determining a single state-wide measure, conducted within the first few weeks/months of children's attendance in kindergarten, for the purpose of state-wide reporting and to inform instruction in kindergarten.

What is a Kindergarten Entrance Assessment?

The U.S. Department of Education 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;
- Is used in conformance with the recommendations of the National Research Council[1] reports on early childhood; and
- Is valid and reliable for its intended purposes and for the target populations and aligned to the Early Learning and Development Standards.

Federal guidance on the purpose of the assessment suggests 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." The requirement for the KEA to be used to inform parents is new for the FY 2013 Competition, as is the prohibition of using the KEA as a single measure for high-stakes decisions.

How Many States Have Kindergarten Entry Assessments?

A growing number of states are developing, piloting or implementation new kindergarten entry assessments, spurred by new legislation and new funding opportunities, (e.g. Race to the Top- Early Learning Challenge funding and Enhanced Assessment Grants). For example,

- In 2010, just 7 states (Alaska, Connecticut, Florida, Hawaii, Maryland, Minnesota, and Vermont) collected KEA data for the purposes of aggregating data at the state level.[2]
- In 2012, 25 states required assessments during the kindergarten year. Of these, 12 reported assessing children at entry, 10 during the school year, and 3 at both at entry and during. Some states such as Iowa, Maine, Oklahoma, Vermont, and Wisconsin offer kindergarten for four-year olds but the NIEER Yearbook questions do not ask about these separately from the regular kindergarten.
- In 2013, 34 states described plans for a KEA in their RTT-ELC applications; and 9 states that did not submit a RTT-ELC application have some type of KEA.

- [2] Daily, S., Burkhauser, M. & Halle, T. (2010). A review of school readiness practices in the States: Early Learning Guidelines and Assessments. *Early Childhood Highlights (Child Trends), 1(*3). Retrieved from: http://www.childtrends.org/wp-content/uploads/2013/02/Child_Trends-2010_06_18_ECH_SchoolReadiness.pdf

- Of the states that have a 4 year old Kindergarten program, as of the 2012 school year the following policies applied:
    - IA - the measure is locally determined, but the state provides Teaching Strategies Gold online, and about 85% of districts use TS Gold;
    - VT - Work Sampling System or Teaching Strategies Gold is used by most 4K programs;
    - OK, ME and PA - local decision; and
    - SC - no assessments are required.

State Policies and Resources

Table 1 provides updated information as of January 2014 on 33 State's policies and resources related to kindergarten entry assessments, including information on the results of pilot studies, estimation of costs, and types of professional development offered.[3] The table includes the 18 states that recently received Enhanced Assessment Grant funding[4] and additional states that are implementing new laws or new policies on kindergarten entry assessment. States are in varying stages of implementing kindergarten entry assessment policies:

- AZ, AR, NY for example are in the *exploration stage* of engaging stakeholders and conducting research;
- DC, DE, and NJ for example are in the *installation phase* of conducing pilots or vetting kindergarten/school readiness definitions;
- MD, VT, WV, CO, and CA for example are in the *initial or full implementation stages*, collecting data to report to state or local stakeholders, and implementing comprehensive professional development systems.

TABLE 1
State Information on Kindergarten Entry Assessment Policies and Resources

State	State Kindergarten/KEA Home Page or KEA Reports (as available)	Additional Resources on Professional Development, Pilot Studies, and Other information
Arizona	A report to the Arizona Department of Education from the Kindergarten Developmental Inventory Stakeholder Taskforce	Definition of School Readiness, vetting by stakeholders
Arkansas	Kindergarten Readiness Program Home Page	Arkansas recently revised their kindergarten readiness indicators for parents. They are exploring options for a KEA.
California	Desired Results Developmental Profile- School Readiness	See also DRDP tech data system and online professional development modules.
Colorado	School Readiness Home Page	School Readiness Assessment Guidance for Kindergarten, includes individual school readiness plans
D.C.	Kindergarten-Entry Assessment (KEA) 2013-2014 Pilot Home Page	
Delaware	Delaware Early Learner Survey	Delaware Kindergarten Readiness Pilot Study: Results from a Statewide Survey of Kindergarten Teachers Kindergarten Readiness: An Overview of Components
Florida	Florida Kindergarten Readiness Screener (FLKRS) Home	

[3] Information was accessed through an online search and has not been reviewed by the state. Additional states may also be in the process of developing KEA policies but information was not available on line.

[4] The following states recently received funding through the Enhanced Assessment Grants program to develop comprehensive K-3rd grade assessment systems. The **North Carolina** consortium includes **Arizona, Delaware, Iowa, Maine, North Dakota, Oregon, Rhode Island, Washington DC** and **South Carolina** as a collaborating state. The **Maryland** consortium includes **Connecticut, Indiana, Massachusetts, Michigan, Nevada and Ohio** to develop a KEA and aligned formative assessments. **Texas** will implement the Texas Kindergarten Entry Assessment System (TX-KEA).

State	State Kindergarten/KEA Home Page or KEA Reports (as available)	Additional Resources on Professional Development, Pilot Studies, and Other information
	Page	
Georgia	Georgia Kindergarten Inventory of Developing Skills Home Page	
Hawaii	Hawaii State School Readiness Assessment (HSSRA)	Hawaii is revising the HSSRA. They piloted TS Gold in the 2013-2014 school year with 140 teachers, and offered training to kindergarten teachers and administrators. KEA legislation to expand the pilot is currently before the legislature. See video of teachers and principals on the impact of the pilot.
Illinois	Kindergarten Corner Home Page	Illinois Kindergarten Individual Development Survey A New Beginning: The Illinois Kindergarten Individual Development Survey
Iowa	Task Force on Early Childhood Assessment	
Kentucky	Common Kindergarten Entry Screener Home Page	
Louisiana	Early Childhood Home Page	Training on Birth to Kindergarten Entry Assessment Tool- Teaching Strategies Gold
Maryland	Maryland Model for School Readiness Home Page	
Massachusetts	Massachusetts Kindergarten Entry Assessment (MKEA)	Readiness Centers in each region support information and professional learning communities in implementing the MKEA
Michigan	Kindergarten Entry Assessment Home Page	KRA frequently asked questions
Minnesota	School Readiness/Kindergarten Home Page	
Missouri	School Readiness Home Page	Results of the pilot study, including cost information is available at- http://dese.mo.gov/stateboard/meetings/June/documents/ec-assessment-pilot.pdf
Nevada	Nevada Early Childhood Advisory Council, Silver State KIDS (Kindergarten Inventory of Development Statewide)	
New Jersey	Division of Early Childhood Education, Kindergarten	KEA Implementation Pilot Proposal
New Mexico	New Mexico Early Learning Guidelines: Birth through Kindergarten	New Mexico has issued an RFP to identify a vendor to develop a KEA based on the observation rubrics in their ELGs.
New York	Regents Approve Development of Kindergarten Readiness Tool for Use in 2014-15 School Year	
North Carolina	North Carolina Ready to Achieve Kindergarten Entry Assessment Process	North Carolina Ready to Achieve Guidebook for K-3rd grade literacy (KEA is element of this law)
North Dakota	Kindergarten Entry Assessment Consortium	SRI designing assessment: http://www.dpi.state.nd.us/EarlyChildhoodEduc/project.pdf
Ohio	Kindergarten Readiness Assessment-Literacy (KRA-L) Home Page	
Oregon	Kindergarten Assessment Home Page	Oregon Kindergarten Assessment (OKA) Specifications, 2013-2014 school year
Pennsylvania	The 2012 Pennsylvania Kindergarten Entry Inventory Pilot Report, May 2013	Pennsylvania Office of Child Development and Early Learning

State	State Kindergarten/KEA Home Page or KEA Reports (as available)	Additional Resources on Professional Development, Pilot Studies, and Other information
Rhode Island	Early Childhood Assessment	Early Learning Standards & Assessment Subcommittee Home Page
Texas	Texas Kindergarten Reading Assessment Program	Texas has received an Enhanced Assessment Grant and will be revised the kindergarten reading assessment to develop a kindergarten entry assessment.
Utah	Kindergarten Assessment Home Page	
Vermont	Early Education: Kindergarten Readiness	
Washington	Kindergarten Inventory of Developing Skills	See, WaKIDS: Washington State's KEA Process
West Virginia	West Virginia School Readiness Profile 2012	SR Profiles include data by county on access, enrollment, and health; child outcomes data on PreK children using the Early Learning Scale on 10 domains is reported at 3 points in the year. WV is developing a Kindergarten Entry Assessment.

What Assessment Tools Do States Require School Districts to Use?

There is variability in the assessment instruments used, how data are used, and areas of children's learning that are assessed. State kindergarten assessment policy is currently in flux, and therefore current national data on the assessments tools that states are requiring for kindergarten entry assessments (that meets the federal definition) in the 2014 school year is not available at this time. An analysis of NIEER Yearbook data from the 2011-2012 school year found that of the states that had a kindergarten assessment policy, the most common policy was to allow localities to determine the measure (12 states) followed by a policy that required the use of state-developed assessments (7). Required kindergarten assessment/screening instruments included DIBELS (required by 5 states), PALS (required by 2 states) and Brigance (required by 2 states). Three states reported a variety of instruments from which localities could choose. This information though cannot be interpreted as required for kindergarten entry assessments, as defined by the U.S. Department of Education.

How Do State's Approach Developing a Kindergarten Entry Assessment Policy?

Most states have engaged local stakeholders in the development of the KEA policy, often establishing advisory committees or workgroups to inform state policy. These workgroups have reviewed the research, conducted surveys, focus groups and informant interviews of teachers, school districts, and parents, and often, issued a report of findings and recommendations. Most states have developed an extended timeline to pilot the instrument(s), provide training, collect data, and determine the final implementation plan. Generally, states either *adopt* a commercially available or state developed tool, *adapt* a commercial tool or state developed tool, and a few are *creating new* tools. See **Appendix A** for a checklist of considerations on developing a state tool, adopting a commercial tool, or modifying a commercial tool.

Below we briefly describe the approaches and lessons learned by selected states to develop a kindergarten entrance assessment policy, including the identification of one or more required tools, involvement of stakeholders, training of teachers, professional development, and estimating costs. These resources will be invaluable to states as they begin their process specific to the state's goals and context. (See **Table 1** for links to relevant websites for further information.)

California- State Developed Assessment

California developed the Desired Results Developmental Profile- School Readiness (DRDP-SR) to align to the formative assessment measure, the Desired Results Developmental Profile- preschool (DRDP-PS), which it has required of publicly funded preschool programs for many years. They have also developed a web-based data entry and online professional development portal, DRDPtech. The data system has multiple functions including preparing reports for teachers and allows child records to follow children between schools or districts. The materials and resources are available in English and Spanish.

Delaware - Modified Commercial Assessment
Delaware developed the "Early Learner Survey" (ELS) based on Teaching Strategies Gold customized for use in Delaware. The KEA was authorized by House Bill 317, which required kindergarten children to be assessed in five Domains of Learning within 30 days of kindergarten entry. Statewide implementation will be completed by 2015 with all teachers, from start-up year in 2012-13. Delaware stakeholders reported the following "lessons learned" from the roll-out of the ELS.

- Teacher, district and union partnership were key as part of Delaware's strategy for both design and implementation, with active engagement.
- Tool revisions (lessening number of items) are underway, with ongoing attention to validity so that our more manageable tool is still valid and reliable
- Teaching Strategies, Inc. is creating Delaware-specific online version and teacher manual
- Significant focus on professional development and support for teachers with Delaware specific resource tools, including a resource kit and supplementary guide for teachers' use during the implementation phase, inter-rater reliability training, and selected teachers within each district to offer technical assistance
- Statewide Kindergarten Conference with teacher and administrator tracks that will focus on the whole child and ways in which to design instruction and assessment strategies to support the whole child
- Strategies to inform districts about how they can phase out existing assessments to maximize impact and efficiency
- Family engagement important to the initiative and phased-in starting in 13-14. Plan to be finalized within the next 60 days
- Building connection with formative child assessment through Delaware Stars, the QRIS, where we will offer the tool to the Stars programs for their use with infants, toddlers and preschoolers

Florida- Adapted Commercial Assessments
The Florida Kindergarten Readiness Screener (FLKRS), composed of FAIR and ECHO assessments, is administered annually to all kindergarteners in public schools and to all available kindergarteners attending nonpublic schools as a state assessment by the Department of Education. Results of children participating in VPK are compared to those who have not participated in the program. Florida's VPK program is reviewed annually as part of the legislative appropriation process.

Georgia- Modified Commercial Assessment
Georgia's Pre-K Child Assessment, used statewide, is modified from the Work Sampling System. For the 2011-2012 school year, the online version was used for approximately 45,540 children, more than half of children enrolled in the state-funded pre-K program. Georgia's Department of Education developed a specific instrument for kindergarten assessment (GKIDS), similar to Work Sampling System, which is administered throughout the kindergarten year.

Illinois- Modifying CA's DRDP-SR
The Illinois Kindergarten Readiness Assessment Stakeholder Committee submitted a report in 2011 to the State Board of Education outlining the research and recommendations for the Illinois Kindergarten Individual Development Survey (IL KIDS Initiative). The report reviewed the research and established eight priorities for IL's KIDS. The report made a number of recommendations, including adapting an available instrument (and aligning it with the states early learning standards) through a request for proposal process, establishing a timeline for piloting and implementation, offering training, and communicating with stakeholders. As a result of the pilot, IL chose to adopt California's Desired Results Developmental Profile- School Readiness version, and engaged in a memorandum of agreement with CA to implement and eventually adapt the DRDP as the IL KIDS. The IL KIDS is a formative assessment tool, with assessments occurring three times during the kindergarten year, across multiple domains. Teachers and administrators attend a two-day training and online training is available through a web-

portal (DRDPtech). Certified coaches also attend on-going training. Data collected through KIDS is linked to the statewide longitudinal data system.

Louisiana- Adopted Commercial Assessment
Legislation passed in 2011 requires Louisiana districts to move toward the use of a single kindergarten assessment, Developing Skills Checklist (DSC). The original timeline for implementation was 2014-2015, but funds were available to purchase tools and training on the DSC so that it could be used for the 2012-2013 school year. Individual providers may supplement DSC with Brigance, DSC, DRA, DIBELS, DIAL, Chicago, ESI-R, Screening Test for Education Prerequisite Skills (STEPS), or the Miller Assessment for Preschoolers for kindergarten assessment instruments. Additionally, seven targeted districts piloted the LA DOE Student Performance Checklist in 2011-2012. This checklist is aligned with 12 of the prekindergarten standards that are aligned to the Kindergarten Common Core State Standards.

Maryland--Developing New Assessment
Maryland and Ohio, with both RTT-ELC and Enhanced Assessment Grant funds, are developing a comprehensive assessment system for children birth through 3rd grade that includes a kindergarten entry assessment, formative assessments (36-72 months), and recommended developmental screening instruments. These three components are being developed and will be supported by a statewide technology infrastructure for both online reporting and eventually will be used to deliver assessment items electronically, and an on-line professional development system. Professional development is embedded in the technology support for the KEA and includes embedded professional development recommendations, including direct links to specific, contextual guidance to support KEA assessment delivery and classroom instruction, a comprehensive series of online PD modules and resources; and the use of simulation software to familiarize teachers with the KEA protocols and technology.

Missouri - Adopting CA DRDP-SR
Missouri conducted a pilot in 2012-13 to choose an assessment for use in preschool programs (including state Pre-K, community-based, home-based programs, Head Starts, Title I programs) and kindergartens for both formative and summative purposes, including measuring status at kindergarten entry. These assessment results are meant to be used by: (a) teachers to guide individual and group instruction; (b) administrators to monitor class, program, and building achievement; (c) parents interested in examining achievement information across time; and (d) policy makers and researchers to answer crucial policy questions. Based on review of relevant research and position statements, existing instruments, other state systems, and input from a statewide stakeholder meeting, three instruments were chosen to pilot: Brigance's *Inventory of Early Development II Standardized* (IED-II), the *Desired Results Developmental Profile* (DRDP), and *Teaching Strategies GOLD*.

Stratified random sampling (based on region, program type, and classroom poverty level) was used to assign teachers and classrooms to instrument group. A total of 62 classrooms participated throughout the pilot: 20 for IED-II, 18 for DRDP, and 24 for GOLD. Participants were trained during the summer of 2012 and were asked to assess all children in their classrooms two to three times (beginning, middle, end of year) during the pilot. Participants were surveyed three times: after training; after the first assessment checkpoint (October 31, 2012); and after the final assessment checkpoint (April 30, 2013).

Based on the data from the surveys—as well as other considerations, including alignment with Missouri's Early Learning Standards and cost—the Early Childhood Assessment Pilot Steering Committee determined that the *Desired Results Developmental Profile* (DRDP) would be the tool recommended to the Commissioner and the State Board of Education based on the pilot. The State Board of Education subsequently has adopted the DRDP as the DESE-recommended tool for use with children birth through kindergarten.

North Carolina -- Creating a New Assessment
North Carolina is leading a consortium of 10 states with funding from the EAG. This will build on the development of a comprehensive assessment system, as part of its RTT-ELC grant and required by a new K-3rd grade literacy law (Read to Achieve). The Office of Early Learning within the NC Department of Public Instruction will lead the development of a K-3 formative assessment that includes a Kindergarten Entry Assessment Process. This process

will gather data within the first 60 days of kindergarten, which will generate a Child Profile and be entered into the state's longitudinal data system. This Child Profile will also serve as the baseline for the broader K-3 assessment.

The K-3 Assessment will capture the wealth of knowledge about each child from families, service providers, school personnel, community members and teachers. This assessment will build upon the foundation set in the earlier years by emphasizing all five domains of development and learning, thus providing K-3 teachers a more complete picture of the whole child. Recently, the State Superintendent June Atkinson convened a "think tank" consisting of 22 educational experts to inform this work. The panel is exploring what is critical to assess within multiple domains of learning and development and how these areas can be appropriately and efficiently assessed in the early grades beginning at kindergarten entry. The group's recommendations will be used to craft the assessment. The goal is to create more that measurements. Instead, each child's assessment will guide daily instructional practices tailored to that child's needs.

Oregon- Composite Commercial Assessment

In 2012 legislation was passed to develop a new kindergarten entry assessment. The Early Learning Council (ELC) and the Department of Education engaged a broad range of stakeholders to develop the plan for determining and piloting the Oregon Kindergarten Assessment (OKA). The ELC surveyed school districts, conducted focus groups, and identified pilot sites. They also recommended the KRA incorporate a composite of the Child Behavior Rating Scale and the easy CBM math and literacy measures, based on considerations of alignment to their goals and standards, costs, and teacher/administrator time for training.

Pennsylvania- Created New Assessment

Pennsylvania's work to develop a kindergarten entry assessment began with the development of a continuum of early learning standards. These standards start with infant-toddler, and maintain alignment through pre-kindergarten, kindergarten, and grades 1 and 2, and link to Pennsylvania's grade 3 academic standards. The state selected 18 key standards from four key learning areas were identified as indicators of student progress that were most important for determining kindergarten readiness. The Common Core Standards, which were adopted by Pennsylvania's State Board of Education on July 1, 2010, were also incorporated.

The Pennsylvania's Office of Child Development and Early Learning (OCDEL) convened stakeholder workgroups to develop recommendations for an instrument that could be used in a pilot study to determine the status of children as they enter kindergarten. Invited participants included kindergarten teachers, preschool and Head Start personnel, administrators, and content specialists in math and literacy, all from within the state. Workgroup participants reviewed the Learning Standards and the Common Core Standards to develop definitions of skill levels for select learning standards in the following key learning areas: Social and Emotional, Language and Literacy, Mathematical Thinking, and Approaches to Learning (SELMA). The workgroup provided examples and a set of indicators for each skill level. These were used to develop a kindergarten entry teacher observation tool and a series of supporting documents for recording, tracking, and summarizing individual and class outcomes.

A relatively small group of individuals (44) gave feedback surveys and 37 participants participated in conference calls. This group recommended further reducing the number of indicators to: 1) those most predictive of later school success and most easily measured at kindergarten entry, 2) Collect data earlier in the school year (end of September/beginning of October) to provide a balance between conducting an authentic measure and providing a true snapshot of skills at kindergarten entry. 3) Clearly indicate on the reporting form what was observed and not yet observed. OCDEL revised the Kindergarten Entry Inventory (KEI), is continuing to expand implementation, with state-wide implementation expected in SY2016.

Washington - Adopted Commercial Assessment

The Washington Department of Early Learning contracted with SRI International to conduct research to make recommendations to the legislature for a statewide kindergarten assessment process. The report, completed in 2008 defined a kindergarten assessment process, conducted a local survey of districts and a survey of teachers, solicited input from Tribes, and proposed a draft implementation plan. In 2011, the legislature appropriated funds, and private funds supported the implementation of three components of the kindergarten assessment process,

these are:
1- Family connection-- teachers meet with families one on one at the beginning of the kindergarten year
2- Early Learning Collaboration-- EC teachers and K teachers meet
3- Whole Child Inventory- piloted three tools (TS Gold, Work Sampling System, Developmental Skills Checklist)

Based on the pilot, TS Gold was selected as the assessment instrument. In the fall 2012, the Washington Kindergarten Inventory of Developing Skills (WAKIDS) was mandatory in state-funded full-day kindergarten and voluntary in other schools.

Additional Resources

Build Initiative:

- Top Ten Recommendations for State Leaders Implementing Kindergarten Entry Assessments
- Kindergarten Entry Assessment: Discussion Guide 2013
- Families Know Best

Council of Chief State School Officers' Kindergarten Assessment Position Paper

Early Learning Challenge Collaborative- Kindergarten Entry Assessments- KEA
http://www.elccollaborative.org/assessment/77-kindergarten-entry-assessment.html

Education Commission of the States: 50 State Analysis Kindergarten Readiness Assessments, January 2013

National Association for the Education of Young Children, Developing Kindergarten Readiness and Other Large Scale Assessments

National Institute for Early Education Research Assessment Resources at http://nieer.org/research/assessment

National Conference of State Legislators (NCSL), State Approaches to School Readiness Assessment, updated August 2010.

Appendix A
Considerations in Developing, Purchasing or Modifying a KEA
Developed by Peter Mangione, WestEd

State-developed:

- ❑ Facilitates close alignment of standards and assessment
- ❑ Engages the state's early childhood community in development process
- ❑ Allows for calibrating the instrument with a sample representative of state
- ❑ May be costly and time-consuming to develop and test

Off-the-shelf:

- ❑ Provides a ready-to-use instrument that's been studied with national sample
- ❑ May be costly to use

Modified tool:

- ❑ May be able to enter in agreement with developer (other state or private vendor) to facilitate cost-free or low-cost use
- ❑ May allow for adding and deleting items to tighten alignment with state's standards
- ❑ Able to calibrate modified instrument with sample representative of state

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