Assessing Kindergarten Children: What School Systems Need to Know

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Introduction

Each fall schools across our country enroll thousands of young children who are starting school for the first time. This transition is an important juncture for families, schools, and communities. The children are excited about "going to big school." Parents have mixed feelings—proud of their child's growth and, at the same time, anxious about how their "little one" will do in the new school environment. School educators prepare for a new year, wondering what skills and abilities this new group of children will bring to their classrooms. Funders and policymakers want to know how well the community has done to prepare children for school.

High-quality assessments of children prior to and during kindergarten are essential for successful kindergarten programs. Parents, teachers, administrators, and policymakers rely on assessment information during the kindergarten year to

- Understand each child's particular strengths and skills that might need additional attention
- Identify children with suspected disabilities who require additional evaluations
- Plan activities that match the skills and abilities of children in their classrooms
- Understand the characteristics of cohorts of children in their school
- Determine how successful early childhood and schoolbased programs have been in preparing children for kindergarten, and identify gaps in services within their community

Given the importance of these uses of assessment information, it is critical that schools, districts, and state departments of education carefully plan their assessment systems and select assessment measures to ensure that the information collected during the assessment is as accurate and useful as possible. Unfortunately, assessment of young children is extremely complex, and there is no one assessment measure that will meet all needs for assessment information during kindergarten.

This resource book, **Assessing Kindergarten Children: What School Systems Need to Know**, is designed to guide school systems through a decision-making process to design an assessment system that is best suited to their particular needs. The assessment "system" will collect information from children through assessment measures and perhaps other sources of data, such as health records or demographic data. Persons involved in selecting assessment measures and designing schoolwide assessment systems can use this book as a planning guide—a tool to help them make decisions about assessments based on "best practices" in early childhood assessment. Persons with varying experiences—superintendents, principals, teachers, policymakers, higher education faculty, parents, and early childhood program representatives—may be involved in designing statewide or districtwide assessment systems and may find this book helpful.

The principles outlined in the guide are based upon recommendations from the National Education Goals Panel Early Childhood Assessments Resource Group (1998) in the publication **Principles and Recommendations for Early Childhood Assessments**, numerous position statements on early childhood assessment developed by various professional associations, our knowledge of recent developments in early childhood research and theory, and the authors' own experiences working with school systems as they develop assessment systems. This guide poses important questions and issues to be addressed when planning for statewide or districtwide kindergarten assessments that will be used as children enter kindergarten or during the kindergarten year. It is a tool for educators and policymakers—a process for selecting the best possible kindergarten assessment strategies.

Please note that this guidebook provides a resource for state departments and school districts planning wide-scale assessment systems that will be implemented with cohorts of kindergarten children. This includes mass screening of children for the purpose of detecting children with suspected disabilities who may require further evaluation. However, the guide does not address the individualized evaluation process that is needed for children when screening results indicate a need for further evaluation. While many of the same principles described apply to evaluation of children, technical considerations for evaluation of individual children to ascertain disabilities are beyond the scope of this guide, and the instruments used are markedly different from those that would be used to assess children on a large scale.

The appendices include resources that will be helpful for school systems in the process of designing an assessment system. Appendix A is a planning guide for developing an assessment system steps that will be helpful and issues to be considered during the planning process. Appendix B includes references for position statements, websites, and publications that provide additional information on assessment of young children.

A companion publication, entitled **Assessing Kindergarten Children: A Compendium of Assessment Instruments**, provides useful information for many commercially available instruments. The **Compendium**, also available from SERVE, summarizes basic information from over 50 early childhood assessment measures, such as the types of data they collect, their documented reliability and validity, training required to administer the instruments, and how they can be obtained. Taken together, the publications provide easily accessible information that is essential for designing assessment systems.

The Need for Good Assessment Data from Kindergartners

Increasing Need for Assessment Data

Assessment information can be the basis for improvements in learning and has become a "hot topic" among educators across the country. Several initiatives have contributed to the increased need for assessment data from kindergarten children, including the following:

- The National Education Goals Panel's first educational goal that "By the year 2000, all children in America will start school ready to learn"
- Increasing emphasis on documented results or outcomes for preschool, Head Start, and other early childhood programs
- The emphasis on school accountability and the need to demonstrate improvements in student achievement in earlier grades

A recent survey by SERVE and the National Center for Early Development and Learning (NCEDL) found that kindergarten children are being assessed in almost every state in the country (Saluja, Scott-Little, & Clifford, 2000). The purposes of these assessments vary. While all states have screening systems in place to meet the IDEA requirement for identifying children with suspected disabilities, schools in a large number of states are implementing additional assessments to provide information on children's "readiness" for school. About half the states in the nation reported that they have statewide "readiness" assessment systems, some specifying how children should be assessed and some requiring districts to select assessment strategies within parameters established by the state. Districts in the majority of the remaining states were free to choose whether and how to assess kindergarten children. Almost one-third of the states reported that they were currently studying the issue of readiness assessment, and/or in the process of implementing a new statewide readiness assessment system.

The need for "good" assessment data on kindergarten children is becoming increasingly clear. Policymakers want data to determine the characteristics of children when they enter school and to identify gaps in children's early experiences before they come to school. Parents and teachers want accurate information on children's strengths and weaknesses to use to plan activities that will best support children's learning. Schools want an accurate picture of children's skills and abilities as a baseline for understanding results from achievement tests in later grades.

The danger with these early assessments is that children will be harmed by misguided assessment systems and poor use of assessment data. This is especially true for the "readiness" assessment systems that many schools are implementing (see the National Research Council's **Eager to Learn**, 2000 report). The notion that a child is "ready" for school implies that some children are "not ready" and that results from assessments can be used to determine children's "readiness." The National Educational Goals Panel Goal 1 Technical Planning Group on Readiness for School (1997) and the Goal 1 Ready Schools Resource Group (1998)—groups of national early childhood education experts—have clearly stated all children are ready for school. Assessment data should not be used to keep children from entering kindergarten nor determine their placement in kindergarten—the potential for mislabeling and harming children is too great. Yet school systems with limited understanding of early childhood assessment are using kindergarten assessment data in this manner (see the National Association of Early Childhood State Specialists in State Departments of Education, 2000).

There is a role for appropriate schoolwide assessments during the kindergarten year. The trick is to clearly define the purpose of such assessments and to carefully plan how the data will be collected and what will be done with the information. This guide is designed to provide information on the complexities of assessment and to help school systems develop assessments that minimize the chance of any child being harmed by the misuse of assessment data.

Complexities of Early Childhood Assessment

Assessment of young children, including kindergartners, is difficult for many reasons. The National Education Goals Panel Early Childhood Assessment Resource Group (1998) outlined several reasons why assessment of young children is complex, including the following:

- Many areas of a child's development—including physical, social, emotional, cognitive, and language development are interrelated, and each area of development impacts a child's success in school.
- Young children's development is rapid and uneven. Children can change dramatically in a short period of time and may be very advanced in one area and behind in another area of development at the same time.
- Young children cannot complete traditional standardized tests. They have not learned how to use pencils to mark their answers on a test, have limited reading abilities, often react unpredictably in test-taking situations, and have very short attention spans.
- Children of this age are better able to show what they know. It's hard for them to talk about, much less write about, what they know and can do.
- A young child's performance on an assessment may reflect his or her previous experiences more than his or her potential for success in school. While this is true for all children on assessments, it is an especially important factor for preschool children. Older children who have been in school for a while have many more experiences in common than preschool children—they have been exposed to a more uniform curriculum and have had the opportunity to learn information that is more "alike." Preschool children, on the other hand, come from widely divergent experiences some have and some haven't been in group care, and for those who have been in group settings, the type varies. Therefore, the opportunities children have had to develop skills and abilities before school are often vastly different. For example, a child who has been in a preschool program

may score higher than a child who has not been in preschool because of what she has experienced in preschool. The results of the assessment may show more about experiences the child has had than her potential for success in school. The process of collecting data and interpreting its meaning is challenging and must be done carefully.

Growing Concerns about Assessment of Young Children

Given the complexity of early childhood assessment and the growing need for data on young children's skills and abilities, many in the field have deep concerns about assessing children in kindergarten. A number of groups and associations have published position statements and guidelines for assessment of young children (see Chart 1). The position statements are based upon early childhood education and child development principles and are

Chart 1: Position Statements on Assessment of Young Children

AERA Position Statement Concerning High-Stakes Testing in PreK—12 Education (AERA, 2000): www.aera.net/about/policy/stakes.htm

Assessing Development and Learning in Young Children: A Position Statement of the Southern Early Childhood Association (1999): www.seca50.org/position_assessment.html

Guidelines for Appropriate Curriculum Content and Assessment in Programs Serving Children Ages Three through Eight (NAEYC, 1991): www.naeyc.org

NAEYC Position Statement on Standardized Testing of Young Children (NAEYC, 1988): www.naeyc.org/about/position/position_statement1.htm

On Standardized Testing: A Position Paper of the Association for Childhood Education International: www.udel.edu/bateman/acei/ppapers.htm

Principles and Recommendations for Early Childhood Assessments developed by the NEGP Early Childhood Assessments Resource Group: www.negp.gov/reports/prinrec.pdf

Still Unacceptable Trends in Kindergarten Entry and Placement (NAESP/SDE, 2000): http://ericps.crc.uiuc.edu/naecs/position/ trends2000.html

designed to ensure that assessments conducted with young children are appropriate, beneficial, and useful. The principles outlined in this guide reflect the thinking and research reflected in these position statements.

Taken together, the position statements urge educators and policymakers to select and use assessments that

- Benefit children and the adults who work with children
- Are used for the purposes for which they are designed
- 🖋 Provide useful, valid, reliable data
- 🖋 Are linguistically and culturally appropriate

- Collect information through naturalistic observations
- Collect information on multiple developmental domains
- Include multiple sources of information

While many in the field of early childhood might argue against large-scale assessment of kindergarten children, especially "readiness assessments" when children first enter kindergarten, the fact is that assessments are increasingly common. The challenge is to make sure that assessments are beneficial and adhere to the principles outlined in these position statements.

Designing Assessments Systems: Balancing the Need for Information with Concern for Children

Assessing children in kindergarten is a balancing act: the need for information on children's skills and abilities must be balanced with consideration for the difficulties inherent with early childhood assessments. There is no magic formula for designing a good assessment system. Districts and state departments must determine what information they need and why, weigh their options, and plan assessment systems based upon what they know about child development and the children they serve.

The following general principles for selecting assessment measures provide the foundation for making good decisions about how to assess children, not recommendations for specific actions or measures. Thoughtful planning based upon the principles in this resource book can lead to assessment systems that meet schools' needs for assessment information and benefit children, teachers, and parents in the process.

Principles for Assessing Kindergarten Children

There are several basic principles for assessing kindergarten children. These fall into two basic categories: the "shoulds" and the "should nots." Based primarily upon the work of the National Education Goals Panel Goal 1 Early Childhood Assessments Resource Group (1998), the principles provide a good foundation upon which school systems can design their wide-scale assessments.

Kindergarten assessments should

- Be used consistently with the purpose for which the instrument was designed
- Be age appropriate
- Collect information on a range of indicators of a child's development
- Be naturalistic or authentic
- Be culturally and linguistically sensitive
- Accommodate children with disabilities
- Collect information from more than one source
- Provide information that schools can be confident about
- Have a data collection process that is realistic for schools and school systems

"Assessment Shoulds"

Good assessments of kindergarten students should be consistent with the following principles:

Purpose of the Assessment

Assessment instruments are designed for specific purposes and should only be used for the purpose for which they were designed. Generally, these purposes can be described within the following categories:

- Screening to "catch" children with suspected disabilities or who are at risk for school failure: These screenings usually are very quick and provide limited information about a child's abilities. They help educators select students for whom additional testing is needed to "rule out" or "rule in" a potential learning problem or a need for specialized services.
- Supporting instruction by providing teachers with information on children's individual strengths and weaknesses: Teachers can use this information to plan curricular activities for the entire class, small groups, or individual children. The purpose of instructional assessment is to improve student achievement by providing information on skills children have so that they can plan learning activities geared toward what children already know and what

they need to learn. Assessments that are used to improve classroom instruction are usually conducted more than once over a period of time so that the teacher has a comprehensive picture of a child's skills and abilities in a variety of learning situations and often are closely related to the curriculum being used in the classroom.

Accountability assessments provide information on children's skills and abilities for two general purposes: to track changes in the characteristics of children over time and to provide data that can be used to evaluate programs. This type of data is often collected when children enter school to help educators and policymakers assess success of early childhood experiences in preparing children for school. Information on children's abilities in kindergarten can help identify gaps in earlier services and point to improvements in early childhood programs. For instance, an assessment system might collect information on children's immunizations and determine that the rate of up-to-date immunizations in children entering kindergarten is unacceptably low. A community could then choose to implement programs to encourage parents to get their children immunized. In short, accountability data are used to evaluate services and/or monitor trends or changes in child indicators over time. However, if the purpose of collecting assessment data on children is to evaluate the effectiveness of a particular program, the child assessment data should only be one of many types of data included in the evaluation. Other types of data, such as information on how the program was implemented, should be combined with the child measures to provide an informative program evaluation.

It is useful to think about timeframes for the information being collected to clarify the purpose of the assessment (see Figure 1). Screening information captures information on children's abilities at the time they enter school so that the information can be used within a short timeframe to determine the need for further evaluations or assessments (in other words, "now"). Classroom instruction



Figure 1

assessments are used by teachers to plan classroom activities (or "looking forward"). Accountability or program evaluation assessments provide data to assess children's previous experiences (or "looking back").

Typically, assessment instruments are designed to address only one of these purposes. It is important that school systems select instruments based upon the purpose for their assessment and use the information consistently with the purpose for which the assessment instrument was designed.

Age Appropriateness

It is also essential that school systems select age-appropriate assessment measures for kindergarten. Because of the wide variation between children's abilities at this age, a good strategy is to select instruments that are designed for children ages three through seven. This increases the likelihood that the instrument will address, or "pick-up", the strengths and needs of most of the children, including children who exhibit delays in particular areas of development and children who are more advanced. Instruments designed for children five years and older will "miss" a significant number of children because their skills and abilities will not be advanced enough to "register" on the assessment. Similarly, assessment instruments for younger children will not accommodate children with skills that are above age-level.

Range of Indicators

Because the various areas of children's development—physical, social, emotional, cognitive, and communication—are highly interrelated, ideally kindergarten assessment systems should capture information on as many of the developmental domains as possible. A child who has difficulty seeing (physical domain) will struggle in the classroom. Likewise, a child who has difficulty handling frustration (social/ emotional domains) will have trouble in school. Assessment information that provides a complete picture of children's development is helpful for making decisions about the individual child and understanding the "readiness" of groups of children for success in school.

In instances where the assessment is designed to provide information related to a specific purpose—for instance, assessing children's emergent literacy skills in order to plan for literacy instruction—the assessment should still collect data on a range of skill indicators within the area being assessed. Kindergarten-age children demonstrate their skills and abilities in a variety of ways, and a good assessment will collect a broad range of indicators to provide a comprehensive picture of the child's development within any particular subject area or developmental domain.

It is worth noting that some assessment instruments collect information on multiple domains, and some are designed for specific areas of children's development. It may be necessary to combine two or more instruments to provide complete information on all areas of children's development. School systems should carefully think about the purpose for the assessment and the type of data needed to fulfill the purpose. Then assessments should be chosen to provide a broad range of indicators to ensure the child has as many opportunities as possible to demonstrate a particular skill or ability.

Naturalistic or Authentic Assessments

Children are best assessed through natural or authentic methods. "Real-life" tasks, examples of children's work, observations of children in naturalistic settings, and ratings of children's everyday behaviors tend to be more accurate reflections of their abilities. When asked to perform a new task, to interact with a stranger who might be collecting the information, and/or to participate in an assessment activity in a location outside their regular classroom, children often react with atypical responses—they may "clam up," become overly boisterous, or not understand what they are being asked to do. It's best to collect information from the child's regular classroom on tasks similar to what he or she is accustomed to and from persons with whom he or she is familiar whenever possible.

Culturally and Linguistically Sensitive Measures

Children's culture and home language will greatly impact their performance on assessments and must be taken into account when selecting assessments and interpreting the results. Their cultural experiences impact what they know, how they demonstrate knowledge and abilities, and the way they will respond to assessment situations. Similarly, their home language will impact how they understand assessment directions and how they communicate their responses. Assessments must be sensitive to these issues.

From another angle, cultural and linguistic biases can impact the assessment data collection process. Any measure, no matter how well designed or how valid and reliable, is produced within a particular cultural and linguistic context. The types of skills assessed, the way information is collected, and the importance placed upon particular items, skills, and/or developmental domains are all impacted by the cultural and linguistic background of the assessment development process. Bias can be present in the

- Instrument itself: Particular items may be more familiar to persons from a certain culture or better understood by persons who speak a certain language.
- Observers who collect the information: Their record of observations can be "colored" by their own value system or ability to understand the language of the child.
- Raters who complete checklists: Teachers and parents may be more familiar with the child's culture and language but still view the world through their own "lens" and have their own understanding of the skills and abilities they are rating.

Most standardized assessments have been designed within the middle-class, English-speaking, Caucasian culture. Schools must be sensitive to the cultural and linguistic background of the children they will be assessing and use every strategy possible to ensure that assessments are appropriate for their children. If a school system is using standardized assessments, they should be

- Developed specifically for the population and validated to ensure that they provide comparable information with the version developed in English
- Normed with groups similar to the students in the school (reliability and validity have been established with children from the same—or as similar as possible—culture and language backgrounds)
- Administered by persons who can read and speak the child's native language fluently

Non-standardized or informal assessments should also accommodate the child's home language and culture. For instance, information provided by the parents should be collected in their home language; classroom observers should be fluent in the child's language so they can understand what they have seen; and translators who may be assisting with the assessment process should be well-trained on the assessment, fluent in both the child's and the assessment instrument's language, and as unobtrusive as possible.

Accommodations for Children with Disabilities

Children with disabilities often have difficulty with standardized assessment procedures because the instruments typically are not sensitive to their needs. And, in some cases, the actual scores may be meaningless, as they do not represent the true abilities and needs of the child. For children with physical impairments, it may be impossible for them to physically perform some of the required tasks because of their physical limitations (e.g., stacking cubes if they have cerebral palsy and are limited in the use of their hands). In actuality, they may be able to count the cubes and verbally guide someone's hand to stack them. In this case, the assessment would present a distorted view of the child's abilities. Likewise, some children with disabilities do not develop skills in a developmental pattern similar to other children. In an assessment situation where testing items are typically sequenced, the child's true abilities would not be recognized. For example, a child may be able to name the colors of the clothes she is wearing but not able to identify the colors on the testing materials. In addition, children who have cognitive or emotional disabilities typically need a longer response time when responding to particular items.

For children with sensory impairments, such as vision or hearing impairment, accommodations to facilitate their performance are critical. This is especially true for communication. If a child has a hearing impairment, gestures and sign language (if the child understands) would be necessary. And for a child with a vision disability, explicit and detailed verbal instructions would be important. Children with other types of disabilities may need to use a variety of communication systems to participate in the assessment.

There are many things to consider when assessing children with disabilities, but most important is the participation of the parents. Parents are the most knowledgeable resources for information about all children, particularly for children with disabilities. They know the child's true abilities and can be an excellent source of information regarding adaptations that need to be made to facilitate the child's optimal performance during the assessment and in confirming the accuracy of the results.

Including children with disabilities in assessment systems designed to collect information on all children will require a great deal of thought and planning to ensure that the information from the assessment is useful and appropriate. It is a good idea to consult with specialists who are knowledgeable in the field of specialized education services early in the assessment planning process to ensure that the assessment strategies are fair and valid for children with disabilities.

Multiple Sources and Types of Information

Depending on the purpose of the assessment, it may be advisable to collect information from multiple sources and, in some cases, with a variety of assessment methodologies. If the purpose of the assessment is to understand individual children, especially for instructional purposes, then collecting information from a variety of sources can be especially helpful. Children usually display their skills and abilities in different ways, so different sources of information are needed to adequately capture their true abilities.

It's useful to collect information from people who have the opportunity to observe children in different settings—parents, preschool and childcare teachers, school teachers, and other observers, such as specialists, who may work with the child. Also, a variety of methods can be used to collect information on individual children. Checklists of abilities, collections of the child's work, documented classroom observations, and records of how children perform during "hands-on" tests of specific abilities are examples of different types of information that can be included in kindergarten assessments. Again, the type of information collected will depend upon the purpose of the assessment. A process where different types of information are collected from a variety of sources may not lend itself to a standardized data management/reporting system, but it may be very helpful to the classroom teacher who is using the information to gauge how best to support an individual child's learning.

Confidence in the Information: Reliability and Validity

The degree of confidence you can have in the data and level of comparability of data needed from assessments also vary according to the purpose of the assessment. It is extremely important that school systems use assessments that have a proven track record that have been shown to provide reliable and valid data—for screening children. Likewise, it is highly advisable that accountability assessments include standardized measures that yield reliable and valid data. Without this proven track record, it's difficult to have confidence in the information that is collected and to generalize conclusions from the assessment data. Generally, the broader and/ or more significant the implications of conclusions drawn from the assessments results, the greater the need for assessment measures with established reliability and validity.

Reliability refers to the extent to which a given assessment will yield the same results when given multiple times. **Validity** is the extent to which an assessment measures the characteristics or abilities it is designed to measure. The best source for information on a particular assessment instrument's reliability and validity is the manual that comes with the instrument. Although they sometimes are hard to understand and interpret, the information in the manuals can be invaluable in selecting or ruling out an instrument.

There are many good resources for information about the psychometric principles that should be taken into consideration when designing assessment systems. The American Educational Research Association (1999), together with the American Psychological Association and the National Council on Measurement in Education, has produced a document entitled Standards for Educational and **Psychological Testing** that provides very useful information and guidelines for assessments. Statisticians, testing and evaluation experts, school psychologists, and others with training and experience in psychometrics and assessment can provide valuable guidance on the specifics of test properties. Persons planning an assessment system should consult with someone with formal training in assessment to determine the appropriate requirements for reliability and validity based upon the purpose of the assessment and the type of information that will be collected. It is worth noting that it is difficult to establish high degrees of reliability and validity when measures are used with children under age six, so reliability and validity are critical issues for assessments of kindergarten children.

Realistic Data Collection Processes

Assessments have a variety of requirements for data collection. Some instruments require that the person collecting the information be trained in psychometric principles while others can be administered by teachers with appropriate training. Some require a quiet room where the child can be alone with an adult who is administering the instrument, while others can be carried out during everyday classroom activities. Some assessments require parent input; others do not. Some can be administered within a short period of time, and others require a lengthy period of time to collect the information needed. Some instruments are very expensive, and others are fairly inexpensive.

What's important is a match between the requirements for collecting assessment information and the school's capabilities. If teachers are the only persons available to collect information, the school will need an instrument that can be administered by persons with minimal training in psychometric principles. If the school system wants to do a screening during their kindergarten "round up" or registration, an instrument that can be completed quickly and with several children at one time would be appropriate. A large school system with a limited budget to purchase assessment instruments would not want to select the most expensive instrument available.

Careful consideration should be given to the logistical requirements of assessment systems—think through every step of the process—before selecting an instrument or a data collection process. Make sure there is a good match between what the process will require and the school's capabilities to meet those requirements.

Kindergarten assessments should not be

- Used to make high-stakes desisions
- Pencil-and-paper tests
- Used for a purpose other than for what they were designed

Assessment "Should Nots"

In addition to the "shoulds" outlined above, there are a few "should nots" for assessment planning. These "should nots" are absolutely critical to ensure that the assessment information collected is valid and used appropriately.

High-Stakes Decisions

Results from the types of "mass" assessments described in this guide should not be used to make high-stakes decisions about a kindergarten child's education. In other words, results from screenings or other assessments before (or at the beginning of) kindergarten should not be used to decide whether a child can or cannot start kindergarten. The potential for making a mistake is too high, and the cost of making a mistake for even one child is too high. Decisions on a child's placement in school should be based upon authentic assessments of his/her work in the classroom, input from parents, teacher observations (if the child has been in a group setting prior to kindergarten), and any specialized evaluations (such as speech, language, or occupational therapy evaluations) that may be warranted, plus the results from any schoolwide "readiness" assessment or screening.

Likewise, decisions about whether a child goes to first grade should not be made based upon the child's scores on any one instrument. Standardized assessments are one source of information that can be taken into account when making decisions about children's educational placement, but they should only be a very small part of what is considered when making judgements about an individual child's performance. In fact, a national panel of experts, the Goal 1 Early Childhood Assessments Resource Group for the National Education Goals Panel (1998), studied the use of assessments for decisions on children's educational placement and developed a definitive recommendation-"there should be no high-stakes accountability testing of individual children before the end of the third grade." Furthermore, the American Educational Research Association's (2000) recent position statement on high-stakes testing in education also cautions against basing any decision that affects an individual student's (of any age) educational opportunities on test scores alone. Scores on standardized assessments should be complemented with information from instructional assessments, teacher observations, parent input, and any other data that is relevant when making decisions about whether an individual child should be retained in kindergarten.

It's worth mentioning that the same cautions apply when gathering data about the performance of a particular program, school, or teacher (AERA, 2000). Data from student scores on standardized early childhood assessments are limited in their usefulness for drawing conclusions about the performance of a program, school, or teacher. As discussed earlier, data from kindergarten assessments can vary by the type of instrument used, the types of experiences the children have had before kindergarten, and a number of other factors. Therefore, any performance evaluations that include information from child assessments should also include information on other indicators of the particular teacher's or programs' performance. The principle is the same for high-stakes decisions about children, teachers, and programs—they should be based upon multiple indicators of performance.

Pencil-and-Paper Standardized Tests

Pencil-and-paper standardized tests are not appropriate for children in kindergarten, for many of the reasons outlined earlier. Children this age typically do not know how to use a pencil effectively, so they cannot represent their knowledge very well on standardized Pencil₁ pencil-and-paper measures. In addition, Tes the formal testing process is "at odds" with how children this age typically learn and demonstrate what they know-through "hands on" experiences—and cannot begin to capture many of the domains (such as social and emotional development and approaches toward learning) that are essential to children's success in school. In short, standardized pencil-and-paper tests should not be used with kindergartners.

Using an Instrument for a Purpose Other Than the Purpose for Which It Was Designed

Assessment instruments are typically designed for one purpose screening, instructional enhancement, or accountability. Due to the difficulty of assessing young children and the limitations of most measurement designs, it is rare to find an instrument that can accomplish more than one purpose, especially if the data needs to demonstrate a high degree of reliability and validity. It's tempting to try to use an instrument for more than one purpose for instance, to use scores from a screening instrument as an accountability measure—but it is usually not advisable. Because the instrument was not designed to collect the right type of information, the conclusions school systems might draw from the assessment data can be misleading and/or inaccurate. Designing assessment systems to collect more

CAUTION

Different Purpose

than one type of information must be done with great care and typically requires expertise in testing and measurement, child development, and program evaluation that is beyond the scope of this guidebook.

How Assessment Information Is Collected

Assessments vary according to the type of information collected and how information is collected. Assessment systems should collect the type of information needed to address the purpose for the assessment, and data collection strategies should match the school system's capability to complete the process successfully in order to yield useful information. The descriptions below provide a brief overview of the general categories of assessment approaches.

Methods of collecting assessment information typically can be categorized as formal or informal. Formal assessments are conducted according to predetermined procedures and are designed to collect information about children in a consistent manner. Formal assessments yield data that is more easily compared across children—the information was collected in a similar manner across children, and the assessment results tend to be synthesized in a manner that can be compared across children. An example would be a screening instrument that provides information on the number of tasks a child was able to complete and some type of normative data that show how the child's performance compares with a sample of children who previously completed the assessment. In informal assessments, the information collected on children's abilities may vary from child to child, and, therefore, the information may not be comparable across children. There may be a standard set of instructions for how to collect the information, but the actual data collection process may vary. For example, a teacher may make informal notes of her observations of a child in her classroom. Information provided through informal assessments may be very helpful for teachers and parents, but cannot easily be compared from one child to another.

The following provides a brief description of the primary approaches schools use to collect assessment data from kindergarten children. Several of the techniques can be either formal or informal, depending upon how the information collection process is designed.

Mastery tasks ask children to perform specific skills and then record the results of the children's performance. An example would be a screening instrument that asks children to hop on one foot, draw a line, etc., and then records whether the child can or cannot demonstrate the particular skill. To determine if a child can perform a specific skill, teachers can observe the child within regular classroom activities or "pull" the child out from classroom activities and ask him/her to perform the tasks. The data on the child's performance can be collected in a number of forms such as checklists or rating scales. The factor that determines whether a particular measure is a mastery task is that the child is asked to perform the specific skill rather than relying on a person's observations that may or may not include an opportunity to demonstrate the particular skill.

Checklists, questionnaires, and rating scales ask someone with knowledge of the child to indicate whether the child has demonstrated specific abilities. The person completing the assessment might be an objective observer who does not know the child but has observed the child for a period of time or might be a parent or teacher who is asked to document the child's abilities based upon his/her own observations.

- Portfolio assessments collect examples of the child's work and record observations of the child's behavior during regular classroom activities. Portfolio systems typically provide a specified framework for organizing the assessment information collected, guide lines for how and what types of information to collect, and a system for pulling the information together to yield conclusions from the data. Ideally these portfolio systems are based upon, or consisten with, the curriculum that is being used in the classroom.
- Observational records provide documentation of a child's behavior and performance. The observations may be anecdotal records completed by a teacher or parent, or they may be more formal documentation of a child's behavior in a situation "set up" to see how a child responds.

Assessment methods can also vary by the number of times the information is collected. Some assessments are "one shot" assessments where the information is collected once. Others incorporate information that is collected over time to provide multiple examples of the child's performance and/or to show growth or change in the child's abilities. Information collected multiple times provides a more valid assessment of a child's capabilities because it gives the child many opportunities to show what skills he or she has mastered.

Matching the Information Collection Method with the Purpose for the Assessment

As with all of the assessment principles discussed above, it is critical that the method for collecting assessment information is consistent with the purpose of the assessment. Assessment information must be collected in a manner that "matches" the purpose for collecting the information. For instance, information that will be used to compare cohorts of children across time should be collected in a standardized or formal fashion to ensure that the data is comparable across time. Likewise, screenings should be standardized. Assessment information collected for teachers to use in designing instructional curriculum activities should be based on "real-life" observations and collected over a period of time.

The following chart provides a summary of the type of information and the data collection approaches that are typically most appropriate for each of the three assessment purposes. While school systems may find that types of information other than those specified are appropriate for various purposes, the following can be considered guidelines for "best practices" in assessment of kindergarten children or a picture of what the assessment typically looks like.

Purpose of the Assessment	Common Assessment Approaches
Screening	Mastery tasks—Checklists, questionnaires, and rating scales
Instruction/Improving Learning	Mastery tasks—Checklists, questionnaires, and rating scales Portfolios Observations
Accountability/ Program Evaluation	Mastery tasks—Checklists, questionnaires, and rating scales

Assessment Safeguards

Several important safeguards must be considered when designing assessment systems to minimize the possibility that the assessment process will harm any child, parent, teacher, or school. No matter what the purpose of the assessment, the type of information collected, or how the information will be used, the following safeguards should be part of the assessment planning process.

Assessment Safeguards

- Informed consent
- Confidentiality
- Sampling
- Communicating the results

Legal and Ethical Issues Related to Assessment

An extensive body of legislation and litigation has established specific safeguards to protect children and their families. Two prominent federal laws—the Individuals with Disabilities Education Act (IDEA, 1990 and 1997) and the Family Educational Rights and Privacy Act (FERPA, 1974)—established basic requirements for assessing children and the use of assessment information. Two basic principles from this legislation are informed consent and confidentiality.

Informed Consent

Generally, informed consent is required when information is collected from/on individual children. This means that a parent or guardian must give written permission for the information to be collected. However, informed consent is not required for most of the assessments schools conduct as a part of their regular educational program. Informed consent is required for specialized assessments, such as evaluations conducted to determine if a child has a particular disability. If there are questions about whether informed consent would be required, it is advisable to consult someone knowledgeable with the legal requirements for assessments.

Confidentiality

Confidentially is essential for all assessment systems. All information that is collected on children, families, and schools should be strictly confidential and available only on a "need to know" basis. Identification numbers should be used to track information rather than names whenever possible. Records should be kept in locked cabinets. Raw data should be available only to a limited number of individuals who are directly responsible for compiling the information, and reports should be carefully planned and reviewed to ensure that no group-level data information can be traced back to an individual child.

Sampling Versus Universal Data Collection

A general rule of thumb is to collect information from the minimum number of children necessary to fulfill the purpose of the assessment. This means that in some cases collecting information from a sample of children is sufficient, while in other cases it may be necessary to collect information from all children. For instance, assessments for screening and instructional purposes typically should be done for all kindergarten children to "catch" all children in need of additional evaluations and to provide individualized instruction for all children. Information used for accountability purposes, such as program evaluation and tracking trends over time, typically can be collected on a random sample of children. Sampling techniques are available to ensure that the conclusions from a sample of children are reliable and can be generalized to the larger population of children. Use of sampling minimizes the possibility that information collected during the assessment will be used to make high-stakes decisions about individual children or teachers. It is highly advisable to consult with persons who have knowledge of statistics, sampling, research design, and assessment to determine whether sampling is appropriate for your assessment system and, if so, the size and selection criteria for the sample.

Information Management–Communicating the Results

Information on kindergarten children's abilities is of great interest to the general public, educators, and policymakers. The nation has invested significant resources in improving early childhood programs and services. Many policymakers are looking for ways to demonstrate whether the resources have been a good investment. Information from kindergarten assessments collected for accountability purposes can be used as one source of information to evaluate the success of early childhood programs. At the same time, schools are under increasing scrutiny, and accountability requirements have been extended to lower and lower grades. There is increasing pressure to demonstrate improved student achievement with younger and younger children. Kindergarten assessment information could be included in some of these accountability efforts. In short, the information collected could be politically "charged" from a number of different perspectives.

How assessment information should be communicated at different levels of the "system"—the school, the district, the state department of education, early childhood programs, parents, and the general public—is a critical question for any group designing a kindergarten assessment system. Thoughtful planning on where information will be stored, who will "own" the information, how information will be aggregated and reported, and with whom the information will be communicated are all essential pieces of an assessment system. These issues are true for all types of assessment information that is collected, but particularly for accountability assessments.

Assessment planners should decide early in the planning process what type, how, when, and with whom results will be communicated. For example, some data may be used for internal program improvement purposes and other data may be released to the public. Other considerations for this planning process include the resources—personnel and financial—that will be necessary to analyze and report the data. This data management decisionmaking process should involve representatives from all the stakeholder groups potentially affected by conclusions that might be drawn from the information. Careful planning on how results will be analyzed and communicated can increase stakeholder cooperation in the assessment process and the likelihood that the data will be used appropriately.



Getting Down to "Brass Tacks": Designing Kindergarten Assessment Systems

Given the complexity of kindergarten assessments, how does a school district or state department of education begin to design an assessment system and select instruments? This section of the guidebook provides steps for designing assessment systems, a planning guide to walk school systems through the process of designing an assessment system, and selected resources.

Designing Assessment Systems Step by Step

With the "shoulds" and "should nots" in mind, a school system is ready to design its kindergarten assessment system. Here are some steps in the process:

- 1) Form an assessment design team with persons from many different perspectives. The composition of the team may vary according to the entity that is designing the assessment system. For purposes of designing a statewide assessment system, the team would ideally include representatives from the early childhood provider community, school district and state department personnel (including teachers), parents, persons who work in higher education teacher-preparation programs, policymakers, and persons with expertise in assessment and/or research design. At the district level, this team would ideally include administrators, teachers, parents, school support personnel—such as special education teachers and school psychologists—and someone from the early childhood programs that serve children before they enter kindergarten. This group should help design the assessment system, oversee implementation of the assessments, and help with interpretation and use of the assessment results.
- 2) Determine the purpose for the assessment: Why is the information needed? How will it be used? Remember, if assessment information is needed for more than one purpose, it's likely that more than one assessment measure will be needed. Typically, a separate assessment strategy

will be needed for each of the different purposes for assessing children.

- 3) Determine what information is needed to fulfill the purpose. What skills, abilities, and/or characteristics of children need to be assessed? Is information needed from multiple domains/areas of children's development? Do you need standardized data that can be compared across children? Do you need highly individualized data that teachers can use in the classroom? Do you need information from multiple sources—teachers, parents, and/or outside observers? Do you need information that is collected over time to show changes in a child's learning, or is a "one-shot" assessment sufficient?
- 4) Based upon the information needed, decide what assessment approaches are appropriate. Carefully think through your state or district's ability to implement different approaches—are the different approaches you are considering realistic for your school system?
- 5) Identify specific assessment measures that might be appropriate to collect the information needed. Is the school system already implementing any type of assessment that might be appropriate? Do you need to look for new assessment measures?
- 6) Obtain as much information on each instrument as possible.
- 7) Evaluate the instruments to determine how they are suited to meet the school system's needs. Think about the following questions:
 - Are they designed for the kindergarten-age child (the three-to-seven year range)?
 - ✗ Are they appropriate for the school population?
 - Do they collect information on the developmental domains that are important for your purpose?
 - Do they collect information in the most natural manner possible? Would children be comfortable in the assessment situation?
 - Does your school system have the ability to fulfill the logistical requirements of the instruments—training for the information collectors, physical facilities to complete the assessment process, budget resources sufficient to purchase the needed materials, ability to aggregate and report the data if you need to, etc.

- 8) Select the most promising instruments and evaluate them carefully. Get samples of the instruments and review the content. Try them out with a sample of children. Get input from persons who may have used them. Use assessment publishing companies as a resource—they often can provide contact information for schools that have used the assessment measure and will be able to answer questions you may have about the measure.
- 9) Develop consensus from the assessment design team on which instrument(s) would be best suited for your school system's needs and capabilities. Determine if other sources of information (such as parent surveys) are needed to supplement the information collected through the formal assessments. Remember, it may be necessary to use more than one instrument to get a complete picture of the children you are assessing. For instance, an instrument may collect information on only one or two domains of development. A second instrument can be used to collect information on other domains of development that are not included on the first instrument.
- **10)** Develop plans to implement the assessment system. Be sure to include the following:
 - ✗ Training for persons gathering the information
 - Communication with all persons affected by the process—parents, teachers, administrators, community service providers, and policymakers (be sure they know the purpose, what's going to take place, how the information will be used, and what feedback they will receive)
 - How you will obtain the assessment instruments
 - Logistical details for implementing the assessments (remember, persons who are not directly involved may need to help with logistical details—for example, the custodian may need to keep a room open longer than normal or set a room up differently during the assessment process)
 - Provisions for informed consent (if needed) and confidentiality
 - ✗ Ways to collect supplemental information

- How/when the assessment results will be shared and with whom
- How the assessment results will be used
- ✗ How the assessment process will be evaluated
- 11) Try the plan out with a few children, including everyone who will be involved in the process—teachers, parents, and other data collectors. Be sure to include children who may have particular circumstances that might affect the assessment process or results, such as children with disabilities and children for whom English is not their native language.
- **12)** Make revisions in your plan
- **13)** Implement the assessment system
- 14) Evaluate how well the system is working. Consider the following:
 - Is information being collected consistently across children? Across classrooms?
 Is information being recorded promptly and correctly?
 - Does everyone (especially parents) understand what is going on?
 - ✗ Do teachers feel that the process is working?
- **15)** If the system was designed to provide data on groups of children, compile the assessment information, review the results, and develop reports according to the plan for how the information would be used.
- 16) Develop recommendations for revisions in the assessment process that will be implemented in the next round of information collection. It is evident that a great deal of planning and "up-front" work is necessary in designing assessment systems. However, the investment is well worth the time spent carefully going through each of these steps. The end result will be information that is credible and useful.

Planning Resources

Assessment System Guide

Appendix A includes a helpful planning guide that "walks" school systems through the process of designing an assessment system. The guide can be used as a practical tool to help districts and state departments think through issues that should be addressed when planning large-scale assessment systems. The intent is to provide a general framework for planning purposes—one that can be adapted to meet the needs of school systems involved in the process of designing kindergarten assessment systems.

Assessment Resources

Appendix B provides a listing of helpful resources. Schools will find publications, associations, and websites that can provide useful information for the assessment planning process. The document **Assessing Kindergarten Children: A Compendium of Assessment Instruments** (Niemeyer & Scott-Little, 2001) is a companion document for this guidebook and provides detailed information on over 50 assessment instruments. School systems may find the **Compendium** a helpful place to begin evaluating which instruments will best meet their needs for assessment data. The **Compendium** is available through SERVE at **www.serve.org** or by calling 1-800-352-6001.

Conclusions

It's an exciting time in early childhood. Evidence from research has provided increasing documentation of the importance of early childhood experiences in children's success in school. Also, policymakers and the public have invested unprecedented resources in early childhood programs. Good assessment systems are essential from both of these perspectives: to provide credible information to help teachers improve instruction and to document the condition of children when they enter school for accountability purposes. Assessment systems must be carefully designed to ensure they provide information that fulfills the purpose for the assessment and to increase the likelihood they will benefit children, families, teachers, and the educational systems that support their learning. This planning guide is a helpful resource for state departments and school districts. The ultimate goal is to facilitate a decision-making process that will result in assessment systems that are useful and beneficial to all the stakeholders involved in the process.

anning Guide	COMMENTS AND/OR NEXT STEPS								
Kindergarten Assessment Planning Guide	STEPS FOR DESIGNING AN ASSESSMENT	Have you formed an assessment design team? Does the team include persons from different perspectives—such as kindergarten teachers, pre-kindergarten teachers, administrators, parents, school psycho- logists, special education teachers, persons with knowledge of children for whom English is their second language, higher education faculty, and others who work with pre-kindergarten and kindergarten children in your communit??	Has the team determined the purpose for the assessment? Is it for • Screening? • Instruction and improving learning? • Accountability/program evaluation?	Has the team determined what information is needed? What skills, abilities, and/or characteristics of children should be assessed? Will you need to collect information from multiple domains of children's development? Do you need standardized data that you can compare across children? Do you need information from porents, teachers, the children themselves, and/or other sources? Do you need to collect information more than one time?	Has the team decided what types of assessments are appropriate? Have you discussed the following types of assessments: • Acacellists, questionnaires, and rating scales? • Portfolios? • Observations?	Has the team collected information on different assessment instruments? Have you looked at assessment instruments that you were already familian with and some that are new to you? Will you need to combine assessment measures to collect all the information you need?	Have you identified at least three possible assessment instruments you might use? Have you collected information on each of the possible instruments?	Continued Next Page	
	STEPS FOR	Getting Started				Selecting an			

Appendix A: Cindergarten Assessment Planning G

Assessing Kindergarten Children: What School Systems Need to Know

STEPS FOR I	R DESIGNING AN ASSESSMENT	COMMENTS AND/OR NEXT STEPS
Selecting an Instrument	 Has the team looked at each possible instrument to see if it Is age appropriate for the cultural and linguistic background of children in your school? Collects information that is important for your purpose? Is as anaturalistic/ authentic as possible? Con accommodate children with special circumstances (you as English language learners) or disabilities? Fits with your schools copabilities in terms of the Radian of the purchasing the instrument? Radian of persons administering the instrument? Has good reliability and validity if you are choosing a standardized instrument? 	
	Has the team carefully evaluated the most promising instrument(s)? Did you: • Get samples? • Talk to others who have used the instrument? • Try them our with a few children? Has the team selected the instrument(s) to use in your assessment system? (NOTE: A combination of instruments may be necessary to	
Developing a Plan	 provide information that completely addresses your purpose.) Has the team developed a plan for how you will implement the assessment system? Does the plan include details such as Training for persons gathering the information? Communication with all parties involved or affected so they know what is going to happen, why and what information they will receive? How to obtain the instruments? Logistical details for carrying out the assessments? Provisions for informed consent (if needed) and confidentiality? How / when assessment results will be shared with or facchers? Parents? 	
	Continued Next Page	

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STEPS FOR	STEPS FOR DESIGNING AN ASSESSMENT	COMMENTS AND/OR NEXT STEPS
Developing G Plan	 Building administrators? The district and/or state department? The public? How the results will be used? How the assessment process will be evaluated? 	
	Have you tried your plan out with a few children and assessed how the trial run went? What went smoothly? What could be improved?	
	Has the team revised the implementation plan based on what you learned during the trial run?	
	Has your school begun to implement the assessment system?	
Implementing the System	Has the team evaluated how well the system is working? Have you evaluated how it is going while assessment information is being collected and after the process is complete (or has reached a natural "stopping" point if the assessment is ongoing)? When evaluating the system, did you consider the effectiveness of the - Information collection processs • Communication about the process with everyone involved? • The usefulness, accuracy, and validity of the results? • The time and other resources necessary to implement the system possible? • Any further training that might be needed to have the best system possible? • Whether the information provided fulfills your purpose for the assessment?	
	Have you compiled the assessment results? Did you get the information you needed? What do the results tell you? What reports do you need to develop?	
Using the Results	Have you communicated the assessment results with everyone your plan specified? How were the results received? Was there a need for addi- tional information or information to be communicated in a different way?	
	Has the team made plans for how the process should be revised before it is repeated? Have you made revisions in your plan far enough in advance to give everyone involved in the process a chance to make the necessary adjustments?	

Appendix B: Assessment Resources

The following list provides a number of helpful resources for state departments of education and school districts that are designing assessment systems. The resources include publications, associations, and websites that address many of the complex issues associated with assessment of young children.

American Educational Research Association. (July 2000). Position Statement Concerning High-Stakes Testing in Pre K—12 Education. **www.aera.net/about/policy/stakes.htm**

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (1999). Standards for educational and psychological testing. Washington, DC: American Educational Research Association.

CLAS (Culturally & Linguistically Appropriate Services) Early Childhood Research Institute. www.clas.uiuc.edu/aboutclas.html

FairTests Publications. Assessment of Young Children. National Center for Fair & Open Testing, 342 Broadway, Cambridge, MA 02139 (617-864-4810).

Graue, M.E., & DiPerna, J.C. (2000). Redshirting and early retention: Who gets the "gift of time" and what are its outcomes? American Educational Research Journal, 37, 509-534.

Karweit, N.L., & Waski, B.A. (1996). A review of the effects of extra-year kindergarten programs and transitional first grades. Baltimore, MD: Center for Research on Effective Schooling for Disadvantaged Students, The Johns Hopkins University.

National Association for the Education of Young Children. (1988). Testing of young children: Concerns and Cautions. Washington, DC: NAEYC (1-800-424-2460).

National Center for Research on Education, Statistics, and Student Testing www.cse.ucla.edu

National Center for Educational Outcomes **www.coled.umn.edu/nceo**

National Center for Educational Statistics - K–12 Practitioner's Circle **www.nces.ed.gov/practitioners**

National Education Goals Panel Early Childhood Assessments Resource Group. (1998). Principles and recommendations for early childhood assessments. Washington, DC: US Department of Education. **www.negp.gov/reports/prinrec.pdf**

Niemeyer, J., & Scott-Little, C. (2001). Assessing kindergarten children: A compendium of assessment instruments. Tallahassee, FL: SERVE.

Pianta, R.C., & Cox, M.J. (Eds.). (1999). The transition to kindergarten. Baltimore: Paul H. Brookes.

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Cohen, L.G., & Spenciner, L.J. (1994). Assessment of young children. White Plains, NY: Longman Publishing Group.

Graue, M.E., & DiPerna, J.C. (2000). Redshirting and early retention: Who gets the "gift of time" and what are its outcomes? American Educational Research Journal, 37, 509-534.

Kagan, S.L., Moore, E., & Bredekamp, S. (Eds.). (1995). Reconsidering children's early development and learning: Toward common views and vocabulary. National Education Goals Panel Goal 1 Technical Planning Group. Washington, DC: US Department of Education. **www.negp.gov/reports**

Meisels, S.J. (1999). Assessing readiness. In R.C. Pianta, & M.J. Cox, (Eds.)., The transition to kindergarten. Baltimore: Paul H. Brookes.

National Association for the Education of Young Children. (1988). NAEYC Position Statement on Standardized Testing of Young Children. www.naeyc.org/about/position/position_statement1.htm

National Association of Early Childhood Specialists in State Departments of Education. (2000). Still! Unacceptable Trends in Kindergarten Entry and Placement. http://ericps.crc.uiuc.edu/naecs/position/trends2000.html

National Education Goals Panel Goal 1 Ready Schools Resource Group. (1998). Ready schools. Washington, DC: US Department of Education. **www.negp.gov/reports**

National Education Goals Panel Early Childhood Assessments Resource Group. (1998). Principles and recommendations for early childhood assessments. Washington, DC: US Department of Education. **www.negp.gov/reports/prinrec.pdf**

National Research Council. (2000). Eager to learn: Educating our preschoolers. (Executive Summary). Washington, DC: National Academy Press.

Nuttall, E. V., Romero, I., & Kalesnik, J. (Eds.). (1999). Assessing and screening preschoolers: Psychological and educational dimensions. Needham Heights, MA: Allyn & Bacon.

Southern Early Childhood Association. (1999). Assessing Development and Learning in Young Children: A Position Statement of the Southern Early Childhood Association. www.seca50.org/position_assessment.html

Wortham, S.C. (1990). Tests and measurement in early childhood education. Columbus, OH: Merrill Publishing Company.

About SERVE

SERVE is an education organization with the mission to promote and support the continuous improvement of educational opportunities for all learners in the Southeast. The organization's commitment to continuous improvement is manifest in an applied research-to-practice model that drives all of its work. Building on theory and craft knowledge, SERVE staff develop tools and processes designed to assist practitioners and policymakers with their work, ultimately, to raise the level of student achievement in the region. Evaluation of the impact of these activities combined with input from affected stakeholders expands SERVE's knowledge base and informs future research.

This vigorous and practical approach to research and development is supported by an experienced staff strategically located throughout the region. This staff is highly skilled in providing needs-assessment services, conducting applied research in schools, and developing processes, products, and programs that inform educators and increase student achievement. In the last three years, in addition to its basic research and development work with over 170 southeastern schools, SERVE staff have provided technical assistance and training to more than 18,000 teachers and administrators across the region.

SERVE is governed by a board of directors that includes the governors, chief state school officers, educators, legislators, and private sector leaders from Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina.

At the core of SERVE's business is the operation of the Regional Educational Laboratory. Funded by the U.S. Department of Education's Office of Educational Research and Improvement, the Regional Educational Laboratory at SERVE is one of ten organizations providing research-based information and services to all 50 states and territories. These Laboratories form a nationwide knowledge network, building a bank of information and resources shared nationally and disseminated regionally to improve student achievement locally. SERVE's National Leadership Area, Expanded Learning Opportunities, focuses on improving student outcomes through the use of exemplary pre-K and extended-day programs.

In addition to the Lab, SERVE operates the Eisenhower Mathematics and Science Consortium for the Southeast and the Southeast Initiatives Regional Technology in Education Consortium. SERVE also administers a subcontract for the Region IV Comprehensive Center and has additional funding from the Department to provide services in migrant education and to operate the National Center for Homeless Education.

Together, these various elements of SERVE's portfolio provide resources, services, and products for responding to regional and national needs. Program areas include Assessment, Accountability, and Standards; Children, Families, and Communities; Education Policy; Improvement of Science and Mathematics Education; Education Leadership; School Development and Reform; and Technology in Learning.

In addition to the program areas, the SERVE Evaluation Department supports the evaluation activities of the major grants and contracts and provides evaluation services to state and local education agencies in the region. The Technology Support Group provides SERVE staff and their constituents with systems, technical assistance, and software applications. Through its Communications and Publications Department, SERVE publishes a variety of studies, training materials, policy briefs, and program products. Through its programmatic, technology support, evaluation, and publishing activities, SERVE also provides contracted staff development and technical assistance in specialized areas to assist education agencies in achieving their school improvement goals.

SERVE's main office is at the University of North Carolina at Greensboro, with major staff groups located in Tallahassee, Florida, and Atlanta, Georgia, as well as satellite offices in Bonita Springs, Florida; Durham, North Carolina; and Shelby, Mississippi. Unique among the ten Regional Educational Laboratories, SERVE maintains policy analysts at the state education agencies of each of the states in its region. These analysts act as SERVE's primary liaisons to the state departments of education, providing research-based policy services to state-level education policymakers and informing SERVE about key state education issues and legislation.

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