

K-2 STANDARDS AND ASSESSMENTS: A 50-STATE REVIEW

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TABLE OF CONTENTS

BACKGROUND	1
<i>Accountability in K-12 Education</i>	1
<i>Standards in Early Childhood Education</i>	1
<i>P-3 Education: Linking Early Childhood Education with the Primary Grades</i>	1
PURPOSE OF THE STUDY	2
METHODOLOGY	2
FINDINGS AND ANALYSIS	3
<i>Characteristics of State-Level K-2 Standards</i>	3
Grade-Levels Addressed	4
Developmental Domains Covered	4
Subject Areas Covered	5
Level of Specificity	6
<i>Characteristics of State-Level K-2 Assessments</i>	7
Grade-Levels Addressed	7
Developmental Domains/Subject Areas Covered	7
<i>General Analysis and Areas for Future Study</i>	8
Fragmentation	8
Content Standards vs. Process Standards	9
Grade-Levels Addressed	9
Developmental Domains Covered	10
Horizontal Alignment of Standards, Curriculum, and Assessments	11
P-3 Vertical Alignment	11
CONCLUSION	12
 TABLE: K-2 Content Standards, by State	 13
 TABLE: Mandatory Statewide K-2 Assessments	 18

BACKGROUND

This paper provides an overview of the state-level content standards and the mandatory statewide assessments for kindergarten, 1st grade, and 2nd grade that are in place in all 50 states. Three trends in public education shape the context of this paper: the broad-based accountability movement in K-12 education, the growing accountability movement in early childhood education, and the recent emergence of a focus on P-3 education.

Accountability in K-12 Education

During the 1990s, nearly every state established statewide content standards documents that set out goals for what students should know and be able to do in core academic subjects in K-12 education. The standards are typically intended to provide the basis for state and local decisions on curriculum, texts, instructional materials, student assessments, teacher preparation and professional development, and other components of instruction. As of 2004, 49 states have content standards in the core academic subjects of English/Language Arts, Mathematics, Science, and Social Studies (Cavell, Blank, Toye, & Williams, 2005). With the *No Child Left Behind Act's* annual assessment requirements beginning in 3rd grade, there has been substantial attention paid to the standards and assessments states are implementing in grades 3 through 12 (see, for example, Council of Chief State School Officers, 2006; Education Commission of the States, 2006).

Standards in Early Childhood Education

More recently, states have become interested in understanding and supporting the development of young children's specific skills, abilities, knowledge, and behaviors. As such, early learning standards – or expectations of what children should know and be able to do prior to school entry – are proliferating across the nation. As of January 2004, 44 states had early learning standards and the remaining six states were in the process of developing them. Recent research provides substantial information about both the breadth and depth of early learning standards for children from birth to kindergarten entry across the country (Scott-Little, Kagan, & Frelow, 2003, , 2005).

P-3 Education: Linking Early Childhood Education with the Primary Grades

P-3 is the continuum of learning and development programs, services, and experiences that young children have before they enter school (**Pre-school**[♦]) and until they enter the **3rd** grade (which corresponds, roughly, to children from birth to age 8). Beyond being the first “stage” of a full P-16 continuum of learning and education, P-3 is based on a premise that there is something unique about this developmental period. By age 8 children have acquired a range of both social and academic competencies that form the foundation for later learning and development. For example, Piaget's cognitive developmental theory posits that children enter the concrete operational stage at around 8 years of age (Trawick-Smith, 2003). At this point, they have acquired important processes that lead to improvement in problem-solving and learning; they can

♦ “Pre-school” encompasses all of the services and programs that children experience prior to their entry into the formal K-12 school system. This includes nursery school, child care, family child care, pre-kindergarten, preschool, and Head Start.

consider multiple factors simultaneously, mentally reverse the steps of a process, and understand causality. Similarly, Vygotsky's sociocultural theory notes that speech and thought are separate processes in the early years of life. As children get older, though, they integrate the two into verbal thought; it is, indeed, around the age of 8 that this transition from nonverbal thought and nonconceptual speech to verbal thought occurs. In short, from a developmental perspective, the early end of the P-16 continuum represents a unique and special period of learning, "not because [these years] provide an unalterable blueprint for adult well-being, but because what is learned at the beginning of life establishes a set of capabilities, orientations to the world, and expectations about how things and people will behave that affect how new experiences are selected and processed" (National Research Council and Institute of Medicine, 2000, p. 90).

PURPOSE OF THE STUDY

This paper was prompted by the absence of a national report or comprehensive source of data that examines how states are establishing content standards and assessments in the grade levels (i.e., kindergarten, 1st grade, and 2nd grade) that are not explicitly addressed by the *No Child Left Behind* accountability reforms or by the accountability movement in early care and education. Recent reports have addressed states' standards and assessments for the early elementary school years for reading (Schenck, Walker, Nagel, & Webb, 2005; Wixson & Dutro, 1999), but broader analyses could not be identified. As such, the broad purpose of this paper is to provide descriptive information on statewide K-2 standards and assessments. These data will provide crucial information for additional research efforts that examine learning and development across the P-3 continuum.

It is important to emphasize that this paper does not undertake a thorough content analysis of states' K-2 standards and assessments, but provides a broad perspective by addressing the following questions:

- Which states have developed content standards in kindergarten, 1st grade, and 2nd grade? Have states created specific standards for each grade level or have the standards been "clustered" in a range of grade levels?
- To what degree do states' K-2 standards align with national guidelines regarding the crucial developmental domains of young children (i.e., National Education Goal Panel's five domains)?
- What are the major subject/content foci of states' K-2 standards?
- Which states require assessment in kindergarten, 1st grade, and 2nd grade?
- What is the nature of these assessments?

METHODOLOGY

A review of existing statewide content standards and assessments for kindergarten, 1st grade, and 2nd grade in each of the 50 states was conducted. As an initial effort to identify state-level content standards, the Web links provided by the Council of Chief State School Officers (CCSSO) and the CCSSO State Collaborative on Early Childhood Education Assessment (ECEA-SCASS) in

their document, “State Early Learning (Birth to Third Grade) and Early Childhood Program Standards” (available on-line at: <http://www.ccsso.org/content/PDFs/ECstandards.pdf>) were accessed. To supplement this information, each state’s department of education Web site was searched for information on “K-12 standards,” “content standards,” and “curriculum standards.” As a result of these efforts, standards frameworks for K-12 education were identified and reviewed in all 50 states. It is important to note that many states are developing and/or revising their content standards; the documents used for this paper were those publicly available and posted on states’ Web sites as of June 2006. In addition to the specific details summarized and reported in this paper, each document’s title, Web address, and nomenclature used were recorded.

Similarly, the assessments reviewed were collected through a two-step process. First, information provided by the Center for Evaluation and Education Policy at Indiana University in their “State Schedules of Assessments” and by CCSSO’s report “State Education Accountability and Indicator Reports: Status of Reports Across the States – 2004” was used as a basis for identifying states with mandatory statewide K-2 assessments. Second, this information was verified – and additional data collected – by accessing each state’s department of education Web site and searching for information on “K-12 assessments,” “K-12 accountability,” and “K-12 testing.”

FINDINGS AND ANALYSIS

Across the 50 states, state-level standards and assessments for children in kindergarten, 1st grade, and 2nd grade vary widely. The following sections describe the nature of states’ standards and assessments, focusing, where possible, on the grade levels addressed, the developmental domains and subject areas covered, and on the level of specificity provided. Individual content standards or indicators were not collected or analyzed for this review. All of the descriptive and analytical information below is based on the major domains/content areas and the strands/headings provided by each state within their domains/content areas. Where ten or fewer states fall into a category, the list of individual state names is specified. For the sake of readability, where more than ten states fall into a category, a full listing of relevant states is not provided. A table, however, summarizing much of this information, by state, begins on page 13 of this document.

Characteristics of State-Level K-2 Standards

The standards movement is perhaps the most powerful and enduring education reform to emerge over the past two decades. It is a cornerstone of K-12 reform, embedded in the federal *No Child Left Behind*. Increasingly, states and school districts are using standards, among other things, to reduce disparities, improve efficiency, generate challenging curriculum, create greater system coherence, and serve as a basis for measuring and attaching consequences to the performance of students, teachers and schools.

Grade-Levels Addressed

Within their K-12 content standards frameworks, most states identify specific descriptions of knowledge or skills that children should acquire by a particular point in their schooling. Often called “benchmarks” or “goals,” the specific knowledge and skills are assigned to a particular grade level or range of grades. Ideally, benchmarks are placed at the grade at which a student is not only developmentally ready to acquire the understanding or skill described, but also at the point in time at which the student has received the necessary prior instruction to learn the new material (Kendall, 2001).

Here, “grade-specific standards” means that a state has developed specific standards or benchmarks for kindergarten students, for 1st graders, and for 2nd graders. When grade-specific standards have not been delineated, states usually identify “clusters” of grades to which the standards and benchmarks apply.

Based on the review of state-level K-12 content standard frameworks conducted for this paper, 36 states have grade-specific standards for kindergarten, 1st grade, and 2nd grade in at least some content areas. Of the 14 states that do *not* provide grade-specific standards:

- Two states (Montana and Wisconsin) have no specific standards for any grade level below 4th grade;
- Three states (Iowa, Kentucky, Massachusetts) have no specific standards for any grade level below 3rd grade;
- One state (New York) has an “elementary” cluster for standards;
- One state (Illinois) has an “early elementary” cluster;
- Two states (Colorado and Connecticut) cluster their standards in a K-4 framework;
- Two states (Alaska and Ohio) cluster in a K-2 framework;
- One state (Maine) clusters its standards in a PreK-2 framework;
- One state (Nebraska) has a cluster for K-1 and another cluster for grades 2-4; and
- One state (Pennsylvania) has a cluster for PreK-K, a cluster for K-1, and another cluster for grades 1-2.

Developmental Domains Covered

The National Education Goals Panel (NEGP) recognized five domains of development as central to children’s readiness for school: (1) physical well-being and motor development; (2) social and emotional development; (3) cognition and general knowledge; (4) approaches toward learning; and (5) language and communication (Kagan, Moore, & Bredekamp, 1995). Given the foundational assumption of this paper that the first eight years of children’s development and learning are unique, these five domains can be used as one means by which to categorize and

analyze content standards not just for the years prior to school entry, but also for kindergarten and 1st and 2nd grades.

Of the 44 states that have grade-specific standards and/or standards that are in a framework that specifically targets the K-2 grades (this definition excludes Iowa, Kentucky, Massachusetts, Montana, New York, and Wisconsin):

- 12 states have standards that fall within two developmental domains – Language/Communication and Cognition/General Knowledge.
- 12 states have standards in three developmental domains – Language/Communication, Cognition/General Knowledge, and Physical Well-Being and Motor Skills.
- 17 states have standards that fall within four developmental domains – Language/Communication, Cognition/General Knowledge, Physical Well-Being and Motor Skills, and Social/Emotional Development. It is important to note that, without exception, these states do not have a specific domain of standards labeled as “Social and Emotional Development.” These states do, though, specifically identify strands such as “mental and emotional health,” “personal and social interactions,” and “respect for differences” within other domains, usually those related to health and physical well-being.
- Only three states (Oklahoma, Nevada, and Utah) have standards that fall within all five developmental domains. Similar to those states in the prior category, these states do not have specific domains labeled as “Social and Emotional Development” or “Approaches Toward Learning.” They do, though, have strands within other domains that, at least in name, appear to be directly related to the developmental domains of Social/Emotional Development and Approaches Toward Learning (e.g., Nevada has strands called “Independent Learning” and “Social Responsibility”).

Subject Areas Covered

Examining the standards by content or subject area provides another means by which to categorize states’ efforts. Within the NEGP-labeled domains of Cognition and General Knowledge fall many different subject areas that children encounter throughout their K-12 education (e.g., mathematics, science, social studies, fine arts). Similarly, within the NEGP-labeled domain of Physical Well-Being and Motor Development fall various subject areas (e.g., physical education, health education).

Of the 44 states that have grade-specific standards and/or standards that are in a framework that specifically targets the K-2 grades (this definition excludes Iowa, Kentucky, Massachusetts, Montana, New York, and Wisconsin):

- All 44 states have standards in Language/Communication although, in most cases, states label the associated content areas as English or Language Arts (of these states, 36 provide grade-specific standards);

- All 44 states have standards in Mathematics (of these, 36 states provide grade-specific standards);
- 41 states have standards in Science, with 29 states providing grade-specific standards;
- 39 states have standards in Social Studies, with 27 providing grade-specific standards;
- 32 states have standards in Fine Arts (including Dance, Music, Theater, and Visual Arts), with 16 of these states providing grade-specific standards;
- 30 states have standards in Physical Education (14 states provide grade-specific standards for kindergarten, 1st grade, and 2nd grade);
- 27 states have standards in Health Education (12 states provide grade-specific standards for kindergarten, 1st grade, and 2nd grade);
- 18 states have standards in World or Foreign Languages, with only three of these states (Arizona, Hawaii, and North Carolina) providing specific standards for each grade level; and
- 11 states have standards in Technology or technology-related areas, with four states (Arizona, Nevada, Tennessee, and West Virginia) providing grade-specific standards in this content domain.

Level of Specificity

Generally, the greater number of organizing strands/topics and specific benchmarks a document provides, the more detailed is the document, and, conversely, the fewer benchmarks, the more general it is. Across the states' standards documents, as well as across the domains and content areas within a single state's standards, there is wide variation in the number of headings and sub-headings used to organize and delineate the knowledge and skills that children should learn and acquire. In some cases, the simplicity of the organizing strands belies the comprehensiveness of the underlying standards and goals; in other states, the simplicity is also reflected in the underlying standards.

A full analysis of the organizing strands and specific benchmarks was beyond the scope of this effort, but some general observations can still be made. First, in those content areas in which voluntary national standards have been well established by national not-for-profit organizations (e.g., the National Council of Teachers of Mathematics [NCTM] developed *Principles and Standards for School Mathematics* more than 15 years ago), there is little variability of the number of organizing strands among states. For example, most states with K-2 content standards in mathematics have five organizing strands that correspond with those promulgated by NCTM (i.e., Number and Operations; Algebra; Geometry; Measurement; Data Analysis and Probability). In content areas, however, where there are less widely-accepted voluntary national standards (e.g., Social Studies), there is much greater variability in the number of organizing strands used by states. For example, within the Social Studies content area, the number of organizing strands/topics ranges from 1 to 14.

Characteristics of State-Level K-2 Assessments

Across the 50 states, and across the early childhood and K-12 fields, assessment is a controversial topic. The types of assessments used, the purposes for which assessments are conducted, and the implications for how the assessment data are used all are issues demanding greater attention from educators, researchers, and policymakers. The research behind this paper focused on identifying the statewide, mandatory assessments and tests that are administered in kindergarten, 1st grade, and 2nd grade.

Notably, in most states, specific information on assessment in these early grades is sparse. This could be primarily attributed to the fact that only a handful of states actually administer any kind of statewide assessment prior to 3rd grade. For those states that *do* assess children in kindergarten, 1st grade, or 2nd grade, most often the only information provided about these assessments on states' department of education Web sites is the fact that they exist and, sometimes, the dates they will be administered. The rich context and details on why a particular assessment tool was selected, the nature of assessment processes and procedures, and the intended use of the data generated is, without exception, not provided. It is these data that would lend themselves to a full analysis of state assessment practices in K-2. Without them, it is possible only to provide basic descriptive information about what states are doing around this issue.

Grade-Levels Addressed

Across the 50 states, statewide mandatory assessment of children in kindergarten, 1st grade, or 2nd grade is not widespread. Only two states (Arkansas and Georgia) have statewide assessments in place for each of these early grades. A table presenting this information for all 50 states begins on page 18 of this report. Specifically:

- Five states (Arkansas, Florida, Georgia, Idaho, and South Carolina) mandate any assessment during the kindergarten year;
- Five states (Arkansas, Georgia, Idaho, South Carolina, and Utah) require an assessment during 1st grade; and
- Ten states (Arizona, Arkansas, California, Delaware, Georgia, Idaho, Mississippi, Utah, Vermont, and Washington) require a statewide assessment during 2nd grade.

Developmental Domains/Subject Areas Covered

Of the five states that require statewide assessments during kindergarten, only two are tied to any specific developmental domain or subject/content area. Arkansas administers the Iowa Test of Basic Skills (ITBS) in Reading Comprehension and Math Problem-Solving to all kindergartners while Idaho administers the Idaho Reading Indicator to all kindergartners. The other three states' (Florida, Georgia, and South Carolina) efforts assess children's readiness, presumably across multiple developmental domains and dimensions.

Of the five states that administer statewide assessments to all 1st graders, four (Arkansas, Georgia, Idaho, Utah) of the states' efforts are exclusively focused on assessing children in specific content areas. Arkansas uses a norm-referenced instrument to assess reading comprehension and math problem-solving; Georgia uses a criterion-referenced assessment to measure children's competency in reading, language arts, and math; and Utah uses a criterion-referenced instrument to assess children in language arts and mathematics. Idaho assesses 1st graders in reading only, using an assessment tool that is administered three times each year.

During 2nd grade, eight states (Arizona, Arkansas, California, Delaware, Georgia, Idaho, Mississippi, and Utah) require statewide assessments of children's skills in reading, language arts, and mathematics. Two states (Vermont and Washington) only assess children's reading skills and processes.

General Analysis and Areas for Future Study

Fragmentation

Research confirms that standards and assessments can effectively improve children's learning outcomes, but only to the extent that they are valid, specific, meaningful to teachers, and actually influence curriculum and instruction on a daily basis (National Research Council, 1998; Scott-Little, Kagan, & Clifford, 2003). Fragmentation – of different kinds and at different levels – can impede the clear translation of high-quality standards and assessments into high-quality classroom curriculum and instruction. Two kinds of fragmentation were noted during this research effort.

First, although many states, especially those with grade-specific standards, have clear progressions of standards from one grade level to the next, fragmentation exists across developmental domains and content areas. During these early elementary years, because young children learn in an integrated fashion and because the traditional “grammar of schooling” (Tyack & Cuban, 1995) for how schools divide time and space has remained unchanged, children often receive instruction in the same classroom, from the same teacher for all (or most) subject areas. In some states, a 1st grade teacher would need to access as many as 12 different documents to gain a full and comprehensive understanding of the knowledge and skills that his or her students should learn. How (and whether) school districts and individual teachers are able to access and use state-level standards and assessments effectively and efficiently to improve classroom practice is an issue worthy of additional research and analysis.

Second, in those states that do not have grade-specific standards, there appears to be another form of fragmentation in terms of how the K-2 grades are aligned both with grades 3 through 12 and with the early childhood years. In some cases, the fragmentation may be more aptly described as a total gap; standards simply do not exist for kindergarten, 1st and 2nd grades. In other cases, however, it could be that state-level standards for these grades exist, but are housed someplace other than in a K-12 education framework. For example, based on research by Scott-Little, Kagan, and Frelow (2003), Massachusetts has established content standards in a PreK-

Grade 2 framework. These standards, though, did not appear in the review of K-12 frameworks conducted for this paper. Do these standards reside in a department other than the department of education? Do they exist in a division of the department of education other than that responsible for K-12 standards? This kind of fragmentation begs the question of how (and whether) standards frameworks for young children that exist outside of official K-12 frameworks are aligned and integrated with the K-12 frameworks that represent the learning expectations children will face when they reach upper grades.

Content Standards vs. Process Standards

Across all education levels, but especially for learning during the first eight years of life, the specific knowledge that children gain is as important as the skills or processes for learning that are acquired (National Research Council, 1998; National Research Council and Institute of Medicine, 2000). The former, “specific knowledge,” is commonly called *declarative knowledge* and can be understood to be the information (e.g., facts, events, episodes, concepts, principles, generalizations) that is central to a given content area. The latter, “skills or processes,” is known as *procedural knowledge* and also, often, is central to any given content area. Procedural knowledge may or may not occur in a linear fashion. For example, in the content area of mathematics, sequential processes are frequently important and necessary (e.g., the sequential process of performing long division is both prescribed and predictable). However, in the content area of geography, learning skills and processes are important, but not necessarily prescriptive about sequence or order (e.g., the process of reading a map involves certain steps – reading the name of the map, looking at the legend – that need not be performed in a particular order).

Reviews of content areas within the domain of cognition and general knowledge show that the subject areas of language arts and mathematics have relatively high proportions of procedural knowledge as opposed to declarative knowledge (Kendall & Marzano, 2000). In some states, process standards are clearly delineated from the content standards; in other states, it appears that procedural or process knowledge is woven throughout the content standards at a level below the organizing strands (e.g., at the level of specific indicators). While the research for this paper documented the organizing strands/topic areas within each state’s content standards, process standards cannot be fully represented or analyzed without additional review of states’ standards documents.

Grade-Levels Addressed

Within a P-3 context, the issue of how and why benchmarks are assigned to a single grade level or to a range of grades (and, perhaps, even whether they should be) deserves additional research. According to one school of thought, benchmarks should be provided for *each* grade level in order to ensure that the essential knowledge and skills that build upon one another at each age or grade level are not minimized or left out altogether. Past research in standards for reading and literacy has shown that state-level standards that do not provide standards for each grade miss important content that is unique to this age group (Wixson & Dutro, 1999). Another school of thought, however, asserts that children’s development and learning during the roughly first eight

years of life is episodic and highly dependent on each child's family, community, and cultural influences. As a result, learning and development can (and will) occur within broad ranges of time, not according to highly prescriptive sequences and deadlines (Alexander, Entwisle, & Kabbani, 2003; Kagan, Moore, & Bredekamp, 1995). According to this latter school of thought, it may be more developmentally appropriate to assign age or grade-level ranges within which specific knowledge and skills will be mastered by young children. Some have even asserted that this "flexibility" should be built into the overall system of schooling during the early elementary school years by instituting mixed-age or non-graded classrooms (Alexander, Entwisle, & Kabbani, 2003; Carter, 2005) or extended-year and summer program alternatives that extend the school year calendar (Alexander, Entwisle, & Olson, 2001; Cooper, 2003; Kauerz, 2006; Winship, Hollister, Horwich, Sharkey, & Wimer, 2005).

Developmental Domains Covered

The predominant lack of standards that could be deemed to address the skills included in the Social/Emotional Development and Approaches to Learning developmental domains is glaring. These are not inconsequential skills to children's overall trajectory for learning. The early childhood years are a sensitive period for the social, emotional, and communicative skills that give children confidence and motivation to establish themselves as autonomous individuals *and* to develop meaningful interconnectedness with others. By age 6, most children have developed self-regulation, one of the cornerstones of early childhood development that cuts across all aspects of behavior (National Research Council and Institute of Medicine, 2000). Self-regulation permits children to become increasingly proficient at exercising self-control and applying rules to their own behavior, thereby simultaneously developing both autonomy and the social competencies for relationships.

During the early 1990s, the American Psychological Association identified Learner-Centered Psychological Principles (LCPPs) for K-12 that summarize what research shows about how students learn and the motivation, development, and individual differences that influence learning (McCombs, 2003). Such approaches toward learning are as crucial in the early elementary years as they are in the early childhood years (Eccles & Wigfield, 2000). Within this framework are motivational and affective factors such as creativity, curiosity, motivation, and willingness to learn that align closely with the emerging construct of approaches toward learning in the field of early care and education. Unfortunately, at least at the organizing strand/topic level, these psychological principles have not been incorporated into states' standards.

In accordance with calls for greater attention to the domains of Social/Emotional Development and Approaches Toward Learning in early learning standards (Scott-Little, Kagan, & Frelow, 2003), there should be efforts to better understand if and how states are incorporating these developmental domains into specific indicators throughout K-12 standards frameworks and, as necessary, efforts to expand and strengthen the focus on these foundational skills as states revise their standards frameworks.

Horizontal Alignment of Standards, Curriculum, and Assessments

Horizontal alignment refers to the alignment of standards, curriculum, and assessment within a given age cohort (Kagan, Carroll, Comer, & Scott-Little, in press; Kagan & Kauerz, in press; Kauerz, 2006). For example, horizontal alignment exists at the kindergarten level if the standards, curriculum, and assessments experienced by kindergarten children are aligned – the curriculum is based on the standards, the assessments measure what was delivered via the curriculum, the standards reflect what is expected that children can learn and these expectations can be assessed reliably and appropriately. Within this context, the content of state standards has important implications for student achievement and classroom practices (Wixson & Dutro, 1999).

Horizontal alignment—at least of standards and assessments—in elementary and secondary schools is already required by Title I of *No Child Left Behind*. According to requirements specified in the act, state education assessment systems must measure and be aligned with the content and performance standards developed or adopted by the state ("Title I -- Improving the academic achievement of the disadvantaged", 2002). These requirements neglect the important component of curriculum in horizontal alignment, but provide a preliminary horizontal alignment framework for K-12 education. The research for this paper was not deep enough to understand the degree to which states' standards and assessments are horizontally aligned. In all likelihood, in-depth interviews with state assessment directors, as well as analysis of actual assessment instruments and processes, would be necessary to better understand how K-2 standards and assessments are horizontally aligned. An equally important additional effort would be to establish a means for identifying predominant curricula in each state and instituting methods for assessing its alignment with state standards and assessments.

P-3 Vertical Alignment

A central concept of P-3 education is that social and pedagogical experiences from early childhood education through 3rd grade are vertically aligned across grade levels and aligned with the learning experiences research indicates children require based on their developmental capabilities (Kagan, Carroll, Comer, & Scott-Little, in press; Kauerz, 2006). Vertical alignment refers to the notion that concepts and experiences build on each other; skill begets skill (Heckman & Masterov, 2004). Vertical alignment is based on the premise that continuity of learning across age levels is essential for optimum child development. For full vertical alignment, there needs to be greater effort to ensure that states' early learning standards align with their K-12 standards in core content areas such as reading, math, science, and social studies. Vertical alignment, however, is not a one-way street; it cannot be accomplished only by extending downward the academic expectations of K-12 onto early childhood education. Equally important, states that have early learning standards in physical/motor, social and emotional development, and approaches toward learning should extend these learning expectations upward to the early elementary grades (if not the entire K-12 continuum).

Much like the challenges presented by the earlier discussion of fragmentation, based on the analysis conducted for this paper, it is difficult to determine fully and comprehensively the

degree to which states' K-2 standards are vertically aligned *upward* to 3rd grade standards (and beyond) or *downward* to pre-kindergarten standards for 4-year olds (and below).

CONCLUSION

This paper, while primarily intended to provide a descriptive overview of states' standards and assessments in kindergarten, 1st, and 2nd grades has perhaps generated more questions than answers. These grade levels are clearly left out (maybe rightfully so) from the now-universal push to assess all children, based on rigorous standards in core subject areas, in 3rd grade and beyond. These grade levels, though, are also clearly left out of (maybe rightfully so) from the nearly-universal commitment in the field of early care and education to support young children across all five domains of development and to develop comprehensive and appropriate *systems* of assessment (Scott-Little, Kagan, & Clifford, 2003). At the same time, this paper highlights that existing state standards for kindergarten through 2nd grade do not reflect, at least on paper, a widespread belief that K-12 education is focused unilaterally and exclusively on reading and math (Center on Education Policy, 2006; Dillon, 2006). Indeed, many states have standards that reflect a well-rounded, though perhaps not yet fully comprehensive, approach to educating young children. Building on the strengths that exist in these early grades is both a challenge and an opportunity for researchers, educators, and policymakers today.

K-2 Content Standards, by State
Grade-Level Framework and NEGP Domains Addressed

State	K-2 Standards Framework	Language/Communication	Cognition and General Knowledge				Physical Well-Being and Motor Skills		Social and Emotional	Approaches to Learning	Other
			Math	Science	Social Studies	Art	Physical Education	Health Education			
Alabama	Grade-Specific	X	X	X	X	X	X	X	O		Technology*
Alaska	Age 5-7 Cluster	X*	X*								
Arizona	Grade-Specific	X	X	X	X	X	X	X	O		Technology; Foreign and Native Languages
Arkansas	Grade-Specific and K-4 Cluster	X	X	X	X*	X*	X	X			Foreign Language*
California	Grade-Specific	X	X	X	X	X					
Colorado	K-4 Cluster	X*	X*	X*	X*	X*	X*				Foreign Language*
Connecticut	K-4 Cluster	X*	X*	X*	X*	X*	X*	X*			Learning Resources and Information Technology*; Technology Education*; World Languages*
Delaware	Grade-Specific and Multi-Grade Cluster	X*	X*	X*	X	X	X	X*	O*		Foreign Language*
Florida	Grade-Specific and PK-2 Cluster	X	X	X	X	X*	X*	X*			Foreign Language*
Georgia	Grade-Specific	X	X	X	X						
Hawaii	Grade-Specific and K-2 Cluster	X	X	X	X	X	X*	X*			Career and Technical Education; World Languages

K-2 Content Standards, by State
Grade-Level Framework and NEGP Domains Addressed

State	K-2 Standards Framework	Language/Communication	Cognition and General Knowledge				Physical Well-Being and Motor Skills		Social and Emotional	Approaches to Learning	Other
			Math	Science	Social Studies	Art	Physical Education	Health Education			
Idaho	Grade-Specific and K-3 Cluster	X	X	X	X	X*	X	X	O		
Illinois	Early Elementary Cluster	X*	X*	X*	X*	X*	X*				Foreign Language*
Indiana	Grade-Specific	X	X	X	X	X	X	X	O		
Iowa	None										
Kansas	Grade-Specific and Multi-Grade Clusters	X	X	X*	X		X*				Library Media*
Kentucky	None										
Louisiana	Grade-Specific and Multi-Grade Clusters	X	X	X	X	X*	X*	X*	O*		
Maine	PK-2 Cluster	X*	X*	X*	X*	X*	X*	X*			Career Preparation*; Modern and Classical Languages*
Maryland	Grade-Specific and PK-2 Cluster	X	X	X	X	X	X	X			English Language Proficiency*
Massachusetts	None										
Michigan	Grade-Specific	X	X								
Minnesota	Grade-Specific and K-3	X	X	X	X*	X*					

K-2 Content Standards, by State
Grade-Level Framework and NEGP Domains Addressed

State	K-2 Standards Framework	Language/Communication	Cognition and General Knowledge				Physical Well-Being and Motor Skills		Social and Emotional	Approaches to Learning	Other
			Math	Science	Social Studies	Art	Physical Education	Health Education			
	Cluster										
Mississippi	Grade-Specific	X	X	X	X	X	X				
Missouri	Grade-Specific	X	X	X	X						
Montana	None										
Nebraska	K-1 Cluster and Grade 2-4 Cluster	X*	X*	X*	X*						
Nevada	Grade-Specific and K-2 Cluster	X	X	X*	X		X'	X'	O'	O	Information Literacy
New Hampshire	Grade-Specific and K-2 Cluster	X	X	X*	X*						
New Jersey	Grade-Specific and K-2 Cluster	X	X*	X*	X*	X*	X*	X*			World Languages*
New Mexico	Grade-Specific and K-4 Cluster	X	X	X	X	X*	X*	X*	O*		Career Readiness*; Modern, Classical, and Native Languages*
New York	None										

K-2 Content Standards, by State
Grade-Level Framework and NEGP Domains Addressed

State	K-2 Standards Framework	Language/Communication	Cognition and General Knowledge				Physical Well-Being and Motor Skills		Social and Emotional	Approaches to Learning	Other
			Math	Science	Social Studies	Art	Physical Education	Health Education			
North Carolina	Grade-Specific and Multi-Grade Clusters	X	X	X	X	X		X			Comprehensive School Counseling*; Computer/Technology Skills*; Information Skills; Modern Foreign Languages; English Language Development
North Dakota	Grade-Specific and K-4 Cluster	X	X	X	X*	X*	X*	X*			Library/Technology Literacy*
Ohio	Multi-Grade Clusters	X	X	X	X	X					Foreign Language*; Technology*
Oklahoma	Grade-Specific and Multi-Grade Clusters	X	X	X	X	X	X	X*	X [∞]	X [∞]	World Languages*
Oregon	Grade-Specific and K-3 Cluster	X	X	X	X			X*			
Pennsylvania	Multi-Grade Clusters	X	X								
Rhode Island	Grade-Specific and K-2 Cluster	X	X	X*							
South Carolina	Grade-Specific and Multi-Grade Clusters	X	X	X	X	X*	X*		O*		

K-2 Content Standards, by State
Grade-Level Framework and NEGP Domains Addressed

State	K-2 Standards Framework	Language/Communication	Cognition and General Knowledge				Physical Well-Being and Motor Skills		Social and Emotional	Approaches to Learning	Other
			Math	Science	Social Studies	Art	Physical Education	Health Education			
South Dakota	Grade-Specific and Multi-Grade Clusters	X	X	X	X	X*	X*	X*	O*		
Tennessee	Grade-Specific and K-2 Cluster	X	X	X	X	X	X*	X*	O*		Computer Technology Literacy and Usage
Texas	Grade-Specific and Multi-Grade Clusters	X	X	X	X	X	X	X	O		Languages Other Than English*; Technology Applications*
Utah	Grade-Specific and K-2 Cluster	X	X	X	X	X	X	X	O*	O*	Intended Learning Outcomes*
Vermont	Grade-Specific and Multi-Grade Clusters	X	X	X	X*	X*	X	X	O*		Information Technology*; Non-Native Languages*
Virginia	Grade-Specific and K-2 Cluster	X	X	X	X	X	X	X			Computer/Technology*
Washington	Grade-Specific	X	X	X							
West Virginia	Grade-Specific	X	X	X	X	X	X	X	O		Technology
Wisconsin	None										
Wyoming	Grade-Specific and Multi-Grade Clusters	X	X	X*	X*	X*	X*	X*	O*		Foreign Language*

Mandatory Statewide K-2 Assessments

State	Kindergarten Assessment	1 st Grade Assessment	2 nd Grade Assessment	Notes
Alabama	None	None	None	
Alaska	None	None	None	
Arizona	None	None	Terra Nova in Reading/Language Arts; Mathematics	Terra Nova is Norm-Referenced
Arkansas	Iowa Early Learning Inventory (beginning of school year) Iowa Test of Basic Skills (ITBS) in Reading Comprehension and Math Problem-Solving	Iowa Test of Basic Skills (ITBS) in Reading Comprehension and Math Problem-Solving	Iowa Test of Basic Skills (ITBS) in Reading Comprehension and Math Problem-Solving	ITBS is Norm-Referenced
California	None	None	California Standards Test in English/Language Arts; Mathematics	
Colorado	None	None	None	
Connecticut	None	None	None	
Delaware	None	None	Delaware Student Testing Program (DSTP) in Reading; Mathematics	
Florida	Florida School Readiness Uniform Screening System (SRUSS)	None	None	
Georgia	Georgia Kindergarten Assessment Program-Revised (G-KAP)	Competency Test in Reading; Language Arts; Mathematics	Competency Test in Reading; Language Arts; Mathematics	Competency Tests in Grades 1 and 2 are Criterion-Referenced
Hawaii	None	None	None	
Idaho	Idaho Reading Indicator	Idaho Reading Indicator	Idaho Reading Indicator Idaho Standards Achievement Test (ISAT) in Reading; Language; Mathematics	Idaho Reading Indicator administered three times/year (a 10-minute assessment) ISAT administered at beginning and end of school year
Illinois	None	None	None	
Indiana	None	None	None	
Iowa	None	None	None	
Kansas	None	None	None	
Kentucky	None	None	None	
Louisiana	None	None	None	
Maine	None	None	None	
Maryland	None	None	None	
Massachusetts	None	None	None	

Mandatory Statewide K-2 Assessments

State	Kindergarten Assessment	1 st Grade Assessment	2 nd Grade Assessment	Notes
Michigan	None	None	None	
Minnesota	None	None	None	
Mississippi	None	None	Mississippi Curriculum Test in Reading; Language; Mathematics	
Missouri	None	None	None	
Montana	None	None	None	
Nebraska	None	None	None	
Nevada	None	None	None	
New Hampshire	None	None	None	
New Jersey	None	None	None	
New Mexico	None	None	None	
New York	None	None	None	
North Carolina	None	None	None	
North Dakota	None	None	None	
Ohio	None	None	None	
Oklahoma	None	None	None	
Oregon	None	None	None	
Pennsylvania	None	None	None	
Rhode Island	None	None	None	
South Carolina	South Carolina Readiness Assessment (SCRA)	South Carolina Readiness Assessment (SCRA)	None	SCRA is based on teacher observation and documentation.
South Dakota	None	None	None	
Tennessee	None	None	None	There are no mandatory statewide tests, but an optional K-2 Achievement Test is in place.
Texas	None	None	None	
Utah	None	Test in Language Arts; Mathematics	Test in Language Arts; Mathematics	Test is Criterion-Referenced
Vermont	None	None	Vermont Developmental Reading Assessment	
Virginia	None	None	None	
Washington	None	None	Oral Reading Assessment	
West Virginia	None	None	None	
Wisconsin	None	None	None	
Wyoming	None	None	None	

References

- Alexander, K. L., Entwisle, D. R., & Kabbani, N. (2003). Grade retention, social promotion, and "third way" alternatives. In A. J. Reynolds, M. C. Wang & H. J. Walberg (Eds.), *Early childhood programs for a new century* (pp. 197-238). Washington, DC: CWLA Press.
- Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2001). Schools, achievement, and inequality: A seasonal perspective. *Educational & Policy Analysis*, 32, 171-191.
- Carter, P. (2005). The modern multi-age classroom. *Educational Leadership*, 63(1), 54-58.
- Cavell, L., Blank, R. K., Toye, C., & Williams, A. (2005). *Key state education policies on PK-12 education: 2004*. Washington, DC: Council of Chief State School Officers.
- Center on Education Policy. (2006). *From the capital to the classroom: Year 4 of the No Child Left Behind Act*. Washington, DC: Center on Education Policy.
- Cooper, H. (2003). Summer learning loss: The problem and some solutions. *ERIC Digest, ERIC Clearinghouse on Elementary and Early Childhood Education* (ED475391 2003-05-00). Retrieved December 2, 2005.
- Council of Chief State School Officers. (2006). Comprehensive assessment systems for ESEA Title I 2005-2006. from http://www.ccsso.org/Projects/SCASS/Projects/Comprehensive_Assessment_Systems_for_ESEA_Title_I/
- Dillon, S. (2006, March 26). Schools cut back subjects to push reading and math. *The New York Times*.
- Eccles, J. S., & Wigfield, A. (2000). Schooling's influence on motivation and achievement. In S. Danziger & J. Waldfogel (Eds.), *Securing the future: Investing in children from birth to college* (pp. 153- 181). New York: Russell Sage Foundation.
- Education Commission of the States. (2006). State reading, math, and science assessments aligned to No Child Left Behind. *ECS StateNotes*, from <http://www.ecs.org/clearinghouse/68/35/6835.pdf>
- Heckman, J., & Masterov, D. (2004). *The productivity argument for investing in young children* (No. 5 Working paper). Washington, DC: Invest in Kids Working Group, Committee for Economic Development.
- Kagan, S. L., Carroll, J., Comer, J., & Scott-Little, C. (in press). Transition and alignment: The missing link in early childhood education. *Young Children*.
- Kagan, S. L., & Kauerz, K. (in press). Reaching for the whole: Integration and alignment in early education policy. In R. C. Pianta (Ed.), *Transitions to kindergarten*. New York: Palgrave Macmillan.
- Kagan, S. L., Moore, E., & Bredekamp, S. (Eds.). (1995). *Reconsidering children's early development and learning: Toward shared beliefs and vocabulary*. Washington, DC: National Education Goals Panel.
- Kauerz, K. (2006). *Ladders of learning: Fighting fadeout by advancing PK-3 alignment*. Washington, DC: New America Foundation.
- Kendall, J. S. (2001). *A technical guide for revising or developing standards and benchmarks*. Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.
- Kendall, J. S., & Marzano, R. J. (2000). *Content knowledge: A compendium of standards and benchmarks for K-12 education* (3rd ed.). Reston, VA: Association for Supervision and Curriculum Development.

- McCombs, B. L. (2003). A framework for the redesign of K-12 education in the context of current educational reform. *Theory Into Practice*, 42(2), 93-101.
- National Research Council. (1998). *Preventing Reading Difficulties in Young Children*. Committee on the Prevention of Reading Difficulties in Young Children, C.E. Snow, M.S. Burns, and P. Griffin, eds. Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- National Research Council and Institute of Medicine. (2000). *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Committee on Integrating the Science of Early Childhood Development, J.P. Shonkoff and D.A. Phillips, eds. Board on Children, Youth, and Families. Washington, DC: National Academy Press.
- Schenck, E. A., Walker, D. R., Nagel, C. R., & Webb, L. C. (2005). *Analysis of state K-3 reading standards and assessments: Final report*. Washington, DC: U.S. Department of Education.
- Scott-Little, C., Kagan, S. L., & Clifford, R. M. (2003). *Assessing the state of state assessments: Perspectives on assessing young children*. Greensboro, NC: SERVE.
- Scott-Little, C., Kagan, S. L., & Frelow, V. S. (2003). *Standards for preschool children's learning and development: Who has standards, how were they developed, and how are they used? Executive summary*. Greensboro, NC: SERVE.
- Scott-Little, C., Kagan, S. L., & Frelow, V. S. (2005). *Inside the content: The breadth and depth of early learning standards. Creating the conditions for success with early learning standards*. Greensboro, NC: University of North Carolina, SERVE.
- Title I -- Improving the academic achievement of the disadvantaged. (2002). In U. S. D. o. E. Office of Elementary and Secondary Education (Ed.) (Vol. Part 200, Final rule, Code of Federal Regulations, Title 34, Chapter II): Office of Elementary and Secondary Education; U.S. Department of Education.
- Trawick-Smith, J. (2003). *Early childhood development: A multicultural perspective* (3rd ed.). Upper Saddle River, NJ: Merrill Prentice Hall.
- Tyack, D., & Cuban, L. (1995). *Tinkering toward utopia: A century of public school reform*. Cambridge, MA: Harvard University Press.
- Winship, S., Hollister, M., Horwich, J., Sharkey, P., & Wimer, C. (2005). *Promoting educational achievement and opportunity through summer scholarships*. Washington, DC: Center for American Progress and New Vision: An Institute for Policy and Progress.
- Wixson, K. K., & Dutro, E. (1999). Standards for primary-grade reading: An analysis of state frameworks. *The Elementary School Journal*, 100(2), 89-110.