Utah STATE OFFICE of Education

Leadership...Service...Accountability

MEMORANDUM

TO: Members, Utah State Board of Education

FROM: Diana Suddreth
Director, Teaching and Learning

DATE: May 12-13, 2016

DISCUSSION: Kindergarten Data Points

Background:
During the December 2015 Board of Education Meeting, the Board asked staff to take no further action on the kindergarten assessment. The Board directed staff to determine which kindergarten data points could be collected in lieu of implementing a statewide kindergarten assessment. As of late, a number of local stakeholders (e.g, Intergenerational Poverty Commission, Promise Partnerships, Governor's Office) have requested additional information on this data collection.

Collecting common data points would allow local education agencies (LEAs) to understand the impact and effectiveness of their kindergarten and enhanced kindergarten programs. It would allow the Board and LEAs to identify the LEAs that are having the greatest success so that the instructional practice and interventions could be replicated. Effective instruction in the early years has been proven to have a significant impact on achievement in school and careers.

Board Strategic Plan:
This item supports the Board's Strategic Plan Imperative II: Quality Learning.

Anticipated Action:
The Board may provide additional input into the determination of kindergarten data points that could be collected at the LEA level and shared with the USOE.

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Kindergarten Data Points

Prepared by the
Utah State Office of Education

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Kindergarten Common Data Points

Teaching and Learning staff and Assessment and Accountability staff scoured the research on effective kindergarten screening indicators to identify data points that would be most effective for indicating kindergarten readiness and academic risk. Through this analysis, the following data points are most validated by research in their effectiveness for identifying students who are demonstrating risk factors for future scholastic achievement. The assessments are brief, predictive, timed measures. The extensive body of research on this topic indicates that there are a few key measures that are most appropriate:

Literacy
Skill Area: Phonological Awareness
· ***What is it?*** Phonological awareness is an individual's ability to distinguish the sounds heard in spoken words. For example, if a teacher says '"cat", the student would be able to identify the sounds in the word /c/ /a/ /t/.
· **How is it assessed?** The most commonly used and validated measures for assessing phonological awareness are first sound fluency and phoneme segmentation fluency. First sound fluency asks the student to identify the first sound they hear in a word (ex. the word is dog, and the student says /d/. Phoneme segmentation fluency asks the student to identify all the sounds in the word (ex. the word is mop and the student says /m/ /o/ /p/).
· **How can this information be used for instruction?** Teachers can use this information to determine students who are presenting early indicators of a likelihood to experience difficulty in learning to read or dyslexia. Having such information can indicate to the teacher a need for early intervention which can be provided immediately to reduce the student's risk.
Skill Area: Rapid Letter Naming
· **What is it?** Rapid letter naming is an individual student's ability to automatically retrieve the names of letters. For example, the letter 'c' might be displayed, and the student would name the letter.
· **How is it assessed?** A page of mixed capital and lower case letters is placed in front of the student and the student is asked to name the letters. The measure is conducted in a one-minute timing.
· **How can this information be used for instruction?** Teachers can use this information to identify students who may be at risk for reading difficulty. Instruction would not focus on letter names, but letter knowledge is well-known in being predictive of future reading success.
Skill Area: Alphabetic Principal
· **What is it?** The alphabetic principal is an individual's ability to match sound to print. So when a student sees the word "bug", they are then able to use the sounds /b/ /u//g/ to sound out the word and blend those sounds together to read the word. Over time this skill becomes automatic and the need to blend words first in order to read them becomes no longer necessary.
· **How is it assessed?** The alphabetic principal is assessed by providing students with unknown words and asking them to decode/read the words. This would be most useful to be assessed starting at mid-year in kindergarten once students have had exposure to letters, sounds, and blending/decoding instruction.
· **How can this information be used for instruction?** Teachers can use this information to see which students need additional instruction in their ability to match sound to print. Also, this can inform teachers on the phonological awareness and phonics skills students may need more instruction.

Assessing early numeracy has the greatest predictive power of future academic success out of any area of kindergarten readiness. As such, including data points in early numeracy as part of a comprehensive kindergarten readiness analysis is essential. Important central features to early numeracy involve a student's "fluidity and flexibility with numbers, the sense of what numbers mean, and an ability to perform mental mathematics and to look at the world and make comparisons" (Clarke, Baker, Smolkowski, & Chard, 2008, p. 47).

Numeracy
Skill Area: Number Identification
· ***What is it?*** Number identification is a student's ability to recognize a numerals and orally name them (ex. student is shown the digit 4 and says "four").
· **How is it assessed?** Students are presented with a page of numerals and given one-minute to identify as many of the numerals as they can.
· **How can this information be used for instruction?** Teachers can use this information to determine which students may benefit from intensified instruction or indication that changes to instruction may be warranted to reduce a student's level of risk.
Skill Area: Quantity Discrimination
· **What is it?** Quantity discrimination assesses a student's ability to discriminate between two quantities to determine which one is greater.
· **How is it assessed?** Generally, students are shown an image (like the one above) and asked to determine which one is more.
· **How can this information be used for instruction?** Teachers can use this information to identify students who may be at risk. Instruction would suggest a focus on developing a student's ability to subitize and further development of their understanding of cardinality. A student who has cardinality understands the meaning of counting and makes the connection between the set of objects they count and the quantity of objects (ex. a student counts four objects by saying "1, 2, 3, 4" and when asked how many object there are says "four".
Skill Area: Counting Sequence
· **What is it?** There are three types of counting: rote, one-to-one correspondence (cardinality), and ordinal. o *Rote counting* is a student's ability to recite the counting sequence from 1 to 10 or beyond. o *One-to-one correspondence* is a student's ability to use the counting sequence and match it to a set of objects to determine the quantity of objects present o *Ordinal counting* is related to determining an objects place in relation to the other objects (ex. 1st, 2nd, 3rd)
· **How is it assessed?** Students can be asked to: o orally count to 20 o arranged number cards in a line to count and then determine what number comes before or after a specific number o name written numerals and pair them with concrete objects o respond to the teacher saying a number and the student says the next number in the counting sequence (ex. teacher says 6, student would say 7)
· **How can this information be used for instruction?** Teachers can use this information to see which students need additional instruction in their ability to count, demonstrate one-to-one correspondence, and cardinality. Also, this can inform teachers on the developmental learning trajectory the student is currently on and suggest to the teacher where to go next in instruction.