

What's in Your B8 Measurement Toolbox?

Batya Elbaum, Ph.D.
National Center for Special Education
Accountability Monitoring
OSEP Overlapping Data Managers
Meeting, Arlington, VA, June 2008

Part B State Performance Plan Indicator #8

“Percent of parents with a child receiving special education services who report that schools facilitated parent involvement as a means of improving services and results for children with disabilities.”

NCSEAM

- National Center for Special Education Accountability Monitoring
- Developed measurement scales for states' use in addressing C4 and B8
- Applied the same type of measurement framework used in the development and validation of assessment tools such as the SAT, GRE, LSAT, MCAT, psycho-educational assessments, developmental assessments, and statewide achievement tests in reading and mathematics

Session topics

- B8 data quality: Reliability and validity
- Local reporting
- Data considerations related to implementing improvement activities

Tools in the toolbox (I)

- Explanations that your grandmother can understand: simple language and good visual displays

Tools in the toolbox (II)

- Statistical tools that you understand: reliability estimates, confidence intervals, statistical tests

Tools in the toolbox (III)

- Estimation tools
 - Target calculator
 - Rubric for estimating the likelihood of impact of particular improvement activities on the indicator

Tools in the toolbox (IV)

- Comparisons that can tell you which improvement activities are having an impact on the indicator

What is the “NCSEAM Survey?”

- What most people mean when they refer to the “NCSEAM Survey” is the School Efforts to Partner with Parents Scale (SEPPS).
- NCSEAM recommends that states use a minimum of 25 validated items.
- For each item, parents choose one of 6 responses ranging from “very strongly disagree” to “very strongly agree.”

What does the SEPPS measure?

- It measures how well schools are doing in reaching out to parents of students in special education and making sure that they are involved in their children's education in ways that improve the services their children receive and help the children do well in school and in life after school.

You mean this is something you can actually measure?

- Yes. When you analyze a parent's responses to the SEPPS scale, what you get is a measure, from the parent's perspective, of how well the school is doing in facilitating that parent's involvement.

What do we do with the individual measures?

- For purposes of the SPP, we put them all together. One wouldn't judge a school or a school system based on the ratings of only one or two parents; but when lots of parents respond to the survey, you can put all their individual measures together and the average of all the measures gives you a good picture of how well schools are doing in facilitating parent involvement.

What do the numbers mean?

- The numbers we use to measure things are fairly arbitrary. NCSEAM picked a scale that is similar to the SAT scale. Interpretable measures go from 200 to 800.
- Individual measures are expected to vary. Some will be very low (200-300), some will be very high (700-800), and most will be in somewhere in between.

What measure is “high enough?”

- A national stakeholder group convened by NCSEAM reached the consensus that the minimum measure, for purposes of Indicator B8, should be 600. Using this standard, the percent reported on the indicator would be the percent of parents whose survey responses yielded a SEPPS measure of 600 or above.

What does a school have to do, as reported by parents, to get a measure of 600 on the SEPPS?

- Parents must express confident agreement that
 - *Teachers are available to speak with them.*
 - *Teachers and administrators encourage them to participate in the decision-making process.*
 - *Teachers and administrators seek out parent input.*

What does a school have to do, as reported by parents, to get a measure of 600 on the SEPPS?

- Parents must express confident agreement that the school ...
 - *communicates regularly with parents regarding their child's progress on IEP goals.*
 - *gives parents the help they may need to play an active role in their child's education.*
 - *explains what options parents have if they disagree with a decision of the school.*

Validity

- Validity refers to the extent to which something “measures what it is supposed to measure.”
- Does the content of all the items relate to what we want to measure?
- How well do the items cover the full range of content that relates to what we want to measure?

Reliability

- Reliability of individual measurements
- Reliability of the estimate of a population percentage

Reliability of individual measurements

- To what extent can we be confident that the same instrument or procedure, applied to the same person, will yield the same result if the measurement were repeated on two occasions very close in time, or if the measurement were taken by different individuals?

Quantifying the reliability of individual measurements

- How reliable are individual measurements?
- All measurements contain a certain amount of error (unreliability) because no measurement tool is perfect (measurement error/tool) and no user uses a tool perfectly each time (measurement error/user).

Quantifying the reliability of individual measurements

- Statistics used to express measurement reliability range from 0.00 (no consistency) to 1.00 (perfect consistency).
- If the reliability is high, for example, .90 or above, the measurement has little error and is highly reliable.

Reliability is not a property of an instrument

- Reliability is a function of the interaction of the instrument and the user
- Therefore, reliability estimates reported by the developers of an instrument may or may not be replicated by other users
- Best practice is to report the reliability of the instrument based on each group of persons measured

Reliability of the estimate of a population percentage

- To what extent can we be confident that an estimate of a population percentage based on one sample will yield the same result as an estimate based on a different sample drawn from the same population?

Quantifying the reliability of an estimate of a population percentage (“Percent of parents who report that ...”)

- How reliable is an estimate of a population percentage, based on a sample percentage?
- All estimates based on a sample contain a certain amount of error because they do not have information from the whole population (sampling error).

Quantifying the reliability of an estimate of a population percentage (“Percent of parents who report that ...”)

- Statistics used to express the reliability of an estimate of a population percentage focus on the amount of unreliability, or error, in the estimate. Two examples are confidence intervals and margins of error.
- If the margin of error is small, for example, $\pm 1\%$, the estimate has little error and is highly reliable.

Reporting at the LEA level

- What does OSEP require?
- What do states want to share with their LEAs and the public?
- What makes sense, given the data?

Estimation of statistically meaningful improvement

- The target calculator can be found at:
www.accountabilitydata.org
- Click on “NCSEAM Parent/Family Involvement”
- Click on “Calculator”
- Free Java applet required

Estimation of the impact of activities on improvement

- Key determinants of impact:
 - How potent is the activity?
 - How systematic is implementation of the activity?
 - How consistent is implementation of the activity?

Improvement estimation rubric

Comparisons that can tell you which improvement activities are having an impact on the indicator

- New practice vs. No new practice
- New practice, high dosage vs. new practice, low dosage
- Practice A vs. Practice B

Further information

- www.accountabilitydata.org
- elbaum@miami.edu

NCSEAM Instrument Development

Instrument Development - 1

- Reviewed the research literature and existing surveys and assessment tools
- Conducted focus group interviews with parents and other stakeholders in 6 states (CA, FL, KY, MS, NH, NM)
- Asked for additional review by
 - PACER
 - parent organizations
 - national experts in early childhood and early intervention

Instrument Development - 2

- Items suggested by stakeholders were put into survey form and administered to 1760 families participating in early intervention and 2500 families of children 3-21 receiving special education services in 8 states.
- Each family responded to approximately 160 pilot items.

Instrument Development - 3

- Parents' responses were analyzed to determine:
 - How the items fit together
 - Where each item falls on the measurement ruler

Measurement Framework

Simple test of math skills

- Item . $\sqrt{578}$
- Item . $1 + 1$
- Item . 4×56
- Item . $(x^2 + 4)(x - 5) = 52$
- Item . $374 \div 19$

Item Order

- Item 1. $1 + 1$
- Item 2. 4×56
- Item 3. $374 \div 19$
- Item 4. $\sqrt{578}$
- Item 5. $(x^2 + 4)(x - 5) = 52$

Item Spacing

• 1. 2. 3. 4. 5.

• 1. 2. 3. 4. 5.

Standards

Use of standards

- Policy and practice decisions are often based on standards, that is, the specification of a measure that is “adequate,” “good,” or “good enough” for some purpose.
- The standard is based on either research or consensus.
- If the measure we are using is a continuous scale, the point at which we set the standard divides the measures into two groups: “at or above,” and “below.”

Examples of standards

- Total cholesterol level of 200
- 55 mph speed limit
- Combined verbal and math SAT scores of 1200
- IQ score of 70 (-2 SD)
- Standard score of 78 (-1.5 SD) on a developmental assessment

Order of agreeability of school efforts (SEPPS) items

Items parents agree with most

- Teachers are available to speak with me.
- Teachers treat me as a team member.
- Written information I receive is written in an understandable way.

Items parents agree with *slightly less*

- All of my concerns and recommendations were documented on the IEP.
- I am considered an equal partner with teachers and other professionals in planning my child's program.

Items parents agree with *considerably less*

- The school explains what options parents have if they disagree with a decision of the school.
- The school gives me choices with regard to services that address my child's needs.

Items parents agree with *a lot less*

- I was offered special assistance (such as child care) so that I could participate in the IEP meeting.
- I have been asked for my opinion about how well special education services are meeting my child's needs.

Items parents agree with *least*

- The school gives parents the help they may need to play an active role in their child's education.
- The school offers parents training about special education issues.