Critical Issues for Examining Special Education Outcomes in Status and Growth Accountability Models

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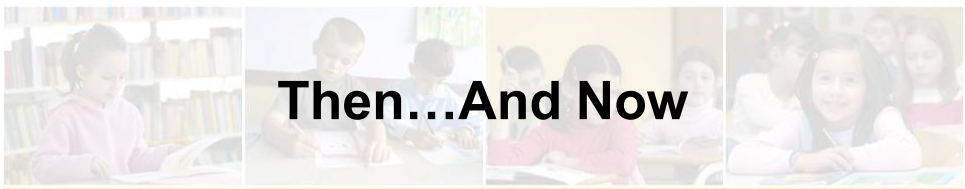

Then…And Now

- Then
  - 40-50% of students with disabilities (SWDs) excluded from national and state assessments in mid 1990s
  - IDEA 1997 requires inclusion of SWDs in state testing programs
- Now
  - SWDs subgroup is the most frequent reason schools fail to make AYP (Eckes & Swando, 2009; NYT, 2006).
  - Koretz and Hamilton (2006) identify inclusion of SWDs in testing for K-12 accountability as one of most important changes in testing since the 1980's

Looking Forward…

- Build on gains in inclusion of SWDs in standards-based reform
- Move toward assessments and accountability models that better support the types of inferences about SWDs and school's functioning relative to SWDs that are central to improving student outcomes for this population
- Can we produce data about SWDs that are less "fuzzy?" (Center on Education Policy, 2009)

SWDs Present Special Difficulties for Student- and School-Level Inferences

- Small cohort sizes, even when aggregated across grades
- Group takes two or three different assessments, each with own definition of proficiency
- The extent to which accommodations introduce/reduce construct irrelevant variance is unknown
- More scores at the lower end of scale result in more error in scores

SWD Difficulties Multiply When Assessing Growth

- Identification as a SWD is not stable from year-to-year (Ysseldyke & Bielinski, 2002)
  - *Export* the success stories to general ed
  - *Import* struggling students from general ed
- Accommodations, use or nonuse, and which ones used can vary by year for a student
- Students can vary in which assessment they take across years

Cornerstone Study NCAASE

- Basic questions about the population of students with disabilities and achievement have yet to be answered
  - How stable is identification/exceptionality category?
  - What are special challenges in modeling growth (e.g., more missing data, mobility)
  - School-level subgroup characteristics?
- This information needed to form the basis for assessment and accountability models that include SWDs, but better capture SWD achievement and growth, and schools' performance with this subgroup

Longitudinal Dataset

- NC Education Research Data Center houses state's assessment data since its inception in 1993.
- We will build longitudinal database consisting of 5 cohorts, grades 3-8, with reading and mathematics End of Grade test scores
- Approximately 100,000 students per cohort
- Student examples here make use of cohort that entered 3rd grade for first time in 2001 (n = 103,123)

School-level Dataset

- Plans are to build school-level datasets that encompass multiple years of the longitudinal dataset
- School examples here use two school years selected such that student-level data do not overlap between years (1999 and 2002)
- Allow examination of stability of school results using status model (percent proficient) and NC's present growth model with no overlap in students between years

Special Education Prevalence Across 5 Years (Gr 3-8)

Group	Percent
Always in special education	8.8
Spec ed, but in general ed at least one year	10.4
Ever in special education	(19.2)
Never in special education	80.8
Cross sectional prevalence (Mean percent by year)	14.3

Entrance and Exit Patterns

	Sped 01 Gr 3	Exit in 02	Enter in 02	Exit in 03	Enter in 03	Exit in 04	Enter in 04
All	14,380	1,925	2,749	1,142	1,389	906	644
Rd z Prior	-.81 (Ref)	-.19	-.88	-.33	-.88	-.46	-.83
Math z Prior	-.59 (Ref)	-.15	-.76	-.32	-.74	-.46	-.77
LD	6,377	454	1,475	463	717	478	298
Sp/Lng	2,660	1,267	541	546	186	262	43
EdMH	2,017	53	157	44	77	50	45
OHI	1,502	77	367	52	268	64	160
EBD	829	41	167	18	98	32	76
TMH	172	0	0	0	0	0	0

Stability Across Three Years

	Spec ed 3rd gr	Gen ed 3rd gr
First time in 3rd grade in 2001 (n)	14,380	88,429
In a NC school following 2 years (n, %)	12,731 88.5	79,841 94.9
Same school (%, all subsequent figures based on n of students present all 3 years)	63.7	69.4
Retained (%)	14.0	7.4
Same sped status (Y/N) across yrs (%)	76.3	95.0
Same ec category across years (%)	64.6	---
Took EOG all three yrs		
Reading (%)	69.7	98.3
Math (%)	76.3	98.4
Use/nonuse of accommodations consistent across years (%)	61.0	92.2

Status & Growth in NC

- Status: Cut scores set for proficiency by grade
- Growth: Use residual growth model with reference year used to set expectations for “Academic Change” or AC score
  - Convert all scores to grade-based z-score based on reference year mean and sd
  - Use 1-2 previous scores in subject area to estimate predicted score (multiply mean of 2 previous by .92, or single score by .82)
  - Subtract predicted from obtained score
  - Growth Metrics
    - Meeting growth, average residual gain > = 0
    - High growth, ratio of students meeting growth/to not meeting growth = 1.5

General Ed and Special Ed Subgroup Size (2002)

Group Size	General Ed N (% of schools)	Special Ed N (% of schools)	Special Ed Growth N (% of schools)
< = 10	7 (.5)	271 (20.5)	282 (21.3)
11-20	9 (.7)	386 (29.2)	412 (31.2)
21-30	13 (1.0)	340 (25.7)	324 (24.5)
31-40	16 (1.2)	183 (13.8)	177 (13.4)
41-60	52 (3.9)	117 (8.9)	102 (7.7)
61-90	100 (7.5)	120 (1.5)	20 (1.5)
91-120	161 (12.1)	5 (0.4)	5 (.4)
120+	968 (73.0)	0 (0.0)	0 (0.0)

General Ed and Special Ed: Percent Proficient in Rdg

Grade	1999		2002	
	Gen	Sped	Gen	Sped
3	82	45	84	55
4	77	37	81	51
5	82	41	90	61

General Ed and Special Ed: Mean Academic Change for Rdg

	1999		2002	
Grade	Gen	Sped	Gen	Sped
3	-.01 (.69)	-.30 (.84)	-.03 (.67)	-.19 (.78)
4	-.03 (.55)	-.12 (.66)	-.03 (.55)	-.04 (.65)
5	-.03 (.45)	.08 (.56)	.00 (.46)	.12 (.56)

Percent of Schools Making Growth and High Growth

	1999		2002	
	Growth	High Growth	Growth	High Growth
Gen ed	40%	7%	43%	5%
Sp ed	30%	15%	43%	25%

School-Level Score Characteristics

- Stability across 3 years
  - Percent proficient, general ed, *r* = .78
  - Percent proficient, special ed, *r* = .58
  - Growth, general ed, *r* = .28
  - Growth, special ed, *r* = .24
- Correlation with % free/reduced lunch
  - Percent proficient, *r's* = -.71, -.73
  - Growth = *r's*= -.22, -.25

Growth Measures for Special Education Interact with School Cohort Characteristics

- Special education Growth and High Growth at school level positively correlated with % of special education students in 5th grade (but not % of 5th grade general education students)
- High Growth negatively correlated with the number of students in special education (also occurred for general education)

Implications for Assessing Special Education Outcomes

- Challenges ahead!
- Not a stable group
- Inconsistent use of accommodations has potential to distort growth estimates
- High rate of retentions and missing scores due to varying participation in general assessment
- Growth affected by grade membership for SWDs and cohort size

Next Steps

- Continue to assemble cohorts and test out wider range of growth models
- Apply range of single year and multi-year growth models and examine characteristics of school outcomes with the different models