Variability in Reading Achievement Growth for Students with and without Disabilities: A Multilevel, Longitudinal Analysis

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Abstract

Despite the broad-based interest in estimating and explaining differences in individual growth rates, students with disabilities are often excluded from such investigations, particularly when they involve accountability testing and reporting. The current study addresses the need for studies of achievement growth that are more inclusive and representative of students with disabilities by examining growth in state reading achievement for a longitudinally matched student cohort during middle school (Grades 6-8, N = 58,960). Using two and three-level longitudinal growth models, we estimated the average growth trajectory and deviations from that growth trajectory by disability category (e.g., traumatic brain injury, autistic, hearing-impaired, learning disability). Results demonstrate relatively large differences in levels of achievement among disability categories as well as in comparison to the general education and academically gifted population, but rates of growth that were more similar across groups. Overall, results reveal heterogeneity within and between disability categories, suggesting that different conclusions regarding school performance may be drawn based on whether and which students with disabilities are included in accountability reporting.

Methods

- Data source: Accountability data from a state in the southeastern U.S.
- Analytic sample: A longitudinally matched middle school student cohort (grades 6-8, N = 58,960). Students had at least one test result in middle school and did not switch schools within state during middle school.
- Dependent variable: Vertically scaled state reading test (possible scores range from 216 to 290). Proficiency cut-scores for Grades 6, 7, and 8 were 252, 252, and 254 respectively.
- Analysis: Two- and three-level growth models were used to estimate growth trajectories and examine relationships between exceptionality classification and reading outcomes at the student and school levels.

Results

- Intra-class correlations for 3-level growth

  - Unconditional growth model
    - Initial status: 65% within school, 35% between schools
    - Growth: 63% within school, 37% between schools
  - Conditional growth (accounting for exceptionality codes)
    - Initial status: 65% within school, 35% between schools
    - Growth: 35% within school, 65% between schools

Key Findings

- Despite initial status differences, students tended to gain reading skills at a similar rate with each passing grade regardless of exceptionality classification with the exception of students with specific learning disabilities and orthopedic impairments, who gained at a somewhat faster rate (see Figure 2).
- Reading performance level and growth varied more within than between schools before exceptionality was taken into account.
- When exceptionality was taken into account, the proportion of variance between schools was much greater for growth than within schools.
- Taken together, results reveal heterogeneity within and between disability categories and between schools.

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