



The Relationship of Special Education Placement and Student Academic Outcomes

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Purpose

To determine the relationship between special education placement and the academic outcomes of students with disabilities



Introduction

- Followed single cohort of students with disabilities in Indiana from 3rd grade (2013) to 8th grade (2018).
- Used data obtained through a data share between IU and IDOE.
- After completion of our Phase 1 Inclusion Study, we decided to add additional student matching variables as well as adding school level matching variables to determine if our original findings held.





Methods

Propensity Score Matching

- Propensity matching was used to reduce the structural biases of the deliberative and intentional LRE placement for special education services process that precludes a random treatment design for investigating the research questions and test hypotheses associated with high and low inclusion.
- The inclusion research literature cites this structural bias in the placement process as an explanation for the dearth of research into the relationship between inclusion and academic outcomes (Rojoewski, Lee, and Greg, 2015)
- This methodology enables a determination of the impact of inclusion upon student state assessments by comparing the outcomes of students included in general education classrooms with students like themselves in separate special education classrooms.



Sample: Intervention and Comparison Groups

- All third grade students who completed the Indiana State Test of Educational Progress in 2013.
- Excluded students who had a primary disability code of Communication Disorder
- Generated two groups which were approximately homogeneous on variables pertaining to placement
- High Inclusion=General Education classroom for 80% more (Code 50) for the full timespan of the study
- Low Inclusion=General Education classroom for less than 80% time (Codes 51-57) for the full timespan of the study



Matching and Outcome Variables

Student Level Matching Variables:

- **3rd grade ISTEP+ math and ELA scale score**
- **Reading Scale Score (IRead)**
- **Attendance (in days)**
- **FRL status**
- **Gender**
- **Ethnicity**
- **Primary Disability**
- **Suspension and Expulsion**

School Level Matching Variables:

- **FRL percent**
- **Percent African American**
- **Percent Hispanic**
- **Percent White**
- **Percent Asian**

Outcome variables: ISTEP+ ELA and Math

The Concept of Statistical Twins

High Inclusion

Low/Mixed Inclusion

- IREAD Score = 400
- ISTEP ELA = 400
- ISTEP MATH = 400
- Days Attended = 175
- Primary Disability = Mild Cognitive



Statistical Twins



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- ISTEP ELA = 400
- ISTEP MATH = 400
- Days Attended = 175
- Primary Disability = Mild Cognitive



Significantly Higher

ISTEP ELA/Math Scores

Lower

ISTEP ELA/Math Scores



Data Analysis

- Comparative analysis of academic outcomes were conducted for students designated as high inclusion and low inclusion. Low inclusion is the treatment.
- **High Inclusion:** In the general education classroom 80% or more for all years of study
- **Low Inclusion:** In the general education classroom less than 80% or more for all years of study
- **Primary Disabilities in study:** Any student in Indiana who took the state assessment and did not take the alternate assessment. This included students with a Cognitive Disability, Learning Disability, ASD, Emotional Disability, Other Health Impairment, Blind/Low Vision, Deaf/Hard of Hearing



Results

- Students with placements classified as “high inclusion” scored better on ELA and Math for all analyses.
- The findings are significant in 10 of the 10 analysis.
- The results confirmed out Phase 1 results.



N: Intervention/Control
 Matching 1:1 Caliper=0.1

		Matched on IREAD ,corresponding 2013 ISTEP scores, and PD Codes; Treatment = Low Inclusion All PD Codes ATET	Matched on IREAD, corresponding 2013 ISTEP scores, and PD Codes Treatment = High Inclusion All PD Codes ATET
ELA	2014	-8.51 ***	6.19 **
	2015	-7.89 ***	7.94 ***
	2016	-9.32 ***	11.57 ***
	2017	-11.3 ***	11.4 ***
	2018	-22.27 ***	20.89 ***
	N	941/1882	1695/3390
Math	2014	-9.27 **	8.55 **
	2015	-6.59 **	7.96 ***
	2016	-8.85 ***	8.34 ***
	2017	-6.42 **	8.96 ***
	2018	-14.48 ***	19.54 ***
	N	1009/2018	1748/3496

Conclusions and Implications

- There are currently over 340 schools in Indiana who are designated for Targeted or Comprehensive School improvement due to the poor achievement of students with disabilities. As schools and districts make decisions on how best to improve their outcomes for students with disabilities, these findings should inform key decisions in the school improvement process.
- For educators and parents who struggle with making the right decision, this study provides greater certainty that inclusion has a strong relationship to academic achievement for students with disabilities
- This research has implications for teacher pre-service training as well as in-services professional development.

