



# Service Delivery Models: Impacts for Students With and Without Disabilities

Nathan Jones, Lindsey Kaler, Jessica Markham, Josefina Senese, & Marcus A. Winters

## POLICY ISSUE

When a student is identified with a disability, their school faces many decisions about how best to support their academic and developmental progress. One key decision point is how and where the student will receive needed services. Will they remain in a general education classroom all the time, be “pulled out” to a different environment for part of the day, or be placed in a separate classroom solely for students with disabilities?

There are many factors that influence a school’s decisions about the most appropriate model for educating students with disabilities. The federal government requires that students be placed in the least restrictive learning environment possible, and there is a growing national push toward more inclusive classrooms. But local discretion and the availability (or lack) of school resources also play an important role in determining how students with disabilities are taught.

What is still missing from this conversation is knowledge about whether different instructional modes lead to meaningful differences in student outcomes. This research study offers some of the field’s first causal evidence of how different service delivery models impact student achievement and behavior. The findings contribute valuable information to ongoing discussions about how to organize schools and allocate resources effectively to support students with disabilities.

## STUDY DATA AND FINDINGS

This study uses longitudinal data on Indiana public school students from 2011-12 through 2020-21. To estimate the causal effects of different service delivery models, the authors compare students’ outcomes during years in which they received instruction in one particular setting to years in which they received instruction in a different setting, holding constant other factors. This approach allows the researchers to identify the specific impact of each service delivery model compared to another.

## KEY FINDINGS

- Students with disabilities who experience two different service delivery models during their academic journey tend to achieve **slightly better** academic outcomes in the more inclusive setting.
- However, effects are quite **small** and vary across grade levels.

The authors analyze the relative impact of four common service delivery models:

MORE INCLUSIVE

**1. General Education:** One general education teacher instructs a class of students with and without disabilities

**2. Co-teaching:** One general education teacher and one special education teacher instruct a class of students with and without disabilities

**3. Pull-out:** In addition to receiving instruction in a general education classroom, students with disabilities receive additional instruction from a special education teacher in a resource room or separate classroom

MORE RESTRICTIVE

**4. Self-contained:** One special education teacher instructs a class of only students with disabilities

The analyses reveal the following:

- In general, students with disabilities who experience two different service delivery models during their academic journey tend to achieve slightly better academic outcomes in the more inclusive setting. However, in most cases, the magnitude of this benefit is modest and varies across grade levels. More specifically:
  - Elementary and middle school students perform better on math and ELA tests in years when they attend a general education classroom compared to years when they attend a self-contained classroom.
  - Middle school students perform better on ELA tests in years when they are in a pull-out setting compared to years when they attend a self-contained classroom.
  - There is suggestive, though inconclusive, evidence that students achieve better test scores in years when they attend a co-taught classroom compared to years when they are in a self-contained, pull-out, or general education setting.
  - Students tend to have higher attendance rates and lower disciplinary incidents in years when they are in more inclusive settings, but these effects are quite small.

## POLICY IMPLICATIONS

As policymakers and practitioners consider which instructional models are most effective for supporting students with disabilities, understanding the relative impacts of these different models on student learning outcomes is imperative. This large-scale study provides some promising evidence that students with disabilities benefit from being taught in more inclusive settings, but there are some limitations that warrant a tempered interpretation of these findings.

For one, this study examines only those students who experience two different service delivery models over time. This is a very specific subset of students who are at the margin of receiving different types of special education services in different years. So, this evidence may not apply to all students—in other words, the findings do not suggest that moving a student who has always been taught in self-contained settings into a co-taught classroom will improve their academic outcomes.

Secondly, this study uses a statewide data set that captures what is happening in thousands of schools throughout Indiana but doesn't represent how effective these service delivery models would be if implemented with full fidelity. It is certainly possible that co-teaching (or any other model) is actually more effective than these findings indicate when done according to best practices. However, this study is useful because it reflects what occurs in reality at scale rather than under ideal conditions.

Overall, these findings suggest that ongoing efforts to increase inclusive learning opportunities for students with disabilities may be beneficial in some ways but are not a panacea for improving special education overall. As education leaders work toward making informed decisions to support students with disabilities, we must continue to build up at-scale evidence about service delivery models as well as other aspects of the broader special education system.

## FULL REPORT

For the complete working paper, visit [wheelockpolicycenter.org](http://wheelockpolicycenter.org).

## OUR MISSION

The Wheelock Educational Policy Center (WEPC) conducts and disseminates rigorous, policy-relevant education research in partnership with local, state, and federal policymakers and stakeholders to improve educational opportunities and holistic outcomes for underserved students.

[www.wheelockpolicycenter.org](http://www.wheelockpolicycenter.org)

[wheelockpolicy@bu.edu](mailto:wheelockpolicy@bu.edu)



**Boston University** Wheelock College of Education & Human Development  
Wheelock Educational Policy Center

