

**The Effects of Teacher Preparation and
Professional Development on Special Education Teacher Quality**
*A Proposal to Address Quality of Teachers and
Other Service Providers for Students with Disabilities Research Grants Goal #1*

Project Summary

The purpose of this project is to quantify the impact of both pre-service preparation and in-service professional development on the ability of teachers to promote academic achievement and educational attainment among students with disabilities. The effects of both the quantity and content of teacher preparation courses as well as the number, content and timing of in-service professional development courses will be studied. While a few recent studies have begun to shed light on the effect of teacher training on general education teacher quality, this will be the first study to directly link the college coursework and in-service professional development of individual teachers to the performance of special-education students.

One of the primary factors limiting quantitative research on the effectiveness of special education teachers is the difficulty in matching students with disabilities and their teachers. Since students with disabilities often have multiple teachers, even in elementary school, the information required to determine the teachers responsible for instruction are typically not available. To overcome this obstacle we will employ a unique statewide database from Florida. The Florida Education Data Warehouse (FLEDW) contains individual-level longitudinal data for the universe of public school students and teachers in the state from 1995 forward, including about 400,000 special education students each year. The Florida data are unique in that the time a student spends each week with each and every one of their teachers can be determined at all grade levels, K-12. Equally important, the FLEDW data provide the entire college transcript (including specific courses taken and grades received) for all teachers who attended a Florida public university. We also know the subject matter and length of each and every professional development course taken by Florida teachers once they begin their careers.

Analysis of the data will rely on quasi-experimental methods and involve estimation of the impact of teacher training on student achievement, the probability of graduating from high school, and the post-secondary education and employment choices of students with disabilities. The analysis will involve a two-step process. First, a variety of value-added models of student achievement and educational attainment will be estimated. These models will include “fixed effects” to control for time-invariant student, teacher and school characteristics and well as time-varying covariates measuring in-service professional development, experience and post-baccalaureate formal education of teachers. The estimated coefficients on the amount and types of professional development will yield estimates of the impact of in-service training on the ability of teachers to promote learning among special-education students. The teacher fixed-effects that are produced from the value-added models will then be regressed on the pre-service characteristics of teachers (numbers and types of courses taken, college major, and entrance exam score). This second stage will yield estimates of the impact of specific types of teacher preparation courses on the subsequent ability of teachers to enhance achievement and promote educational attainment among students with disabilities.