



# Example of Practiced-Based Evidence Research Design Methodology to Study School-Based Practice

Susan Effgen, PT, PhD, FAPTA<sup>1</sup>; Sarah Westcott McCoy, PT, PhD, FAPTA<sup>2</sup>; Lisa Chiarello, PT, PhD, PCS, FAPTA<sup>3</sup>; Lynn Jeffries, PT, PhD, PCS<sup>4</sup>

<sup>1</sup>University of Kentucky, Lexington, KY; <sup>2</sup>University of Washington, Seattle, WA <sup>3</sup>Drexel University, Philadelphia, PA;

<sup>4</sup>University of Oklahoma, Oklahoma City, OK



## Purpose

Practice-Based Evidence (PBE) research design, previously referred to as Clinical Practice Improvement methodology, provides an excellent starting point for the study of services that are not well defined or researched.<sup>1</sup> PBE has been used to study the rehabilitation outcomes of those having strokes<sup>2</sup> and spinal cord injuries,<sup>3</sup> and now children with disabilities receiving school-based physical therapy (PT). PT COUNTS used PBE to investigate the outcomes students achieved when receiving school-based PT and the relationship of the interventions to those outcomes. Dissemination of practical methodological considerations involving PBE is useful to foster researcher – practitioner partnerships and the application of PBE in a variety of practice settings.

## Summary of Use

PBE methodology has the ability to account for participants' covariates and does not involve changing, altering, or manipulating the intervention, but asks therapists to describe accurately what they actually did during services.

## ADVANTAGES:

- Translation or generalization of research findings back to practice is robust and relatively easy to interpret and potentially implement.
- Ability to identify best practices, which can later inform validation studies
- Unproductive interventions can be “weeded out” so time is not wasted on further investigation.

## DISADVANTAGES:

- Lack of internal control and comparison groups
- Need for very large samples for regression statistics

PBE methodology includes collection of three types of detailed and reliable data:

- 1) **Participants receiving intervention** (for PT COUNTS this was students 5-12 years of age receiving school-based PT).
- 2) **Consistent reports of services provided using a standardized data collection form** (PT COUNTS used the School Physical Therapy Intervention for Pediatrics [SPTIP] form)<sup>4</sup>
- 3) **Defined participant outcomes** (PT COUNTS used the standardized School Function Assessment [SFA] & individualized goal attainment scaling [GAS]).

Data analyses includes an analysis of the relationship of services to outcomes commonly controlling for age and severity, and other variables. This allows for the use of and not the elimination of sources of variation in persons, services, and outcomes.

## Example of PBE Methods Used in PT COUNTS

PBE research design was used in PT COUNTS, a yearlong national study of school-based practice involving 109 physical therapists from 28 states in 59 school systems and a random sample of 296 of the therapists' 5 to 12 year-old students with disabilities.<sup>4,5</sup>

During the 2012-2013 school year therapists:

- Completed ethics, GAS, SFA, & SPTIP training.
- Measured GAS goals & SFA on students (start of year).
- Completed SPTIP weekly on each student for 6 months.
- Rescored GAS goals & SFA on same students (end of year).

Researchers used group comparisons & regression statistics to examine relationships of services to outcomes.

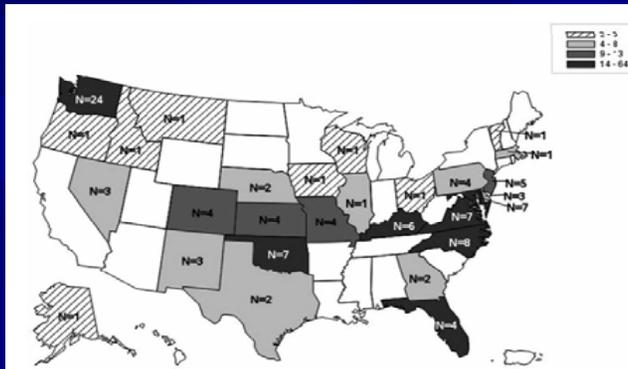


Figure: PT COUNTS enrollment map. Number inside state is the number of participating physical therapists. Legend in top corner indicates the number of students participating in each state.<sup>5</sup> 140 schools received IRB approval.

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Email: S Effgen: [seffgen@uky.edu](mailto:seffgen@uky.edu); SW McCoy:

[westcs@uw.edu](mailto:westcs@uw.edu); L Chiarello: [lisa.chiarello@drexel.edu](mailto:lisa.chiarello@drexel.edu);

L Jeffries: [Lynn-Jeffries@ouhsc.edu](mailto:Lynn-Jeffries@ouhsc.edu)

## Brief Overview of Conclusions

### GAS:

- Students achieved individualized outcomes.
- Students who improved most received more self-care activity, services on behalf of the student, & functional strength, playground access, cognitive/behavioral interventions.
- Younger students had higher goal attainment for primary and recreation goals.
- No differences in outcomes were found based on gross motor ability (GMFCS).

### SFA:

- Most students had positive change on the SFA.
- Students who improved most had more time spent on active practice that facilitated mobility in the school environment & higher student engagement in therapy sessions.
- Students with higher gross motor ability showed greater change as did those under age 8 years.

## Importance to Members

PBE allowed for the study of actual delivery of school-based PT across the nation.

Successful strategies included:

- Online participant training
- Frequent communication
- Systematic review of goals

Greatest challenge

- Obtaining approval from multiple IRBs and schools

Participating therapists reported numerous benefits.

## References

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