

The National Board for Professional Teaching Standards (NBPTS) provides a voluntary certification system for teachers to meet professional standards that generally exceed the requirements of traditional preparation programs (NBPTS, 2016). NBPTS certification involves “a lengthy, highly demanding process” (Yeh, 2010, p. 225) that assigns scores to teaching practices based on four portfolio entries (e.g., videotaped examples of lessons) and six essay answers submitted by teachers (Cantrell, Fullerton, Kane, & Staiger, 2008). In 2011, six states referenced NBPTS in the development of teacher standards (U.S. Department of Education, 2013). Table 1 shows the number and percentage of NBPTS certified teachers in the Midwest. This brief presents a review of recent research on the relationship between NBPTS certification and both teacher outcomes (e.g., instructional knowledge, self-efficacy) and student achievement.¹

TABLE 1. Number and Percentage of NBPTS Certified Teachers in MHEC States in 2015

	Number of NBPTS certified teachers	Total number of teachers	Percentage of teachers with NBPTS certification
IA	718	35,684	2.01%
IL	6,034	132,456	4.56%
IN	169	56,547	0.30%
KS	403	37,659	1.07%
MI	394	85,038	0.46%
MN	418	55,690	0.75%
MO	933	67,356	1.39%
ND	44	9,049	0.49%
NE	117	22,988	0.51%
OH	3,325	106,526	3.12%
SD	103	9,618	1.07%
WI	1,117	58,376	1.91%

Source: Compiled by the authors from the National Board for Professional Teaching Standards (2015) and National Center for Education Statistics (2015).

¹ Studies were selected for this review if a rigorous statistical analysis was employed to minimize the influence of confounding factors, including fixed effects models and traditional regression with key covariates. Although these studies do not provide the same level of confidence in causal attribution as do experimental designs, they currently provide our best estimates of teacher effectiveness.

MAIN FINDINGS

- NBPTS certification provides an extensive process for identifying effective teachers.
- Studies in this review found that teachers with an NBPTS certificate show higher levels of self-efficacy, participation in leadership roles, and pedagogical knowledge than do teachers without certification.
- Most studies have demonstrated that teachers holding an NBPTS certificate are more effective than comparable teachers without certification in promoting student achievement in math and reading, though the size of the effect is relatively small.
- One study indicated that the NBPTS program is less cost-effective than other interventions in promoting student achievement. However, cost-effectiveness analyses of NBPTS have not yet accounted for the potential effects of certification on teacher outcomes (e.g., instructional knowledge, self-efficacy, retention).
- Overall, this review provides support for policies that expand opportunities for NBPTS certification.

TEACHER OUTCOMES

Two studies documented positive associations between NBPTS certification and teacher outcomes (Hines, 2013; Lustick & Sykes, 2006). Hines (2013) compared the self-efficacy and leadership activities of teachers with and without NBPTS certification in elementary, middle, and high schools in Kentucky. Hines found that teachers with NBPTS certification showed a higher level of self-efficacy in instruction, management, and engagement as well as participation in leadership roles than non-NBPTS certified

teachers. In a similar vein, Lustick and Sykes (2006) examined the effect of NBPTS certification on secondary science teachers' pedagogical knowledge in science (e.g., standards of scientific inquiry and assessment), comparing pre-certification scores with post-certification scores over a two-year period using a quasi-experimental methodology. They found that NBPTS certification significantly increased knowledge of teaching in science ($d = 0.47$).

STUDENT OUTCOMES

Past research has consistently revealed a positive association between NBPTS certification and student achievement (Cantrell, Fullerton, Kane, & Staiger, 2008; Cavalluzzo, 2004; Chingos & Peterson, 2011; Clotfelter, Ladd, & Vogdor, 2007; Cowan & Goldhaber, 2015; Goldhaber & Anthony, 2007; Harris & Sass, 2007; Vandervoort, Amrein-Beardsley, & Berliner, 2004). For example, Goldhaber and Anthony (2007) examined the relationship between NBPTS certification and student achievement using North Carolina's student-level administrative records, and they found that students of elementary teachers with NBPTS certification showed significantly higher reading and math achievement scores than students of teachers without NBPTS certification. More recently, Cowan and Goldhaber (2015) estimated the effect of NBPTS-certified teachers on the reading and math achievement of elementary- and middle-school students in Washington. They found that NBPTS-certified elementary school teachers had a greater influence on math (0.04 SD) and reading (0.03 SD) achievement than non-certified teachers with similar teaching experience. They also found that middle-school NBPTS-certified teachers had a greater influence on students' math achievement (0.05 SD) and reading achievement (0.02 SD) than non-certified teachers.

Less clear is whether NBPTS certification is cost effective. Yeh's (2010) analysis of intervention strategies demonstrated that NBPTS certification is less cost-effective for raising student achievement than alternative approaches, including comprehensive school reform, class size reduction, a 10% increase in per pupil expenditures, and rapid assessment²² in math and reading. However, Yeh did not consider the potential effects of the NBPTS teacher certification on teacher outcomes (e.g., self-efficacy, instructional knowledge), which indirectly affect student achievement (Klassen & Tze, 2014; Sadler, Sonnert, Coyle, Cook-Smith, & Miller, 2013). Given the very large effect size observed in studies of teacher outcomes, additional research is

needed to form sound conclusions about the cost-effectiveness of NBPTS certification.

SUMMARY

The purpose of this brief was to review research on the relationship between NBPTS certification and both teacher and student outcomes. The review suggests that teachers with an NBPTS certificate show significantly higher levels of self-efficacy, participation in leadership roles, and pedagogical knowledge than those of teachers without certification. In addition, most studies have demonstrated that teachers holding an NBPTS certificate are more effective than comparable teachers without certification in promoting student achievement in math and reading, though the size of the effect is relatively small. One study indicated that the NBPTS program is less cost-effective than other interventions in promoting student achievement. However, cost-effectiveness analyses of NBPTS have not yet accounted for the potential effects of certification on teacher outcomes. Overall, this review provides support for policies that expand opportunities for NBPTS certification to better identify effective teachers.

²² Rapid assessment is "a program that individualizes instruction and frequently assesses each student's reading comprehension and math problem-solving ability" (Yeh, 2010, p. 232).

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