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A Review of Goldhaber and Anthony, *Can Teacher Quality Be Effectively Assessed?*

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This paper reviews a March, 2004 research report by Dan Goldhaber and Emily Anthony, entitled *Can Teacher Quality Be Effectively Assessed?* (Goldhaber and Anthony, 2004) As will be seen, based on their analysis of student outcomes related to teachers who obtained National Board certification, this review comes to a single conclusion that can be drawn without question from their study:

**The National Board certification process does a pretty good job of identifying good teachers.**

This study uses an excellent methodology and a great deal of apparently high-quality data to evaluate the question of whether certification by the National Board for Professional Teaching Standards is related to teacher quality, defined as improvement in student test scores. The methodology is quite complicated, involving econometric analysis beyond the capacity of most previous studies in the area.

What makes this study unique is its separation of teachers by NBPTS status into a number of groups that make it possible to test ideas about what NBPTS application and certification say about the acquisition of teacher effectiveness. Specifically, by dividing the sample into groups of teachers who never applied for NBPTS certification, who applied but failed to be certified, who applied and were successfully certified, and most importantly, who had not yet applied but would be NBPTS certified in the future, the study makes it possible to shed light on the following questions:

1. Are NBPTS-certified teachers more likely to be good teachers?
2. Does the NBPTS certification process improve the effectiveness of individual teachers, or is it method of identifying effective teachers?

Because the study includes a great deal of information in addition to teacher qualifications, including school and student factors that might influence learning, it is also possible to shed light on the following:

3. What is the relationship between NBPTS certification and outcomes of particular types of students?
4. How much improvement in student learning can be accounted-for by teachers who are capable of acquiring NBPTS certification?
5. How does NBPTS compare with other possible measures of teacher quality?

The report we have at present is obviously a draft of what will probably become a seminal paper in the field of teacher quality analysis. Because it is a draft, the wording of the author's conclusions about the meaning of some of the results is a bit confusing. Specifically, the following seem to be problematic:

- A. There is some question whether he means that he found, counter to the usual trend in such studies, that "regular" state certification and holding of a master's degree were indicators of improved teacher quality.
- B. There is an apparent equivocation between whether present and future NBPTS certificands are more effective. This is important because if present

certificands are more effective than future certificands, then NBPTS certification represents both a selection and a training process, and adds value to the quality of teachers' skills. If future certificands are more effective than present certificands, then one of the following must be true:

- a. The NBPTS certification process actually causes teachers' effectiveness to decline.
  - b. NBPTS certificands, once certified, tend to be placed in settings where their skills are poorly used.
- C. There seems to be some doubt about his conclusion that NBPTS certification adds value over other methods of selecting quality teachers. He compares the effects of teacher ability as measured by a synthetic score derived from PRAXIS and other measures with the effects of NBPTS certification, and comes to the conclusion that NBPTS adds information not present in the synthetic score, but his conclusions seem inconsistent with what is known about the mathematics of such comparisons.

I attempted to resolve these questions by querying Dr. Goldhaber directly. His responses (Goldhaber, 2004a) adequately clarified the first two questions, but left me in doubt about the third. Specifically:

With respect to concern A, Dr. Goldhaber's clarification was that he did indeed find results that run counter to the somewhat ambiguous findings of previous studies in the area, i.e., he found that both regular state certification<sup>1</sup> and achievement of a master's degree had a statistically significant relationship to teacher quality. On further discussion, (Goldhaber, 2004b) Dr. Goldhaber suggested that these findings were probably more of an artifact of the statistical methods used by the study than anything else, and he did not feel that the study provided sufficient support for the idea that these effects had been identified by the study. He wanted to make sure that his readers understood that the study was not really designed to identify effects due to regular certification and achievement of a master's degree, and any apparent results in this area should be viewed with caution.

With respect to concern B, Dr. Goldhaber's response (Goldhaber, 2004a) indicated that the contrasts between future and presently certified teachers were not strong enough to come to any conclusion other than that NBPTS certification is a good measure of teachers' effectiveness. That is, future and presently-certified teachers do not vary measurably in effectiveness. He mentioned on later discussion (Goldhaber, 2004b) that the number of "future" certificands was small relative to the total number of subjects in the study, and he was not comfortable drawing firm conclusions on the basis of the available data. He did say that he thought there was reason to believe that the performance of successful certificands declined somewhat *in the year of certification*, probably due to the large amount of work necessary to complete the certification process.

With respect to concern C, Dr. Goldhaber acknowledged that my concerns about the meaning of his conclusion in light of what is known about the logic of partial correlation were generally correct, and directed me to an earlier paper of his on NBPTS certification (Goldhaber, Perry, and Anthony, 2003). He asserted that the relationship between teacher ability as measured by synthetic scores and NBPTS certification was

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<sup>1</sup> As opposed to emergency or temporary certification

weak, and the weakness of the relationship accounted for the small change in the strength of the regression coefficient when teacher ability was added to the regression problem. Review of the earlier paper did not, however, resolve these questions in my mind. While neither paper gave a point value for the estimate of the strength of relationship between ability and NBPTS certification, the paper did seem to imply that the strength of the relationship was substantial, and if this were true, then the change in the regression coefficient should have been substantial once teacher ability was considered by the regression model. That it did not, if the relationship is indeed significant, is problematic.

## Implications

As noted above, this study really comes to only one conclusion, that NBPTS certification is a pretty good measure of teacher quality. What has not been demonstrated by the study is that NBPTS certification *causes* an improvement in teacher quality. This is an important finding, and leaves us with significant policy considerations.

First, we should consider how this measure of teacher quality can be effectively used to improve the overall quality of the teacher workforce. This finding serves as a positive confirmation that the experienced teacher standards that guide the NBPTS certification process serve as an adequate model for teacher preparation. In Kentucky these teacher standards guide all approved teacher preparation and advanced professional development activities. The NBPTS certification is a culminating recognition of effective teacher practices that are identifiable at all levels of preparation.

Something mentioned by Dr. Goldhaber in his results section applies here. NBPTS certified teachers, once certified, have an advantage in selection of assignments. Specifically, NBPTS-certified teachers more often are found in assignments associated with better schools and more capable students. Since Dr. Goldhaber also finds that NBPTS teachers are likely to be more effective with less capable students<sup>2</sup>, this would seem to imply that NBPTS certified teachers should be placed with students who will benefit the most. As financial resources become more restrictive, policy-makers may need to consider how to use incentives to encourage NBPTS-certified teachers to teach in settings where they can be expected to be most effective.

There is one additional consideration that bears mentioning. While the study does indeed demonstrate that NBPTS-certified teachers are more effective than others in the sense that their students perform better academically, the effect sizes are modest relative to the effect sizes of other variables in his models. That is, the marginal improvement due to having an NBPTS-certified teacher is small, and should not be overinterpreted. While we can expect students to do better if they have an NBPTS-certified teacher, we have to be careful to not expect NBPTS certification to result in dramatic improvement in student achievement. NBPTS certification<sup>3</sup> should be viewed as one of the known factors that contribute to student success.

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<sup>2</sup> This just makes sense. Better students are less likely to be affected by any particular condition of the learning environment than are poor students, and resources applied to poorer students, *ceteris paribus*, are likely to have a greater effect.

<sup>3</sup> Or more accurately, the skills represented by NBPTS certification

## References

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