How well does PEAT predict success on the NPTE?

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This summer, FSBPT launched a new version of the Practice Exam and Assessment Tool (PEAT), designed to implement several improvements over the previous version. These improvements had been requested by educators, PEAT users, FSBPT staff and their technical advisors.

One improvement was to make PEAT available on a variety of internet browsers, as opposed to the previous version, which was only available for Microsoft Internet Explorer.

The new version of PEAT is available on any internet browser. A recent PEAT user's survey shows that a surprising variety of browsers and devices are used to access PEAT.

Table 1. Most Common Devices and Browsers

Devices	%	Browsers	%
Laptop PC	53%	Google Chrome	43%
Laptop Mac	21%	Safari	23%
Desktop PC	15%	Internet Explorer10	12%
iPad	7%	Firefox	11%
Other	4%	Internet Explorer11	6%
		Internet Explorer (Versions prior to 10)	4%
		Other	1%

A second improvement was to allow candidates to choose alternate timing if they anticipate having a timing accommodation on the NPTE. The improvement allows candidates who will have testing accommodations to more accurately simulate the conditions under which they will take the actual NPTE. The percentage of candidates who requested alternate timing on PEAT is 2.53% for PT and 3.55% for PTA. The percentage of candidates who requested extra time on the 2014 NPTE is 1.79% for PT and 1.70% for PTA.

A third major improvement was to provide an actual score on PEAT that could be used to guide candidates in their preparation for the NPTE. This improvement was our most difficult challenge.

In the past, FSBPT had been reluctant to provide an interpretable PEAT score for two reasons:

(1) given that PEAT administration is not standardized and secure, differences in how candidates use PEAT to prepare could have a substantial impact on PEAT scores, and

(2) we did not have enough retired items to statistically "link" PEAT to the NPTE with much confidence.

However, working with our technical advisory committee, FSBPT was able to identify an NPTE form at each examination level (PT and PTA) that we no longer wished to administer operationally. Using these forms would allow us to assign an NPTE score based on each form's actual operational scoring rather than a statistical linking process. Further, we could combine the previous PEAT forms into a second form, so that form could be linked to the NPTE scale with adequate confidence.

The results were two PEAT forms at each exam level for which we could provide reliable NPTE-like scores.

Our next challenge was communicating the conditions under which we believed those scores would be most valid.

FSBPT created a tutorial describing the best way to take PEAT: in one sitting, in a space with minimal distractions, with few breaks, timed as you expect to be timed on the NPTE, and without referencing study materials or other resources.

We also recommended that candidates place more faith in the scores from the NPTE retired forms, since these scores are calculated the same way as they were when administered operationally. Based on research using the previous versions of PEAT, we knew that scores from group administrations (Group PEAT purchases for which the examinations are started at about the same time and completed without stopping) were very highly correlated to future NPTE scores. Therefore we believed that the recommendations in the tutorial had a strong basis in evidence.

Our final challenge was to quickly assess the usefulness of the new PEAT scores to predict performance on the NPTE. Rather than simply looking at correlations between scores on the PEAT forms and future NPTE scores, we were very concerned about how candidates would actually *use* PEAT to help them study. In thinking about how candidates use PEAT, we wanted to answer the following questions.
- For candidates who get a 600 or above on the PEAT retired NPTE form, what percentage of those candidates go on to *fail* the NPTE? In other words, what percentage of candidates believe they should pass based on their PEAT score, who actually do not pass?
- For candidates who get less than a passing score on the PEAT retired form, what percentage of them go on to take the practice form, and what are their pass rates on the NPTE?

At the PT level, the percentage of candidates who passed the PEAT retired form (with a score of 600 or higher) and later went on to *pass* the NPTE was 99.3%, meaning only 0.7% of those who passed the retired form later failed the NPTE. Although passing the PEAT is by no means a guarantee of future success on the NPTE, the finding that less than 1% of the PT candidates who were told they were on track to pass based on the PEAT retired form later failed is excellent – it demonstrates that candidates are not being misled by PEAT results. Of those who failed the PEAT retired form, 67.0% later passed the NPTE and 33.0% failed. Many of those who failed were later able to pass the NPTE.

At the PTA level, 96.6% of candidates who passed the PEAT retired form went on to pass the NPTE, leaving 3.4% who failed. Of those who failed the PEAT retired form at the PTA level, 69.3% later went on to pass the NPTE, and 31.7% failed the NPTE.

Figures 1 and 2 show these results graphically for the PEAT-PT and PEAT-PTA retired forms respectively.

The green dots represent first-time candidates who achieved a score of 600 on both PEAT and the NPTE.

The blue dots represent candidates who did not achieve a score of 600 or greater on PEAT, but were later able to achieve a score of 600 or greater on the NPTE.

The red dots represent candidates who were not able to achieve a score of 600 on either PEAT or the NPTE.

The purple dots represent candidates who were able to achieve a score of 600 or greater on PEAT, but were not able to achieve a score of 600 or greater on the NPTE. These candidates are the most concerning, since their performance on the PEAT indicated they were on track to pass the NPTE. As you can see from the graphs, there are very few purple dots, and they are very close to the 600 score level. Given the possibility that some of these candidates might not have taken PEAT under the recommended conditions and the proximity of those scores to the 600 passing score, the scatterplots indicate that those candidates might not have had very high expectations of passing the NPTE.

We expect some practice effect and additional studying after taking PEAT, so it is not surprising that the percentage of candidates who did not achieve a 600 or higher on the PEAT retired forms and later went on to pass is high. And the feedback value of the PEAT forms is reduced if the level of knowledge required to get a 600 is much higher than would be required to pass the NPTE.

In balancing those concerns, it is helpful to see that candidates who fail the PT retired form are 47 times more likely to fail (33.0% divided by 0.7%) than those who achieve a 600 or greater. Almost as promising is the fact that candidates who fail the PTA retired form are 9.3 times as likely to fail (3.17% divided by 3.4%) as those who pass.

Of those candidates who did not achieve a 600 on the retired form but did eventually pass the NPTE, 83.7% took and passed the PEAT practice form. In other words, most of those who failed the PEAT retired form then took an additional practice PEAT form, which may have helped them pass the NPTE, another promising finding. Again the results were similar at the PTA level, with 81.0% of those candidates who failed the retired form and later passed the NPTE passing the PEAT practice form.

Taken together, these findings suggest that at both exam levels, PEAT is a very effective tool for candidates to familiarize themselves with the NPTE content and administration, identify areas needing improvement, and improve their test taking skills relevant to the NPTE.

Figure 1: Scatterplot of Scores on PEAT-PT Retired Form and NPTE Scores for 1st Time Candidates
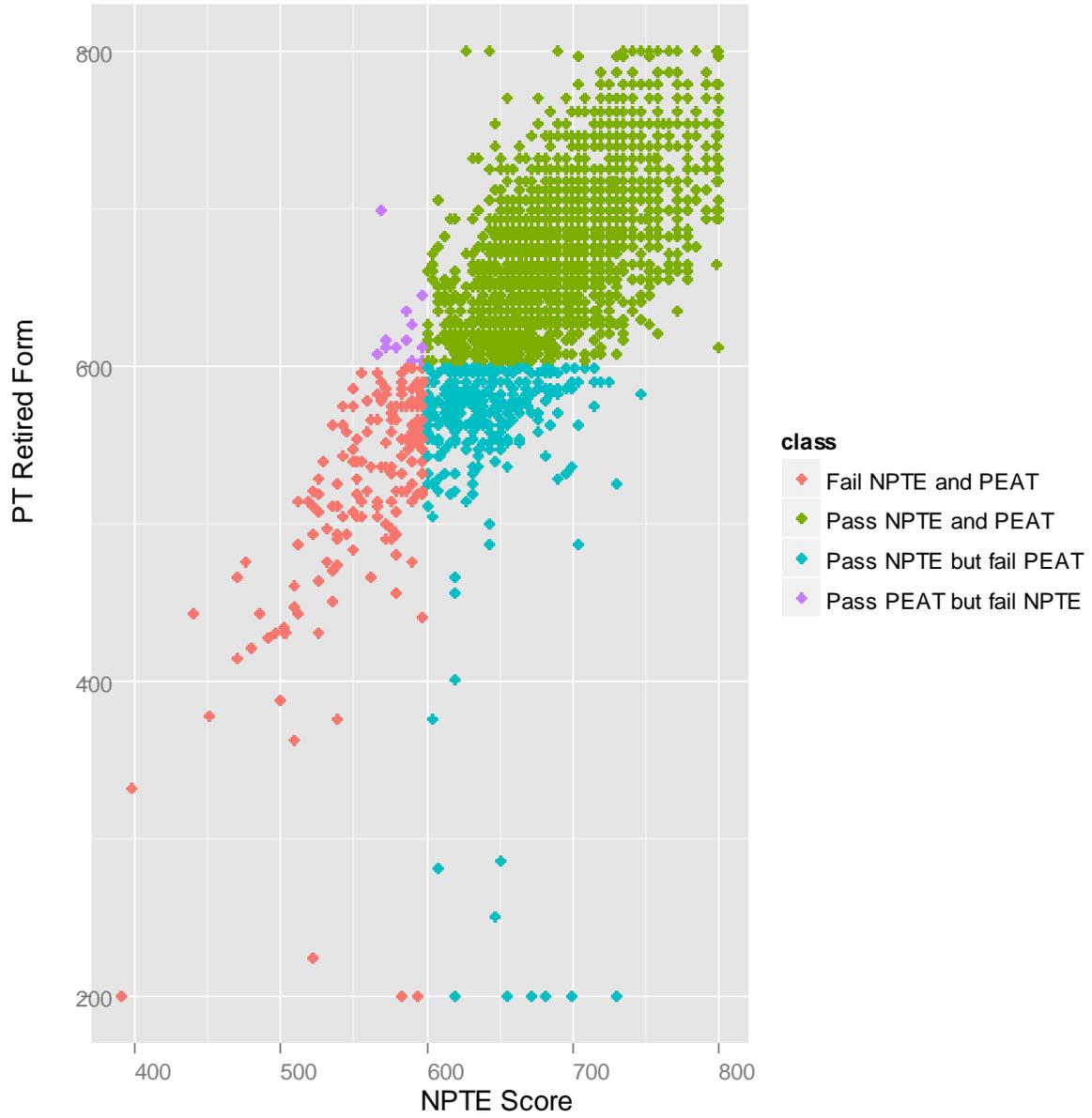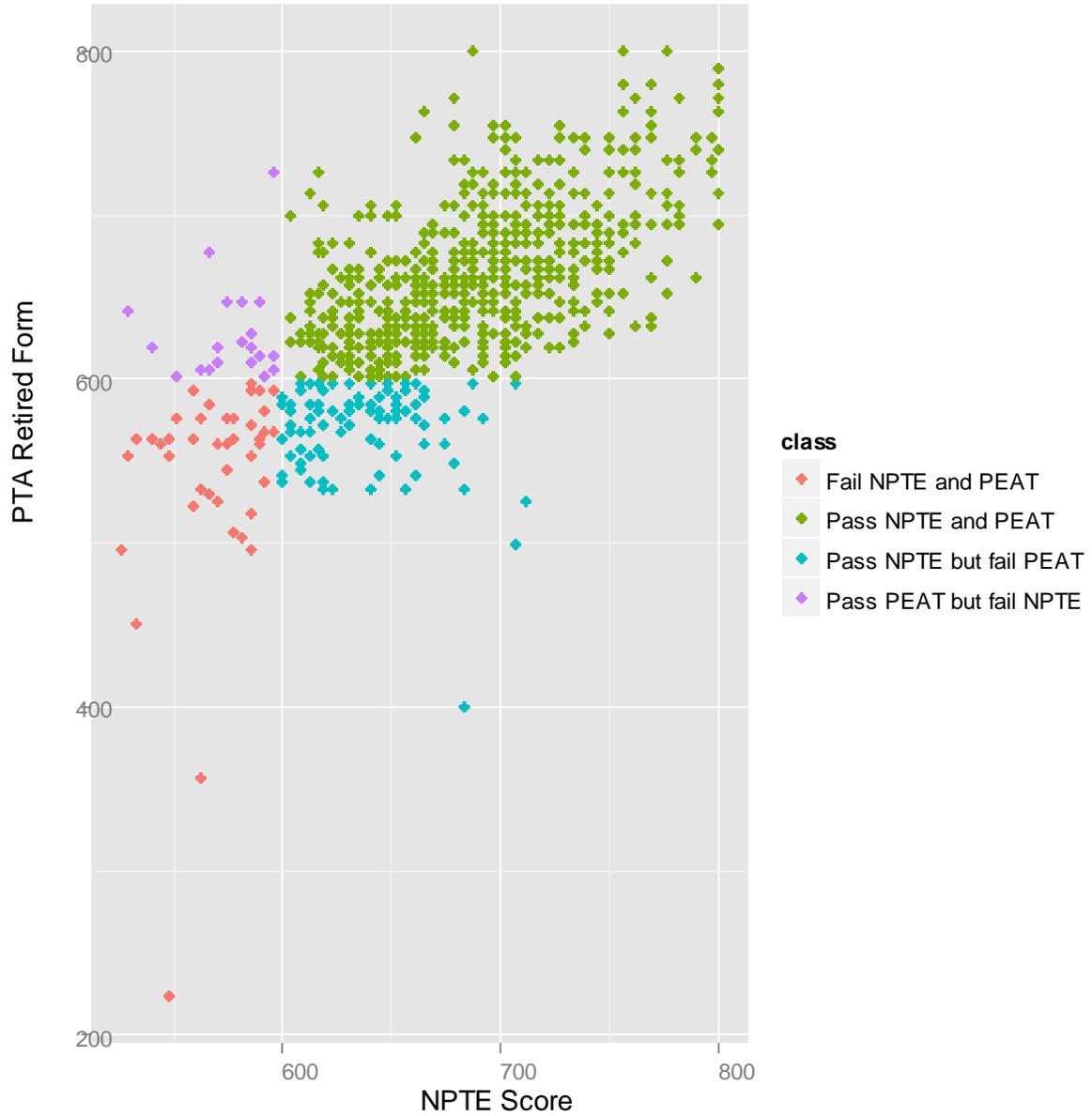
Figure 2: Scatterplot of Scores on PEAT-PTA Retired Form and NPTE Scores for 1st Time Candidates

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