



**Examination Report for 2013-2014 Testing Year  
Board of Certification (BOC) Certification Examination for Athletic  
Trainers**

## **INTRODUCTION**

The Board of Certification, Inc. (BOC) is a non-profit credentialing agency that provides certification for the athletic training profession. The BOC was incorporated in 1989 to govern the certification program, which had then existed for nearly 20 years, for entry-level athletic trainers and recertification standards for athletic trainers. The entry-level certification program is designed to establish a common benchmark for entry into the athletic training profession. The BOC serves the public interest by developing, administering, and continually reviewing a certification process that reflects current standards of practice in athletic training.

### ***Standard Setting and Equating of Test Forms***

In February 2011, a panel of 10 currently certified athletic trainers was convened to establish the performance standard to be implemented for the revised test blueprint (RD/PA6). The panel reviewed the scored questions for forms 362(1) and 362(2) introduced in April 2011. The panel participated in three rounds of data collection and used a modified Angoff model, the Yes/No technique (Impara & Plake, 1997).

All later forms of the examination are equated using the common-item non-equivalent groups design (Kolen & Brennan, 2004). This design is frequently used in practice because, unlike other equating designs, there is no requirement that the group of candidates who have taken the new form be equal in ability to the group of candidates who have taken a previous form. Instead, a subset of “common” items is included on both the new and old (i.e., reference) forms. This set of common items provides the link that is used to statistically determine (1) which groups of candidates is of higher ability and (2) whether the new form is easier or harder than the reference form. If the new form is found to be more difficult than the reference form, then the appropriate adjustment to the cut score is made to ensure the same passing standard is applied to all forms.

The protocol for equating new BOC forms is to equate newly developed test forms to a reference form that has been used within the last two years.

### ***Use of Scaled Scores***

Since examination forms are possibly of different difficulty, providing raw scores can be misleading. As a result, many programs, including the ACT® and SAT® examinations, use scaled scores. Scaled scores are particularly useful at providing the basis for long-term, meaningful comparisons of results across different administrations of an examination.

Scaled scores are used because, over the life of every testing program, there are situations when changes in test length occur: a decision is made to assess more or fewer areas, the numbers of items that are scored versus unscored (experimental) changes, or different examination forms of different difficulty are being compared.

For scaled scores, the passing standard (number of items answered correctly) on any examination form is always reported as the same scaled score. The equated scores for the BOC certification examination are converted via linear transformation so that the passing standard for all test forms are reported to candidates as 500 on a scale of 200 to 800.

## ANALYSIS OF THE CERTIFICATION EXAMINATION

Table 1: Historical BOC Examination Counts and Pass Rates

Year	First-time	Pass	% Pass	Retake	Pass	% Pass	All	Pass	% Pass
<b>RD5</b>									
2010-2011	2,963	1,800	60.70%	2,748	938	34.10%	5,711	2,738	47.90%
<b>RD6</b>									
2011-2012	3,222	2,653	82.30%	1,664	696	41.80%	4,886	3,269	66.90%
2012-2013	3,631	2,935	80.80%	1,319	507	38.40%	4,950	3,442	69.50%
2013-2014	3,679	3,048	82.85%	1,210	497	41.07%	4,889	3,545	72.51%

Table 2: Historical BOC Examination Scaled Score Summary Statistics

Cohort	N	Mean	Median	Std Dev	Min	Max
All 2013-14	4,889	529.7	536	57.1	272	680
First-time	3,679	545.1	548	51.9	332	680
Retake	1,210	482.8	488	45.5	272	650
All 2012-13	4,950	524.0	524	54.0	302	674
First-time	3,631	539.0	548	51.0	302	674
Retake	1,319	484.0	488	41.0	314	632
All 2011-12	4,886	525.0	524	54.0	230	692
First-time	3,222	542.0	548	51.0	272	692
Retake	1,664	491.0	494	44.0	230	644
All 2010-11	5,711	490.0	494	67.0	200	672
First-time	2,963	508.0	517	71.0	200	672
Retake	2,748	470.0	476	56.0	220	624

### Test Form Reliabilities and Other Summary Data

The performance of the test forms used for the BOC certification examination is consistent with reporting requirements for NCCA/ICE accreditation. Reliability is assessed using Cronbach's alpha (Cronbach, 1951), a measure typically used for estimating overall test form reliability, Brennan Kane (Brennan & Kane, 1977), a measure used for estimating the decision consistency (i.e., the reliability of pass/fail decisions based on the test), and the standard error of measurement (SEM) presented in raw score units, a measure of the precision of the test form.

### Candidates Excluded from this Report

The report does not include, except where noted, those candidates who were administered the BOC certification examination via paper and pencil (i.e., ADA candidates) or those candidates with incomplete data. As a result, the number of candidates analyzed for this report may not match the number of candidates who sat for the BOC certification examination. There was one first-time candidate and one retake candidate that were administered a paper form of the examination

## **SUMMARY**

Statistics concerning the quality of the BOC certification examination as a measurement instrument indicate that the examination complies with psychometric requirements that pertain to certification and licensure tests. Notably, estimates of reliability and equivalence across forms for the various parts of the examination are strong. Likewise, candidate performance on all parts of the examination is consistent with the public protection mission of the BOC.