

## Standard Setting Procedure for the NCE

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The establishment of credentialing performance standards provides the decision mechanism for credentialing outcomes. Documentation of credentialing exam standard setting procedures is a key component for establishing validity evidence for a credentialing examination.

Periodic standard setting studies for examinations are required by Standard 12 of the NCCA and Standard 4 of the AERA and NCME. The frequency with which these analyses are conducted should correspond to how quickly a given profession is perceived to change. Generally speaking, it is recommended that testing programs undertake a standard setting study, following a comprehensive professional practice analysis, every 4-5 years.

In most cases a panel of participants, consisting primarily of subject matter experts, is assembled to provide to the certifying body guidance on the appropriate level of knowledge that must be demonstrated in order to be considered competent to practice safely in an entry-level environment. The standard setting panel members are selected to reflect the diversity of the profession, including gender and ethnicity, practice setting, geographic region, professional experience, educator/practitioner, etc. The standard setting panel, using one of a number of methods for setting performance standards, arrives at a single, consensus point on the ability continuum and makes a recommendation to the certifying body for the pass/fail point on the test. The panel is typically convened for a 1-day meeting to review the standard setting methodology, to familiarize themselves with the purpose of the test, to conduct an in-depth discussion about the knowledge, skills, and abilities required of an entry-level practitioner, and to set about making the judgements that will be used in determining the passing score for the exam. The panel's passing score is subject to review, adjustment, and ratification by the governing certification body.

There are many potential methods for determining the passing standard for an examination. The NBCRNA has used the Bookmark Method for evaluating the passing standard for the NCE. The procedure is so named because the participants make judgements by setting a place holder in a specially designed book in which examination items (test questions) are ordered in terms of their empirical difficulty. This method has become popular of late because it aligns well with test development methods for computerized adaptive testing and represents a comparatively easy task for the standard setting panel member.

A specially prepared set of test questions called an ordered item booklet (OIB) in which a sample of items are ordered, appearing one per page, according to their individual difficulty levels, easiest to most difficult, as determined by the item response theory (IRT) model used to scale test items. After the panel has reached consensus on the definition of competence at the entry level, the panel members

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read through the ordered items in the book, and are instructed to both choose the correct answer to each question and rate whether the entry-level-competent candidate would be expected to answer the question correctly (a better than 50/50 chance). Specifically, the panel members ask themselves “Given the definition of entry-level competence, is it likely that an examinee on the borderline between passing and failing would answer this question correctly?” The answer to this question will be predominantly “Yes” in the beginning of the book (representing easy tasks) and mostly “No” near the end of the book, (representing more difficult tasks).

The panel members are then asked to identify a region in the book of questions where they felt there was a shift in the propensity of a borderline minimally competent candidate to answer a question correctly to answering a question incorrectly. As the questions are arranged in order of increasing difficulty, each committee member is asked to pick a single point in that transition region as their “bookmark.” Each panel member’s bookmark is then mapped to a specific ability estimate on the examination scale of ability (from less able to highly able) using IRT. All of the judges’ bookmark ability estimates are then averaged to determine a single passing standard for the examination.