

## **NOCTI Job Ready Criterion Referenced Cut-Score Project**

### **Developmental Procedures**

#### ***Purpose***

NOCTI established criterion referenced cut scores for each of its Job Ready and Pathway tests. These scores are presented as an additional alternative for client use, but as before NOCTI does not mandate the use of any particular cut scores. Clients may still set their own criterion referenced cut scores, or use a normative method, as needed/desired.

#### ***Concept***

The concept underlying the cut score is to set the point on the test at which a test taker could be considered a “minimally competent candidate”, or one who is sufficiently competent for a beginning position in his or her chosen field. This was operationally defined as:

*What a candidate should 1) know and 2) be able to do on their very first day on the job in order to perform duties in a safe and effective manner.*

#### ***Cut Score Setting Methods Used***

Two cut score setting methods were used in this process. The Nedelsky method was used for the written portions of assessments and the Angoff method was used for the performance portion of assessments. Each of these methods is described briefly below.

##### The Nedelsky Method

This method is designed to be applied to tests that use multiple-choice items for judging minimal competency. Subject Matter Experts are instructed to

- a) cross out, for each test item, the response that a minimally competent person should be able to eliminate from consideration in selecting the correct response.
- b) Record the reciprocal of the number of choices remaining e.g. if two choices out of a possible four item question were eliminated, the reciprocal would be .50
- c) The average of all the judges scores across all test items is calculated to produce a cut score

##### The Angoff Method

The Angoff Approach is a variation of the Nedelsky Method. Within this approach, judges are provided with a copy of the NOCTI Examiner’s Guide and NOCTI Performance Exam. The Committee is instructed to locate the Process and Product Scoring Criteria in the Examiner’s Guide and to estimate the level, on a 5 point scale at which a minimally competent person would be able to perform the task. This is done independently and the individual scores for each item are summed up across all judges to arrive at the expected Performance level for a minimally competent person.

### ***Selection of Subject Matter Experts***

For each assessment a group of 10-15 subject matter experts (SMEs) were recruited to participate in the rating process. Each group was recruited from a variety of states across the country and included a mix of educators in the field and those practicing within the industry. To qualify, each SME was required to have a minimum of 3 years of current work experience in either industry or education. Those who met that qualification were interviewed by phone to further determine eligibility as well as to provide the SME with more information about the project to allow them to self-select out if they chose to.

### ***Training of Subject Matter Experts***

After being selected and prior to submitting any ratings subject matter experts received training from the cut score project manager/facilitator. This training was primarily delivered to groups via web conferencing, but one on one training was provided where appropriate as well.

The training consisted of covering the overall goals and intent of the project, training specific to using the Nedelsky method to rate the multiple choice components, training specific to using the Angoff method to rate the performance components and training in the mechanics of the rating process (i.e., accessing and navigating NOCTI's online cut score rating program).

SMEs were also encouraged to contact the facilitator via phone or email if they had any questions once they started the rating process.

### ***Analysis and Compilation of Rating Data***

Once SME rating data was complete for the assessments, the data was reviewed and compiled. For each assessment, the judge with the highest score and the judge with the lowest score were dropped. In addition, the data was reviewed for any obvious outliers. The remaining ratings were averaged across SMEs for each assessment. In addition, the standard error of the mean was calculated. For the performance components of the exam, the cut score reported was the mean of the SME ratings. Because the Nedelsky method typically results in lower cut scores than other methods the cut score on the written exams was established at the mean plus 2 standard errors of the mean. These final cut scores were then entered into the NOCTI database for reporting on standard score reports