



Fact Sheet: POST 10th Grade Reading Level Rationale for North Carolina

Background

This fact sheet provides the mandatory documentation necessary for agencies to ensure that the POST Reading Comprehension section is a nationally standardized test that complies with the Commission's mandate of rule 12 NCAC 09B .0203(e). Effective June 1, 2010, the NC Criminal Justice Education and Training Standards Commission's (the Commission) rule 12 NCAC 09B .0203(e) was revised as follows.

(e) The school shall not admit an individual, including partial or limited enrollees, as a trainee in a presentation of the Basic Law Enforcement Training Course unless the individual has taken the reading component of a nationally standardized test within one year prior to admission to Basic Law Enforcement Training and has scored at or above the tenth grade level or the equivalent. A nationally standardized test is a test that:

- (1) reports scores as national percentiles, stanines or grade equivalents and*
- (2) compares student test results to a national norm.*

On May 28, 2010, the Commission approved the implementation and enforcement of this revised rule by September 1, 2010. Accredited training schools and BLET school directors have from June 1, 2010, to September 1, 2010 to effectively prepare for and implement the revised standard as a BLET admission mandate and arrange for the appropriate maintenance of documentation.

Does Stanard's POST Test Comply with the Revised Rule?

Yes, Stanard & Associates' National Police Officer Selection Test (POST) is a nationally standardized test that complies with the Commission's mandate of this rule, since it contains a Reading Comprehension test section specifically, the test is standardized, and it is administered nation-wide. The POST is offered in four different forms. S&A typically reports percent correct scores for the POST but has provided percentile distributions for each of the four Reading Comprehension test forms within this document to comply with the rule.

What Reading Comprehension Test Score is Equivalent to a 10th Grade Reading Level?

Based on S&A's analyses of pertinent data related to this question and its rationale based on the data, which are described below, **obtaining a 72% to 76% correct on the POST Reading Comprehension test is equivalent to scoring at or above the tenth grade level or the equivalent.** The analyses and rationale for this cutoff score range are provided below.

During the development of the POST, information obtained from a job analysis, including a literature review, job analysis questionnaire, discussions with job experts, and work samples (such as criminal code, motor vehicle code, departmental policies and procedures, departmental memos, and training manuals) was analyzed to determine the level of reading ability required to successfully perform the job. Reading levels of required work samples were analyzed using the Reading Ease formula by Rudolph Flesch and the Fog Index by Robert Gunning. Both use similar methods in their calculations, including the number of syllables in a word/sentence and the number of words/sentences in a paragraph.

The results of these analyses indicated that the reading levels of these work samples were "difficult/at college level" (based on the Reading Ease index) and "requiring 17 years of education" (based on the Fog Index). The reading indices did not take into account the inclusion of technical terms in text which could inflate readability indices. Generally, the reading level analysis indicated that at least a 12th grade reading ability was necessary for successful performance as a law enforcement officer. S&A wrote items in the Reading Comprehension section of the POST to approximate this level of reading ability, which it had determined as a minimum level required to successfully perform the job of a law enforcement officer.

S&A also calculated Flesch-Kincaid grade level readability indices for the POST. The Flesch-Kincaid grade levels of the Reading Comprehension sections of the four forms range from the 10th to the 12th grade level, with an average at the 11th grade level. As such, if a candidate can show mastery of the POST Reading Comprehension section, then his/her score can be considered at or above the tenth grade level or the equivalent.

S&A originally developed the POST with the knowledge that many public safety agencies throughout the United States are bound by rules and regulations (e.g., local ordinances or civil service commission rules) to use a cutoff score of 70% correct. As a result, S&A set out to create a test in which a cutoff score of about 70% correct on each section would identify minimally qualified law enforcement candidates. From S&A's experience with POST-related litigation, one of the biggest issues with the use of the POST concerns how the test is used, and the impact the cutoff score methodology has on minority candidates. As such, it is helpful for the test user to examine other cutoff score rationales, as well as the impact a cutoff score has on members of protected groups, before choosing which cutoff score to use. For the purpose of the rule, though, Stanard has typically considered at least 70% correct, or a raw score of 18 correct out of 25 possible Reading Comprehension test questions, as demonstrating a minimum level of reading ability or "mastery" of the material. A score of 18 correct out of 25 is

actually 72% correct, but in order to achieve a score of at least 70% on the Reading Comprehension section, candidates must achieve a 72% correct.

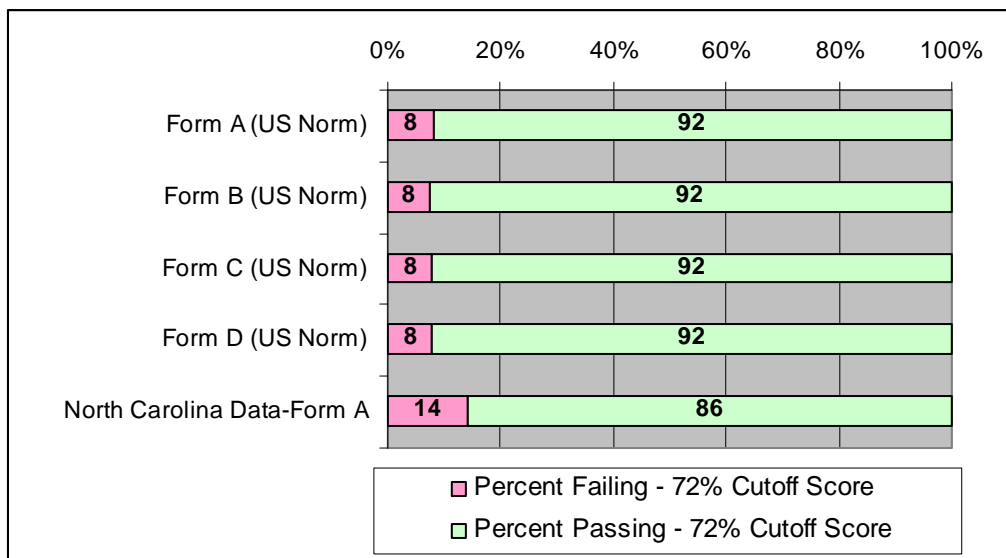
One method of ensuring this cutoff score is appropriate for identifying candidates who score at or above the tenth grade level or the equivalent is to examine normative distributions for the POST Reading Comprehension test compared with known normative distributions for other assessments of reading skills at the same reading grade level. This is to determine if the percentage of individuals deemed unqualified on the Reading Comprehension section of the POST due to its cutoff score is similar to the percentage of individuals deemed unqualified on other similar assessments of reading skills based on their cutoff scores. Since the POST Reading Comprehension test is geared toward the 10th grade reading level or above, and if one can triangulate on the percentage of eligible working adults unable to demonstrate an acceptable 10th grade reading level, then the cutoff score on the POST Reading Comprehension section should screen out a percentage of candidates similar to the percentage of eligible working adults unable to demonstrate acceptable 10th grade reading ability.

According to a report entitled, "A First Look at the Literacy of America's Adults in the 21st Century," published by the U. S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey, and 2003 National Assessment of Adult Literacy, English literacy is necessary to function in society, achieve one's goals and develop one's knowledge, and potential. According to this study, there are three components to English literacy, including Prose Literacy (the knowledge and skills needed to perform prose tasks such as searching, comprehending and using information from continuous texts), Document Literacy (the knowledge and skills needed to perform document tasks such as searching, comprehending and using information from noncontinuous texts in various formats), and Quantitative Literacy (the knowledge and skills needed to perform quantitative tasks such as identifying and performing computations either alone or sequentially, using numbers embedded in printed material). The POST's Reading Comprehension test assesses reading comprehension ability in the same way Prose Literacy was measured in the study described. The Prose Literacy assessment in this national study contained questions related to the kinds of prose tasks that adults perform in their daily lives. S&A's Flesch-Kincaid analysis of a text sample from the national study's reading assessment yielded a 10.6, or 11th grade reading level, which is what is required by the rule, and which approximates the reading grade level of the POST Reading Comprehension section.

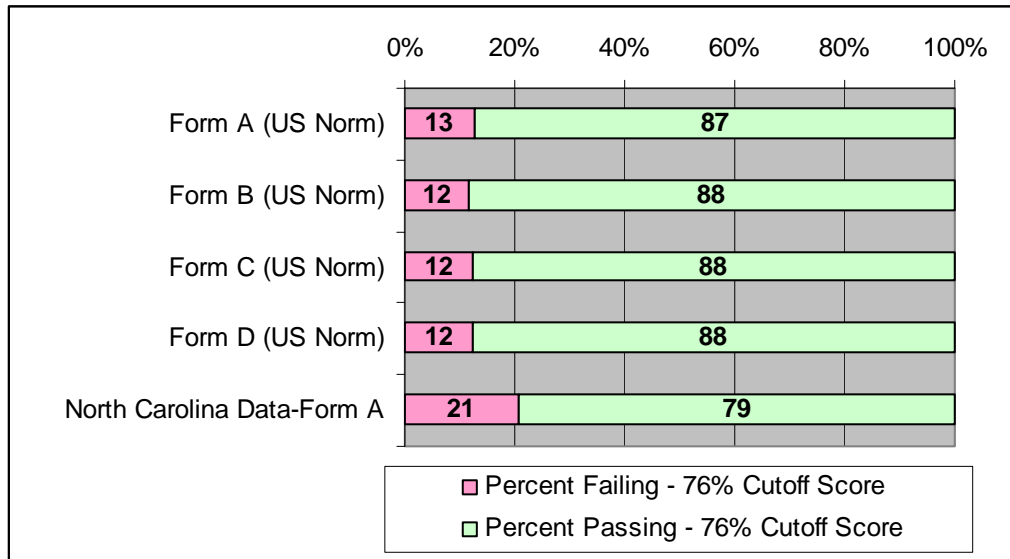
According to this study, the percentage of adults in the United States below the basic Prose Literacy skill level (i.e., those ranging from being nonliterate in English to having the ability to locate easily identifiable information in short, commonplace prose texts) was 14% in 1992 and 14% in 2003. The percentage of adults in North Carolina below the basic Prose Literacy skill level was also estimated at 14% in 2003. Using this percentage as a proxy for a reasonable percentage of failing applicants on the POST Reading Comprehension, a POST Reading cutoff score set to screen out approximately 14% of the candidates would seem appropriate for ensuring successful candidates

score at or above the tenth grade level or the equivalent. Compared with POST national norms (approximately 100,074 cases for form A, 51,474 cases for form B, 42,504 cases for form C, and 11,763 cases for form D), scores of 76% correct (19 correct Reading items out of 25) on each of the four forms of the POST Reading Comprehension section screen out 12 to 13 percent of the candidates. Using the national data as a comparison, a cutoff score of 76% correct seems to screen out the same percentage of candidates identified as “below basic ability” in English according to national literacy studies. Using POST form A test data obtained for 451 candidates in two North Carolina agencies across 18 separate administrations, scores of 72% correct (18 correct responses out of 25 reading items) on the POST Reading Comprehension section screen out 14 percent of the candidates. Using the North Carolina data as a comparison, a cutoff score of 72% correct screens out the same percentage of candidates identified as “below basic ability” in English according to national and North Carolina-specific literacy studies. Tables depicting the percentage of candidates failing or passing based on 72% and 76% correct Reading Comprehension test cutoff scores are provided below.

Percent Failing or Passing Based on a 72% POST Reading Comprehension Cutoff Score



Percent Failing or Passing Based on a 76% POST Reading Comprehension Cutoff Score



Given that a 72% to 76% correct Reading Comprehension test cutoff score results in the same percentage of test failures as the “below basic” adults on a national assessment of adult literacy at approximately the 10th grade reading level, **obtaining a 72% to 76% correct on the POST Reading Comprehension test is equivalent to scoring at or above the tenth grade level or the equivalent.** There can be more certainty that a candidate is meeting the standard by using a 76% correct score cutoff on the Reading Comprehension section; but if other hiring objectives are also of importance, such as ensuring a larger pool of applicants or minimizing adverse impact against members of protected groups, a 72% correct cutoff score would also be appropriate.

Please note that this fact sheet pertains to a cutoff score on the POST Reading Comprehension section only. North Carolina agencies will have to determine whether cutoff scores on other POST test sections (e.g., Arithmetic, Grammar, and Incident Report Writing) and/or an overall percent correct cutoff score are appropriate for their hiring needs. Based on revised rule 12 NCAC 09B .0203(e), however, a cutoff score on the POST Reading Comprehension section seems mandatory.

POST Reading Comprehension Scores Reported as National Percentiles

To conform with revised rule 12 NCAC 09B .0203(e), the National Percentiles associated with each POST Reading Comprehension raw and percent correct score are reported below for each of the four forms. Data for North Carolina specifically are reported as well. Cutoff scores of 18 or 19 correct out of 25 items, and the associated percentage of candidates failing based on the cutoff score (14.2% for North Carolina candidates based on a 72% correct cutoff score, and 11.6% to 12.7% for U.S. candidates based on a 76% correct cutoff score) are provided and highlighted as well.

POST Reading Comprehension National Percentiles

Reading Section Number Correct	Reading Section Percent Correct	Form A (US Norm)	Form B (US Norm)	Form C (US Norm)	Form D (US Norm)	North Carolina Data-Form A
1	4	0.1	0.1	0.1	0.1	0.1
2	8	0.1	0.1	0.1	0.1	0.1
3	12	0.1	0.1	0.1	0.1	0.1
4	16	0.1	0.1	0.1	0.1	0.1
5	20	0.1	0.1	0.1	0.1	0.1
6	24	0.1	0.1	0.1	0.1	0.1
7	28	0.1	0.1	0.1	0.1	0.1
8	32	0.1	0.1	0.1	0.1	0.2
9	36	0.2	0.2	0.2	0.1	1.6
10	40	0.3	0.3	0.3	0.2	1.6
11	44	0.6	0.6	0.5	0.3	1.6
12	48	0.9	0.9	0.8	0.6	2.0
13	52	1.4	1.5	1.2	1.0	3.8
14	56	2.3	2.2	2.0	1.7	4.9
15	60	3.5	3.3	3.1	2.9	6.7
16	64	5.3	5.1	4.9	4.8	9.1
17	68	8.2	7.6	7.8	7.8	14.2
18	72	12.7	11.6	12.2	12.4	20.6
19	76	19.3	17.5	19.0	19.6	30.6
20	80	28.8	26.2	29.0	30.2	41.0
21	84	41.7	39.3	43.0	44.6	58.1
22	88	57.7	57.3	60.9	62.1	73.4
23	92	75.4	77.7	79.5	80.8	84.5
24	96	91.3	94.0	94.0	95.1	94.9
25	100	99.9	99.9	99.9	99.9	99.9

If you have questions regarding this fact sheet, feel free to contact Stanard & Associates, Inc. at (800) 367-6919.

References

U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy. [A First Look at the Literacy of America's Adults in the 21st Century.](#)

http://nces.ed.gov/programs/digest/d09/tables/dt09_386.asp (For the U.S.)

<http://nces.ed.gov/naal/estimates/StateEstimates.aspx> (for North Carolina specifically)