Methodology Used to Assess ... Readability ... NNAAP' Examination

..., ..., ...,
CE' Examinations Department, NCSBN

Senior Psychometrician
...tions Department, NCSBN

examination items is rarely conducted among certi" c...
tion or licensure testing programs. The reason is proba...
due to the dif" culty of applying the readability formula t...
multiple-choice items. As a result, not much literature ...
available on this topic.

It is the goal of NCSBN to ensure that the reading d...
mands of NNAAP and the readability of examination ques...
tions/items do not become a barrier to otherwise qualifie...
candidates. To address this concern, NCSBN assesses th...
readability of each NNAAP test form before it is deploye...
for use. Most readability formulas currently available ca...
be translated into appropriate grade level, thus makin...
it easier for educators to select and write materials appro...
priate for the reading levels of their students.

Grade equivalents are based on the performance of stu...
dents in a test's norming group, and represent the grad...
level and month of a student's typical (median) score...
(Homan, Hewitt & Linder, 1994). For example, a stude...
who scores 5.6 on the readability test has a score similar...
the 50th percentile of students in the test's norming grou...
who were in their sixth month of " fth-grade at the tim...
they took the readability test.

Flesch-Kincaid F...

NCSBN uses the ...
ability of NNAAP ...
sixth-grade level c...
la is based on the ...
published by Rud...
chology in 1948 ...
John P. Kincaid to ...
become the most ...
U.S.

The Flesch-Kincaid ...
length. This formul...

... Formulas

...d formula to measure read-
...hich are at or below the
...The Flesch-Kincaid formu-
...ew Readability Yardstick,Ž
...e Journal of Applied Psy-
...formula was modi" ed by
...de-level score. It has since
...eadability formula in the

...ed on word and sentence
..., syllables and sentences

in three 100-word passages (Flesch, 1979). The word length is measured in syllables, while the sentence length is measured in words. Those two numbers are put into an equation that gives the Flesch Reading Ease, a number between zero and 100. The text with the readability ease of zero is almost impossible to read, while the text with the score 100 is the easiest. The Flesch Reading Ease formula was later adapted into the Flesch-Kincaid grade-level formula. They both use word and sentence length as the main measures, but have different weighting factors (Allen, McGhee & van Krieken, 2005).

The Flesch Reading Ease result is inversely related to the Flesch-Kincaid grade equivalent result; a text with the high score on the reading ease test has a lower score on the grade-level test. For example, a score of 5.6 means that the text is at the reading level of an average student in fifth-grade and the reading ease of that text is between 90 and 100.

Nursing, like many other disciplines, has specialized vocabulary and terms that are not frequently used in the English language (Allan et al., 2005). This may make it difficult to analyze the readability of certification or licensure examinations using readability tests based on the frequency of words in the English language. The Flesch-Kincaid readability test is appropriate to use for NNAAP test forms since it measures the length of words and sentences, and not the frequency of the use of these words in the English language. The readability of the NNAAP test items is between the 4th and 6th grade levels, but no higher than the 6th grade.

Knowledge of medical and nursing terms is required in the nurse aide curriculum. For example, the two words urinary catheter are probably difficult to read for the average sixth-grader, but it should not be difficult for a competent, entry-level nurse aide candidate to understand. Since the purpose of the NNAAP examination is to asses the ability of nurse aides to assist in providing safe and effective nursing care, test forms do not contain any unusual words or words unrelated to care provided by nurse aides. The targeted audience of the NNAAP examination, which is nurse aide/nursing assistant candidates, is familiar with the medical terminology used in the test forms.

In preparation for the Flesch-Kincaid readability analysis, all graphs and pictures are removed from test forms. Examination items are modified to include only words; the rest of the items are not modified. NNAAP subject matter experts (SMEs) are experienced registered nurses that receive training, education and assistance in writing concise items with easily readable words, using only the medical and nursing terminology that are necessary and appropriate for safe and competent, entry-level nurse aide work.

Recommendations and Future Considerations

NCSBN hopes that readability analyses will become a more standard practice among certification and licensure testing programs (Woo, Wendt & Liu, 2009). Based on an extensive literature search, NCSBN recommends that SMEs who write NNAAP examination items should use short words and sentences, whenever possible. Furthermore, the length of each item should be no longer than two sentences, when possible. If the examination item is easy to read, candidates can put more emphasis on the nurse aide knowledge and content being measured in each item. However, nurse aide educators should not feel that they must adhere to these standards when they write questions for their students. It is completely acceptable to write questions that require greater reading ability, insofar as the students are accustomed to reading questions that have higher readability levels. Test developers and item writers should be mindful of the readability requirements of examination items and use readability assessments as an adjunct, not a barrier, to the successful assessment of otherwise competent candidates.

References

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