



Lexica Vocabulary Placement Test Summary Validation Report

Description

LEXICA is a computer-adaptive English vocabulary placement test that uses a modified version of the Yes/No vocabulary test format to measure an examinee's receptive vocabulary size. The test samples a vocabulary range covering the 5,000 most frequently occurring words of English. Each examinee is presented with 70 real words and 30 pseudowords. The number of pseudowords endorsed, or *false alarms*, is used in a formula that adjusts for guessing in calculating an examinee's final score. Results are reported as vocabulary level scores linked to corpus-based word frequency ranges with cut points aligned to placement recommendations aligned with the Common European Framework of Reference (CEFR).

The Yes/No vocabulary format used in Lexica presents examinees with a randomly distributed mixture of real words and pseudowords. Examinees are instructed to respond with YES if they know the meaning of a word, and NO if they do not.

After reviewing a number of studies investigating the relative efficacy of various formulas used to adjust for the endorsement of pseudowords, Read (2007) concluded that, "a simple calculation such as the number of Yes responses to real words minus the number of Yes responses to non-words yields a reasonably valid measure of vocabulary size." This is the adjustment formula used for Lexica. In his analysis of various vocabulary test formats, Read (2007) notes that one of strengths of the Yes/No format is the ability to collect a relatively large amount of data in a very short period of time (the average test time for the Lexica test is just under six minutes), concluding that, "Despite its simplicity, the Yes/No format has proved to be an informative and cost-effective means of assessing the state of learners' vocabulary knowledge, particularly for placement and diagnostic purposes."

Intended Use

Lexica is designed to be used both as a measure of vocabulary knowledge and as a placement test. In both cases, the test is intended to be used to support low-stakes decisions, or as one of several data points in a multiple-measures assessment framework.



As a **placement test**, LEXICA leverages the strong relationship between vocabulary knowledge and general proficiency (see below) to provide educators with an easy-to-administer and cost-effective tool to inform initial placement decisions based on receptive vocabulary knowledge.

As a **vocabulary test**, LEXICA can be used to establish an initial baseline of receptive vocabulary size, and then to track a learner's progress in vocabulary learning over time through multiple test administrations.

Construct Validity

There are both theoretical and empirical bases for accepting word frequency as a valid and reliable indicator of lexical knowledge. From a receptive perspective, studies have shown that high-frequency words are recognized (Kirsner, 1994) and named more rapidly (Balota and Chumbley, 1984; Forster and Chambers, 1973) than are low-frequency words. From a productive perspective, Crossley and Salsbury (2010) demonstrated that the frequency of a word is an important element in predicting whether beginning-level L2 learners will produce that word, with higher-frequency words produced first.

Research in vocabulary acquisition has clearly and consistently shown that vocabulary size correlates well with general proficiency across the four skills (Alderson, J.C., 2005; Milton, J., 2013; Milton, J. Wade, J. & Hopkins, N., 2010; Roche, T & Harrington, M., 2012; Schoonen, R., 2010; Stæhr, L.S. 2008), and that vocabulary size accounts for as much as 72% of the variance in reading comprehension scores, and 52% of the variance in writing scores (Milton, J. 2010; Stæhr, L.S. 2008). The production of more frequent words in writing has been shown to be predictive of writing proficiency (Crossley and McNamara, 2012; Laufer and Nation, 1995), with essays scored as low proficiency containing more frequent words than essays scored as high proficiency.

The mapping of frequency-based vocabulary levels to approximate CEFR levels or ranges is based in emerging, though still limited, research (Milton, 2010), indicating that an A1 learner needs to know approximately the first 1,000 most frequently occurring words of English; an A2 learner approximately the first 2,000; a B1 learner approximately the first 3,000, and so on. Further research into the correlation between vocabulary size and CEFR levels is needed before this mapping can be established with a higher degree of confidence.



Content Validity

The determination of each examinee's vocabulary level is based on word frequency bands derived from two very large and well-balanced electronic corpora – the 520-million-word Corpus of Contemporary American English (COCA) and the 100-million-word British National Corpus (BNC).

Lexica's item bank consists of all the verbs, common nouns, adjectives, and adverbs shared by these two corpora in each thousand-word frequency band – the 1st 1,000 most frequently occurring words of English, the 2nd thousand most frequently occurring words, the 3rd thousand most frequently occurring words, etc. By using only those words that these two corpus-based frequency lists have in common, any words that are uniquely British or uniquely American have been filtered out. Additional filters have been applied to exclude acronyms, abbreviations, obscenities, homographs, and homonyms, resulting in a leveled item bank of approximately 3,700 words that are well suited for an international context.

Internal Reliability

Field testing for the 3K test was conducted with more than 1,300 subjects, including native speakers of Arabic, Chinese, and Spanish. Item difficulties were calculated using Rasch model item analysis, and a number of words were moved from their original frequency bands to adjacent bands where they exhibited a better fit based on the mean difficulty, standard deviation, and range of item difficulties for that band. Thus, the final word list for each frequency band, while based primarily on word frequency, has been adjusted to account for item difficulty as well.

The internal reliability and scale quality statistics from Classical and Rasch IRT analyses of field test results for the 3K test show a high level of reliability at 0.88 (Guttman's L2) with a Standard Error of Measure (SEM) of 2.75, as well as a robust Number of Strata index of 6, indicating that persons can be reliably separated into 6 different levels of ability: 1K-, 1K, 1K+, 2K, 2K+, and 3K. As of this writing, field testing is still ongoing for the 5K test.



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