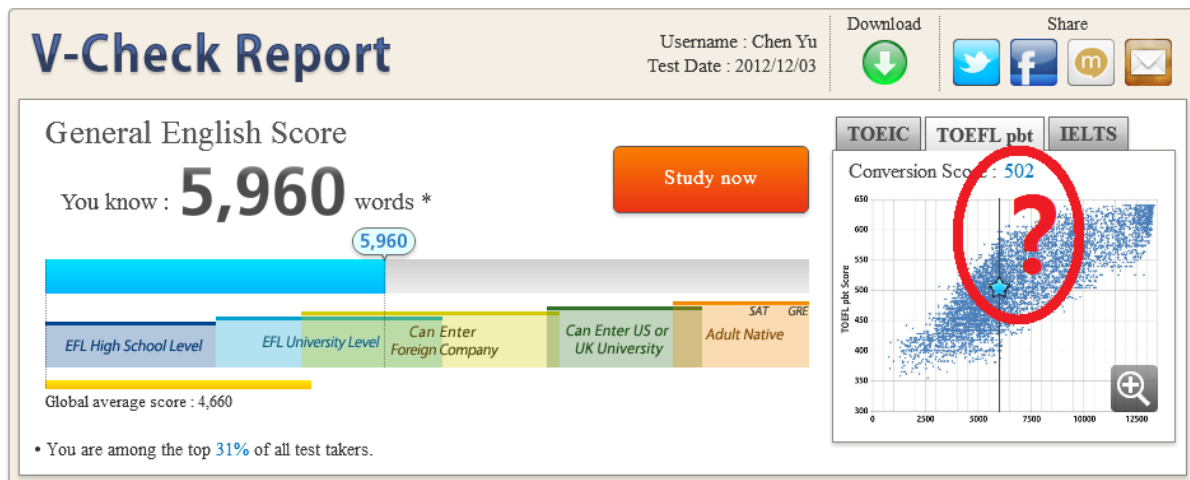


# Lexxica’s Test Score Conversion Methodology

Cihi, G. (Feb 2013)

Soon after the launch of Lexxica’s V-Check test many teachers and students began asking us whether and how vocabulary size correlated to standard English language proficiency test scores such TOEFL, TOEIC, and IELTS. We believed that V-Check did correlate strongly to the standard test scores however, the only way to prove it scientifically was to collect and process thousands of test scores from a variety of sources. After several years we collected over 7,000 TOEIC and TOEFL scores plus several hundred IELTS scores. Approximately 80 percent of the scores were self reported scores, and 20 percent were from independent researchers working at various universities. This paper describes how we processed the score data to establish the average score conversions you see reported in V-Check and V-Admin.

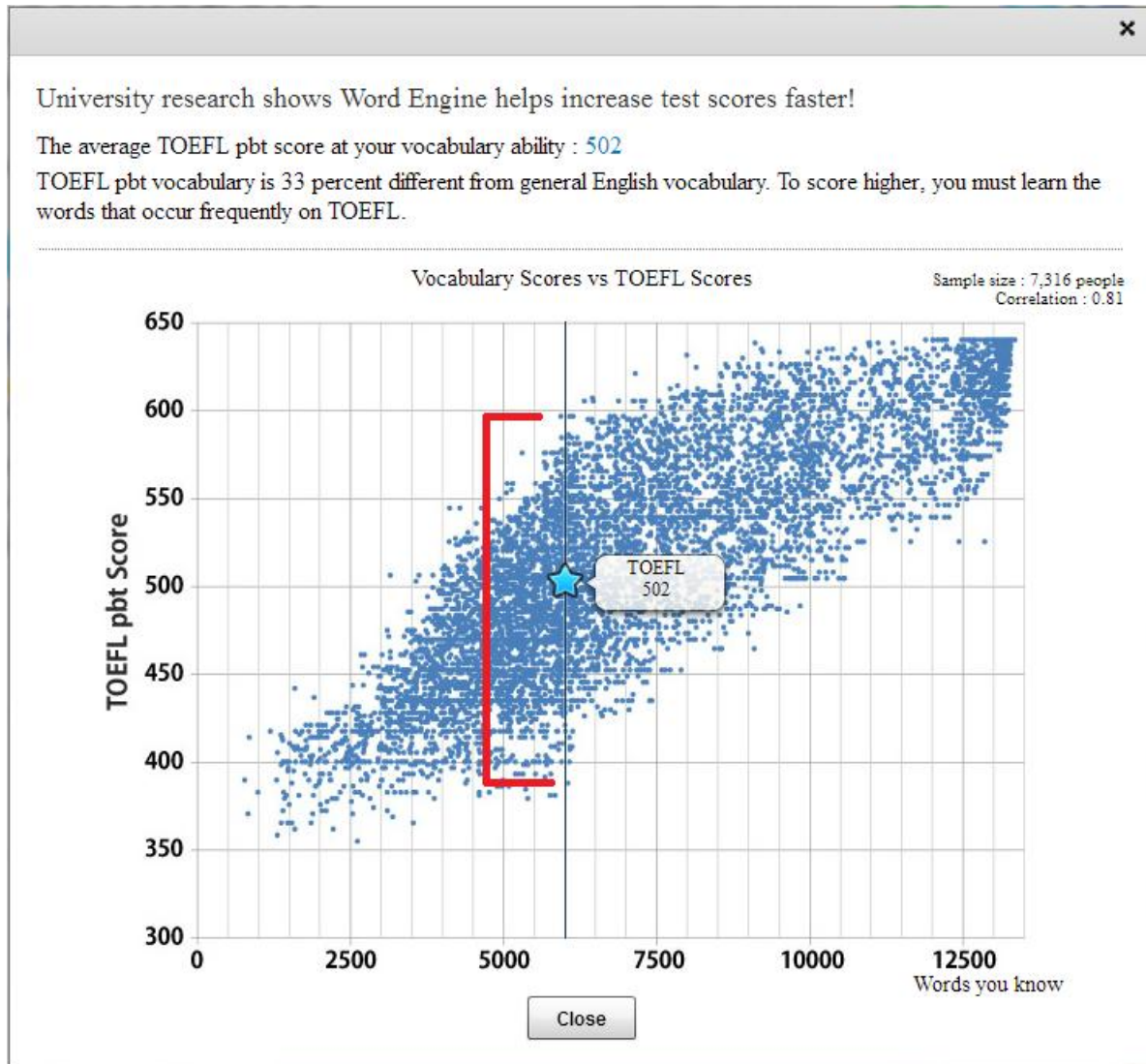


The score conversion process begins with the respondent’s Lexxica of Ability (“LOA”). Each user’s LOA is generated by completing the V-Check test. The LOA is our basis for calculating vocabulary size in each of the domains including our all General English domain and the smaller sub-domains such as TOEFL and Business English, etc. LOA is our absolute measure of lexical ability determined on a logarithmic scale. LOA is related to, but not the same as, the known word counts. For more information about how Lexxica uses LOA to calculate coverage and the number of known words for each domain please see these two papers in our research section: “[Word Difficulty, Word Frequency, and Spaced Repetition](#),” and “[Measuring Vocabulary Size via Online Technology](#).”

We work with LOA for the score conversions, as opposed to word counts, so as to insulate our results from any changes that might occur over time to the words appearing most frequently in the different test sub-domains. We use the score data that we have collected to prepare a master table showing each respondent’s LOA next to their reported TOEIC or TOEFL test score. We then add the other test scores using conversion tables published by the makers of TOEFL, TOEIC and IELTS. In the example below, the respondent provided a TOEIC score and we added the TOEFL and IELTS scores using official conversion tables.

LOA	General Words Known	TOEIC	TOEFL ibt	TOEFL pbt	IELTS
1.45	5,960	590	61	502	5.5

For the V-Check report we use the LOA plus the score data to produce scatter plot graphs. To help users understand the meaning of the graphs we convert LOA into corresponding words known within our General English domain – our largest domain. The 0.81 correlation indicated at upper right of the conversion graphs is generated using all LOAs and reported scores. It remains constant across all three graphs because the scores all come from a single master table for the same 7,316 respondents.



It is important to recognize that each score conversion is the AVERAGE SCORE at the respondent’s LOA. In the graph above the respondent knows 5,960 General English words and the average TOEFL pbt score at that level is 502. The full range of scores reported at that level starts as low as 380 and goes up as high as 595. Research indicates that the primary variables causing higher or lower score variations at the same LOA are reading speed and listening speed. In other words, a person with the same vocabulary size and a faster reading speed will score higher, and a person with the same vocabulary size and a slower reading speed will score lower.

We continue to monitor the relationship between LOA and standard test scores and will update our score conversion graphs as the data warrants it.