

Beyond Your Type-Token Ratio: Rethinking How We Measure Vocabulary Growth in Children

Introduction

Inconsistent results from linguistic development measures, such as Type-Token Ratio (TTR), have sparked controversy among researchers and therapists, raising questions about its reliability and validity. TTR is a measure of lexical diversity, calculated by dividing the number of unique words (types) by the total number of words (tokens) in a given speech or writing sample. Mean Length of Utterance (MLU), on the other hand, is widely used in child language development research to assess speech complexity through morpheme analysis.

Purpose

The purpose of this study was to evaluate the effectiveness and accuracy of TTR as a measure of linguistic development and to explore whether alternative methods yield more consistent results.

Method

This study employed a randomized control trial, dynamic assessments, and a test-teach-retest model. Data were collected from 23 participants (12 three-year-olds, 9 four-year-olds, and 2 five-year-olds) from urban areas with low socioeconomic status. Dialogic reading techniques were used to assess each participant's ability to retell stories and increase their overall vocabulary.

Results

While some children exhibited an increase in TTR scores, the majority demonstrated a decrease or no change, despite increases in MLU scores and total word count. These findings indicate inconsistent fluctuations or plateaus in TTR scores, suggesting that TTR does not accurately reflect changes in vocabulary diversity.

Conclusion

The results highlight the limitations of TTR as a linguistic development measure and underscore the need for alternative methods that produce more reliable and consistent outcomes.