

Investigating the interplay of text rereads with IRT parameters: Rereads render hard items easier and easy items harder

Thursday 24 July 2025 16:00 (15 minutes)

In reading comprehension tests, test-takers can choose to reread the text of the task while working on an item. Up to now it is not well understood how rereading the text relates to test performance and its measurement. To close this gap, the aim of the present study was to investigate the relationship between text rereads on one hand and item parameters of item response models and test performance on the other hand. We specified three different item response mixture models that distinguish on the response level between the three latent classes rapid guessing, solution behavior with text rereads and solution behavior without text rereads. The different models assumed either (1) equal item parameters, (2) equal item discriminations but varying item difficulties, or (3) varying item parameters between the two different solution behavior classes. In a reading comprehension test of the German National Educational Panel Study (N = 1933 students, 14 multiple-choice items), the second model with equal item discriminations but varying item difficulties between the two latent classes fitted the data best. Descriptive analysis revealed that the reread class did not differ extensively from the no reread class in the average item difficulty, but rather exhibited less variation in the item difficulties, rendering hard items easier and easy items harder. Furthermore, the tendency to reread the text positively predicted test performance. The results highlight the importance of investigating process data beyond item response times, which can help to better understand the test-taking process as well as its interplay with the measurement of test performance.

Primary authors: ULITZSCH, Esther (University of Oslo); NAGY, Gabriel; WELLING, Jana

Presenters: ULITZSCH, Esther (University of Oslo); NAGY, Gabriel; WELLING, Jana

Session Classification: Symposium : "Advances in Investigating Response Behavior"