

STUDENTS' TASK RESPONSE TIMES AND TASK SOLVING EFFICIENCY ON ONLINE FOREIGN LANGUAGE VOCABULARY TESTS

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The aims of this research were to analyse student achievements and times spent on solving online foreign language vocabulary tasks. On the basis of students' achievements and task response times, an indicator of student efficiency was introduced, and the effects of language, task type and task position on the achievements were analysed.

Computer-based and online testing methods can play an important role in the assessment of foreign language skills (*Ishii and Schmitt, 2009*). They give information promptly on the results to the students, while the detailed analysis of the stored answers and task solving times provide diagnostic information to the teacher. It is possible to assess students' effectiveness and efficiency in task solving (*Williamson, Mislevy and Bejar, 2006*), where efficiency means best achievement with least waste of time.

Two online diagnostic test batteries were developed for the assessment of English and German vocabulary of students. Both batteries consisted of three tests, and each test consisted of 18 tasks. Before the tasks, an introductory screen showed the instructions and some task examples. The sample comprised altogether 481 5th graders. English and German sub-samples were equivalent in terms of foreign language grades, attitudes and parents' education. Tasks were administered using the eDia online assessment platform that stored both item responses and task solving times.

The indicator of student efficiency was calculated for each task, showing the relation between student achievement and task response time. Our hypotheses were that (1) similar test taking and task solving times are typical among students of English and German; (2) studying instructions and examples results in higher student achievement; and (3) student efficiency on a task depends on task type and task position in the test.

Average test-taking times were 7.0–7.5 minutes for the English, and 8.3–9.2 minutes for the German tests, and the difference was significant ($p < .001$). There were significant correlations between test taking and instruction studying times ($r_{\text{English}} = .21$, $r_{\text{German}} = .39$, $p < .01$), but correlations between test taking times and test results were significant only for the German tests ($r = .26$, $p < .01$). Correlations between instruction studying times and test results were not significant either in the case of English, or in the case of German tests. Student efficiency was in significant correlation with achievement and with task solving time, too ($p < .01$). No correlations were found between task type and student achievement. However, for the first tasks of the tests, student efficiency was lower than for the other tasks ($p < .001$).

The results revealed the different test taking behaviours of students learning English and German, but did not demonstrate the importance of studying instructions and examples. The results showed that student efficiency was not in correlation with task type, but it was affected by task position.

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