The role of comprehension ability in multimedia learning

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Overview

Comprehension of an instructional multimedia document presupposes that readers have the ability to decipher the text, and link together the information to form the gist of the text.

According to the Simple View of Reading text comprehension is achieved with decoding and linguistic skills (Hoover & Gough, 1990). However, research on text processing considers that deep comprehension is only achieved when readers have the ability to generate inferences (Kintsch, 1998). In experimental settings and in classrooms, the assessment of reading comprehension abilities is achieved by tests that usually measure only one of those three reading skills.

But which test of reading comprehension best predicts the comprehension of a multimedia document?

Methods

Participants: n = 42 students in prevocational track
mean age = 16 years and 3 months

Results & Significance

<table>
<thead>
<tr>
<th>Multimedia learning</th>
<th>Regardless of cohesion</th>
<th>Low cohesion</th>
<th>High cohesion</th>
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</thead>
<tbody>
<tr>
<td>Fluency</td>
<td>.102</td>
<td>-.104</td>
<td>-.149</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>.386 *</td>
<td>.478 *</td>
<td>.552 *</td>
</tr>
<tr>
<td>Inferences</td>
<td>.455 **</td>
<td>.341</td>
<td>.584 **</td>
</tr>
<tr>
<td>Blended comprehension</td>
<td>.479 **</td>
<td>.228</td>
<td>.730**</td>
</tr>
</tbody>
</table>

Regardless of cohesion, R² = .46, F(3, 38) = 10.73, p < .001

Low cohesion, R² = .23, F(1, 21) = 6.22, p = .021

High cohesion, R² = .72, F(3, 15) = 12.94, p < .001

These results are the first step to study the comprehension of instructional multimedia documents with text and picture, especially with struggling readers. Findings indicate that both the ability to generate inferences and vocabulary skills are the best predictors of multimedia learning.

References


