Effects of electronic outlining on the organization of text ideas

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Example of an outline

Outlining

- Not much is known about how outlining achieves its effects
- Not effective for every writing situation
- Bridge between planning and translating
- Help to overcome the problem of linearization in writing

Previous research

Outlines help improving overall text quality.
Outlines decrease cognitive load while writing
Kellogg (1988, 1990)
de Smet et al (2011)
Research questions

1. What is the effect of electronic outlining on students’ writing products when used for idea organization?
2. What is the effect of electronic outlining on students’ perceived mental effort?
3. What is the effect of repeated use of the outline tool?

Method

- 58 students in 9th grade
- 2 argumentative writing tasks
- Ideas were generated and clustered in earlier stage
- Within-subjects & between-subjects design

<table>
<thead>
<tr>
<th>Condition</th>
<th>Task 1</th>
<th>Task 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-O+ Condition (N = 26)</td>
<td>No tool</td>
<td>Tool</td>
</tr>
<tr>
<td>O+O+ Condition (N = 32)</td>
<td>Tool</td>
<td>Tool</td>
</tr>
</tbody>
</table>

Tool instruction

- 10 minutes instruction on outline tool
- Training restricted to technical use and not on how to use outlining for argumentative writing

Writing task

- Context
- Written instruction
- 45 minutes
  - 10 minutes outlining
  - 35 minutes elaboration
- Evaluation of text quality
  - Text structure ($r = 0.84$)
  - Structure presentation ($r = 0.87$)

Cognitive load

- Subjective 5-point Likert scale for cognitive load
  
  Paas (1992)

Results

- Students quickly appropriate the outline tool
- Electronic outlining had no significant effect on text structure
Results

Structure elaboration

- Students quickly appropriate the outline tool
- Electronic outlining had no significant effect on text structure
- Repeated outlining decreases cognitive load during writing

Structure presentation

Discussion

- Important to practice using the outline tool
- Inconsistency with previous results
- Use outlines for complex writing tasks
Future research

- Expand design: condition without outline tool (O-O-)
- Focus on writing process (Inputlog)
- More objective measure for cognitive load
- Improve text evaluation

More information?

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