

# Effects of electronic outlining on the organization of text ideas

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## Effects of electronic outlining on the organization of text ideas

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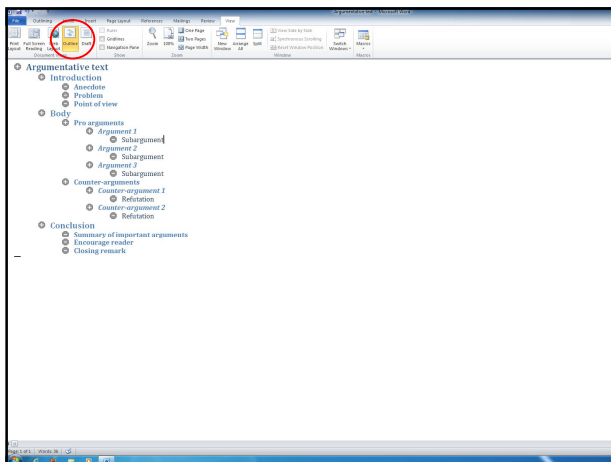


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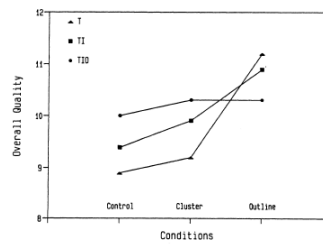
## Example of an outline

Argumentative text

- \* Introduction
  - Anecdote
  - Problem
  - Point of view
- \* Body
  - pro arguments
    - o Argument 1
      - o subargument
    - o Argument 2
      - o subargument
    - o Argument 3
      - o subargument
  - Counter-arguments
    - o Counterargument 1
      - o refutation
    - o Counterargument 2
      - o refutation
- \* Conclusion
  - summary of important arguments
  - encourage reader
  - closing remark



## Previous research



Outlines help improving overall text quality.

Outlines decrease cognitive load while writing

Kellogg (1988, 1990)  
de Smet et al (2011)

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## Outlining

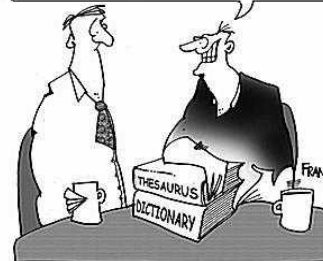
- Not much is known about how outlining achieves its effects
- Not effective for every writing situation
- Bridge between planning and translating
- Help to overcome the problem of linearization in writing

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I'VE GOT ALL THE WORDS I NEED FOR MY NOVEL. IT'S JUST A CASE OF PUTTING THEM IN THE RIGHT ORDER NOW!



## 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

	Task 1	Task 2
O-O+ Condition (N = 26)	No tool	Tool
O+O+ Condition (N = 32)	Tool	Tool

## Tool instruction

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

- ◊ Our house
  - ◊ Downstairs
    - = Corridor
    - ◊ Living room
      - = Sofa
      - = Easy chair
      - = Television
      - = Coffee table
    - = Dining room
    - = Kitchen
  - ◊ First floor
  - ◊ Attic

## 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

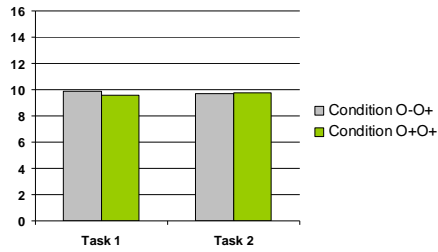
Paas (1992)

## Results

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

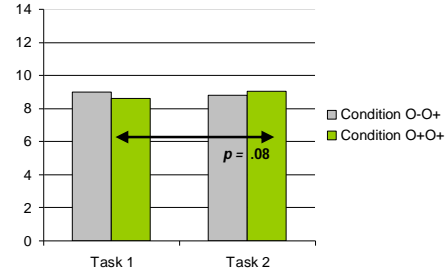
## Results

### Structure elaboration



## Results

### Structure presentation

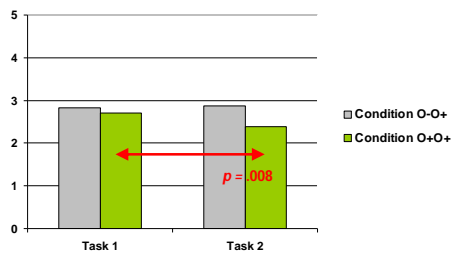


## Results

- Students quickly appropriate the outline tool
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- Repeated outlining decreases cognitive load during writing

## Results

### Cognitive load



## Results

- Students quickly appropriate the outline tool
- Electronic outlining had no significant effect on text structure
- Repeated outlining decreases cognitive load during writing
- Positive effects are more prominent for repeated tool-use

## 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 proces (Inputlog)
- More objective measure for cognitive load
- Improve text evaluation



## More information?

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- De Smet, M. J. R., Brand-Gruwel, S., Broekkamp, H. & Kirschner, P. A. (in progress). Write between the lines: Effects of electronic outlining on the organization of text ideas.
- De Smet, M. J. R., Brand-Gruwel, S., Broekkamp, H. & Kirschner, P. A. (submitted). Gestroomlijnd schrijven: het effect van een elektronische outline-tool op de schrijfvaardigheid. *Levende Talen Tijdschrift*

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