

The Psychology of Adult Writing

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[PhD study of writing with dyslexia](#)

<https://isurvey.soton.ac.uk/30429>

Outline of talk

- 2 approaches to the psychology of writing
 - Writing as problem solving
 - Traditional outlining strategy
 - Dual-process model
 - Reverse outlining strategy
- Evidence for dual-process model
- Preliminary research on writing with dyslexia
- Where to next?

Writing as problem solving

(Hayes, 1996, 2012; Bereiter and Scardamalia, 1987)

- The thinking behind the text
 - Retrieval of content from long-term memory
 - Manipulation in working memory
- Knowledge telling v knowledge transforming
 - Adapting to external rhetorical constraints
 - Managing cognitive load / Outlining (Kellogg, 1994)
- Problem solving all the way down?
 - Text production as local planning
 - Passive output process

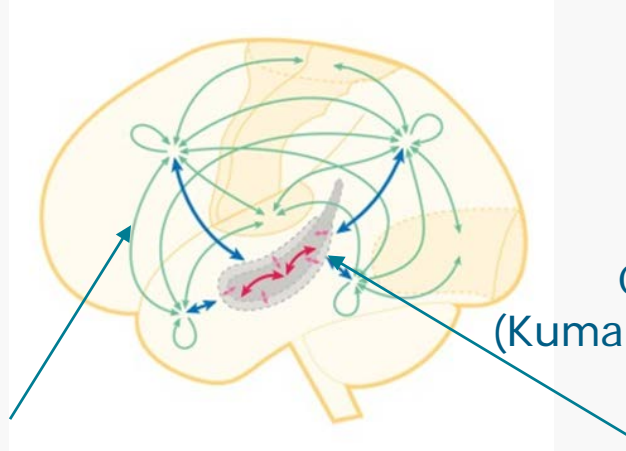
Dual process model

(Galbraith & Baaijen, 2018)

- Two conflicting processes
 - Construction of explicit mental model to satisfy rhetorical goals (i.e. knowledge-transforming)
 - Spontaneous text production guided by implicit organisation of semantic memory
- Conflict between two sources of organisation rather than just cognitive load

Dual- process model

(Galbraith, 2009: Galbraith & Baaijen, 2018)



Complementary learning systems
(Kumaran et al., 2016; McClelland et al., 1995)

Knowledge- constituting system (semantic memory) (neo- cortex)

- Implicit representation of knowledge in connections between units
- Synthesis controlled by strength of connections between units
- Organisation of ideas emerges through feedback from text in working memory to writer's implicit disposition

Knowledge- retrieval system (episodic memory) (hippocampus)

- Explicit representation of knowledge as separate ideas
- Retrieval of ideas from memory (knowledge-telling)
- Organisation of ideas depends on external, goal-directed manipulation of content in working memory (knowledge-transforming)

Relationship between text quality, writing processes and discovery (Baaijen & Galbraith 2018)

- Compared two types of planning
 - Outline planning
 - Synthetic planning
- Keystroke analysis to identify 2 processes
 - Spontaneous v controlled sentence production
 - Brief pauses between sentences combined with revision during sentence production
 - Global revision
 - Revising the text
- Measured discovery & text quality

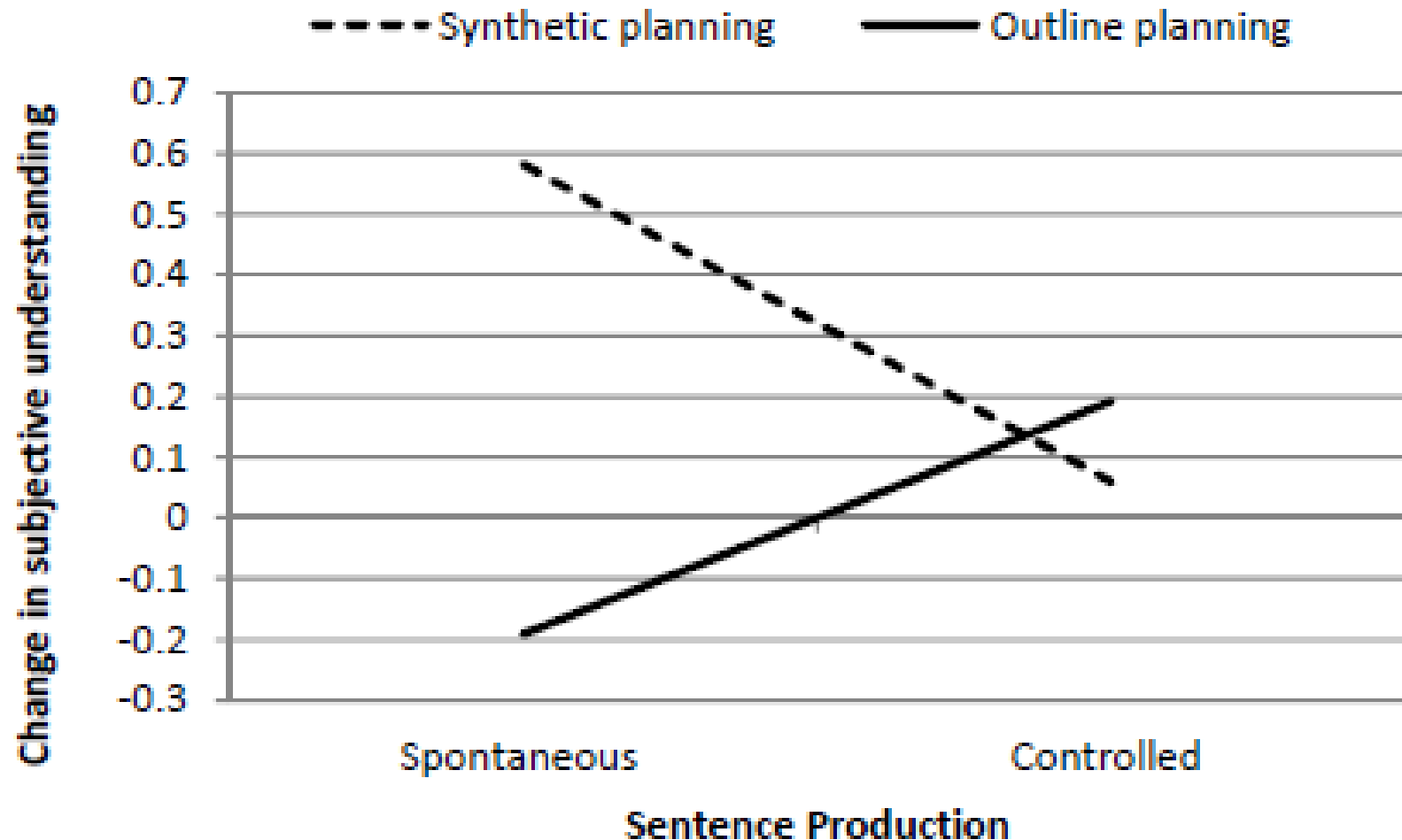
Relationship with text quality

- Fits problem-solving model:
 - Revision of global structure
 - Controlled sentence production

Relationships between writing processes and discovery

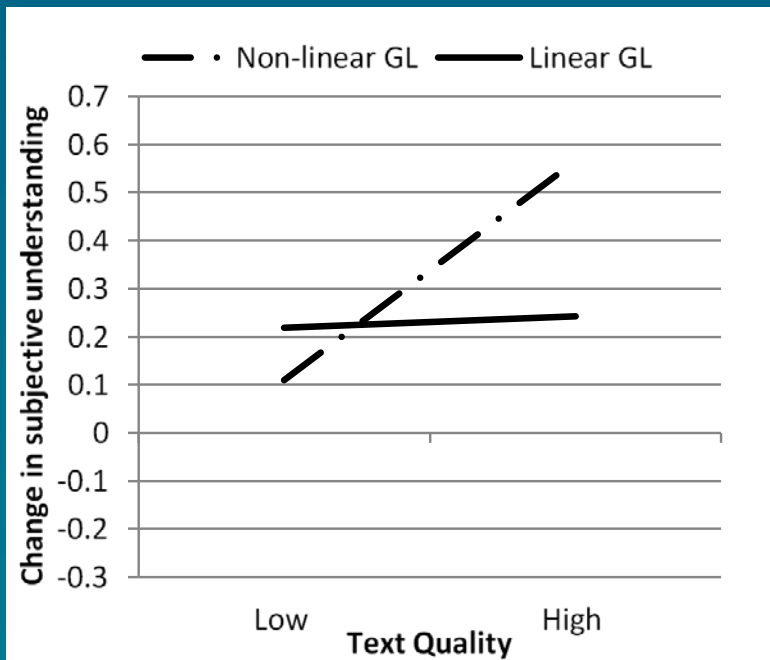
- Two separate processes
 - Greater revision of global structure
 - More spontaneous, synthetically planned sentence production

Relationship between sentence production and discovery

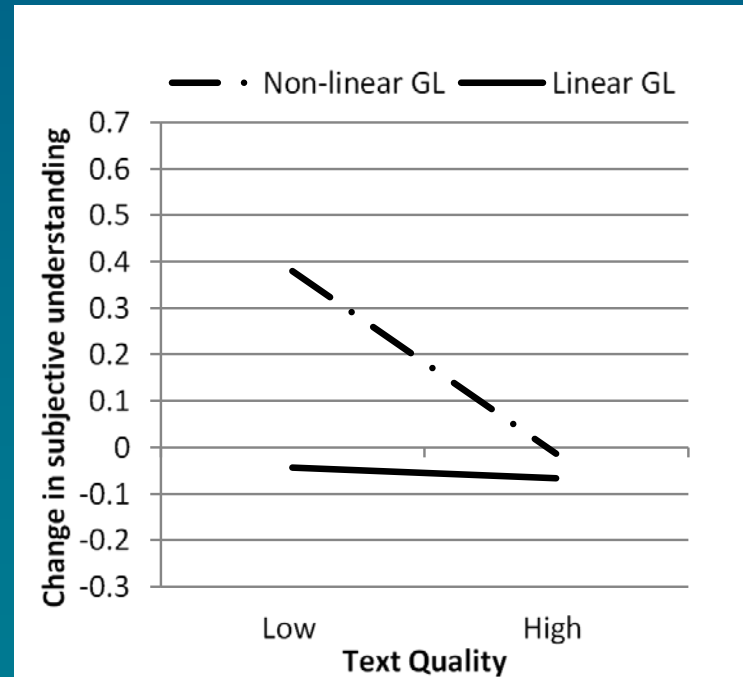


Relationship between text quality and development of thought

Synthetic planning



Outline planning

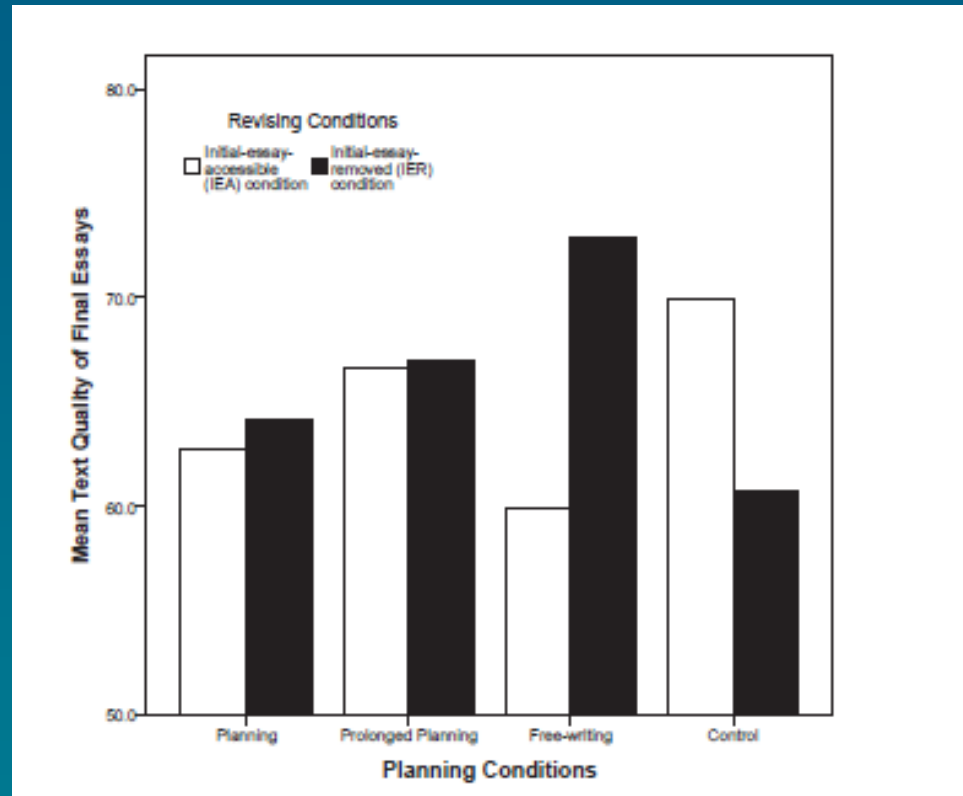


Summary

- 2 different kinds of process
 - Externally shaped, goal-directed processes
 - Genre, forms of discourse
 - Implicit personal understanding made explicit through formulation in language
 - Synthetically planned drafts
- Outlining helps some writers but at the expense of discovery
- Reverse outlining strategy could reconcile the processes

Reverse outlining (Galbraith & Torrance, 2004)

Ong & Zhang (2013)



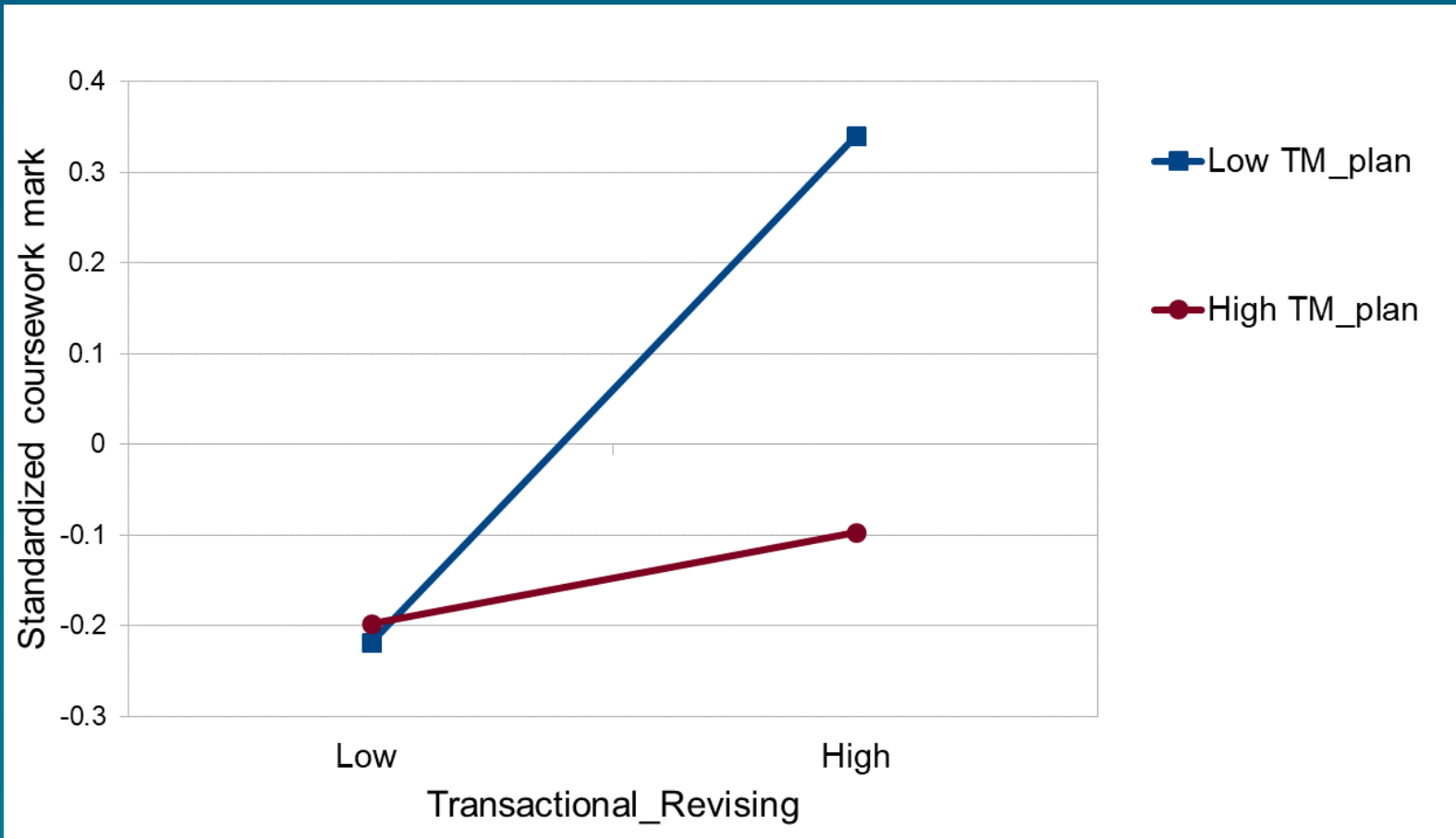
Kieft et al., (2007, 2008) Revising strategy can be effective, for some writers at least

Baaijen et al., (2014) High transactional writers in particular

Questionnaire study of undergraduates' writing beliefs

First

High 2.1



Overall strategy

Collecting ideas and notes, reading, organising

Summing up the overall theme

Revising and rewriting over drafts

Initially for understanding and organisation

Gradually focussing more on language expression and presentation

How does a traditional outlining strategy work for adult writers with dyslexia?

- University students with dyslexia typically produce shorter texts of lower quality when writing under similar time constraints (e.g. Connelly et al., 2006) .
- Impact on higher level processes?

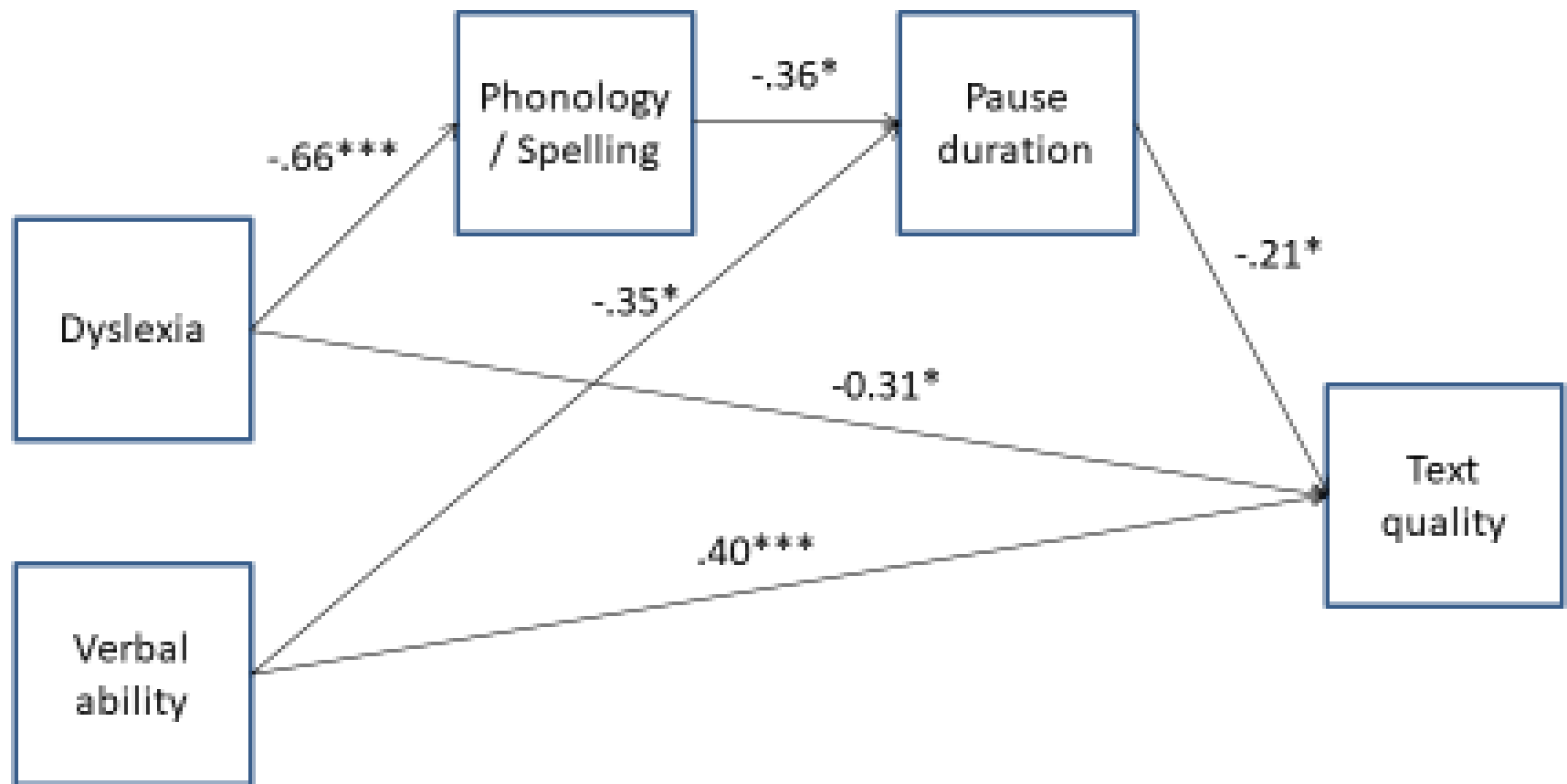
Galbraith et al. (in preparation)

- 60 UGs with and without dyslexia
 - No difference in intelligence (WASI)
 - Marked differences in spelling and reading ability (DAST subset)
- Outline planned essays discussing the pros and cons of euthanasia
 - Triple task (with and without triple task)
 - Inputlog to record keystrokes in all conditions

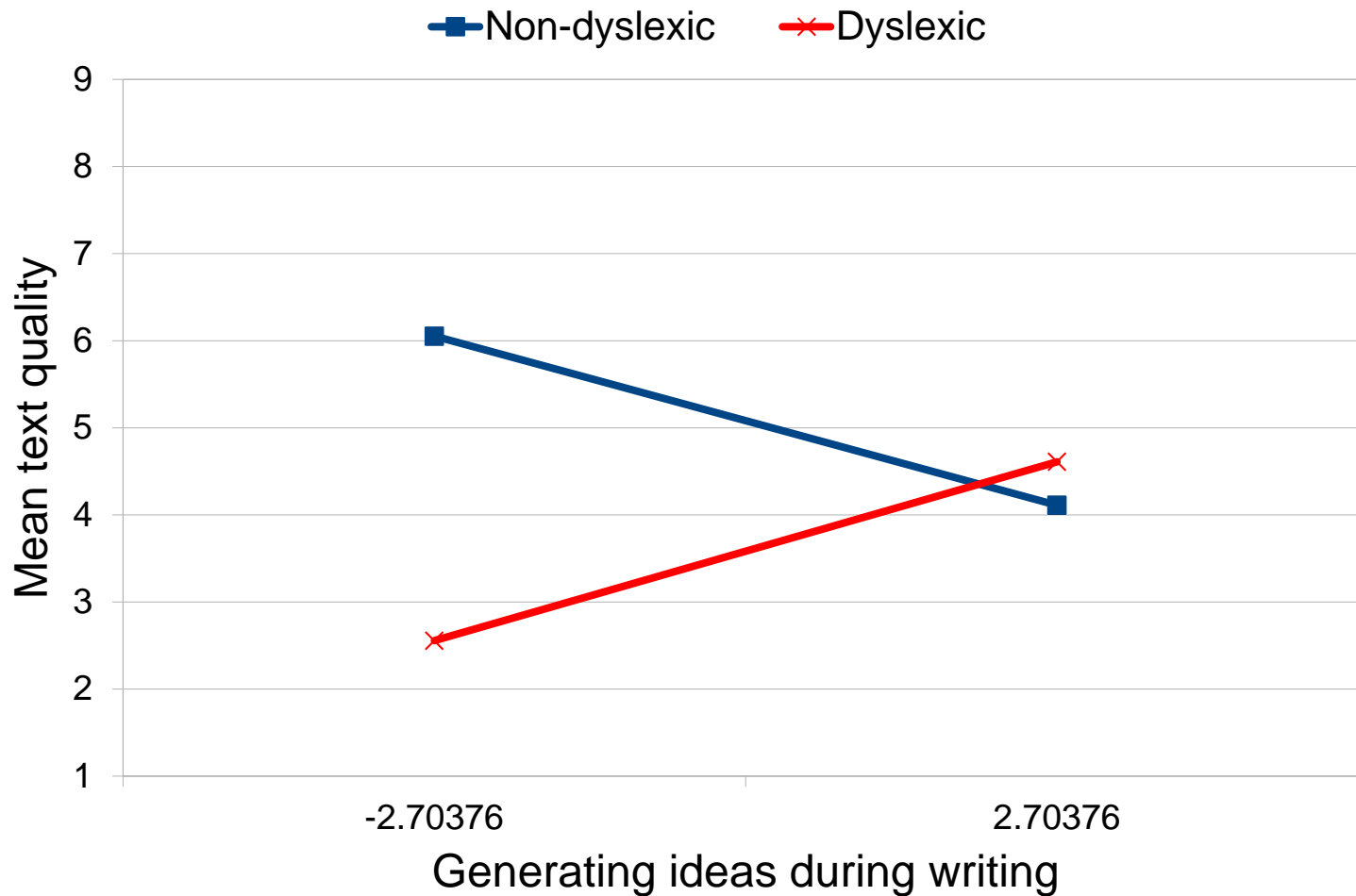
Text quality

- Writers with dyslexia made more spelling mistakes (5.6% v 2.4%) and wrote shorter texts (556 v 469 words)
- Even after texts were corrected for spelling and capitalisation, their texts were rated as of much lower quality (3.6 v 5.4)
- No difference in the quality or length of texts produced under triple task conditions

Path diagram for effects of dyslexia and verbal ability (standardised coefficients)



Generating ideas during writing and text quality



Conclusion

- Slower formulation of text because of difficulties with spelling reduces text quality
- But also suggestion of difficulties relating planning to text production
 - Does generating content close to point of utterance reduce language planning difficulties?
 - Or does global revision during writing help overcome planning difficulties?
 - How effective would a reverse outlining strategy be for writers with dyslexia?

Key references

(open access; click the title to access paper)

- Galbraith, D. & Baaijen, V. M. (2018). The Work of Writing: Raiding the Inarticulate. *Educational Psychologist*, 53(4), 238-257.
- Baaijen, V. M. & Galbraith, D. (2018). Discovery through writing: Relationships with writing processes and text quality. *Cognition and Instruction*, 36(3), 199-223.

