



THE CASE FOR FULLY-GUIDED INSTRUCTION

A POSTER BASED ON...

PUTTING STUDENTS ON THE PATH TO LEARNING

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WE KNOW



Decades of research tell us, unambiguously, that direct, explicit instruction for novices is more effective and efficient than minimal guidance methods.

P.S. BY DEFINITION STUDENTS ARE NOVICES — OTHERWISE THEY WOULD BE THE TEACHERS

CREATED BY
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NOVICES

EXPERTS



LEARN DIFFERENTLY

Have no access to relevant schemas.

Have many connected and relevant schemas.



Try to remember and process individual aspects of a skill.

Acquire skills without needing to remember the relevant rules.

Use up all their cognitive capacity in inefficient problem-solving.

Have important fluency needed for complex problem-solving transfer.

Work backwards in search for solutions exhausting working memory and preventing learning taking place.

Work forwards from knowledge-related schemas, freeing up working memory for learning.

As far back as 1991, cognitive scientist, Paul Kirschner, identified



THE CONSTRUCTIVIST TEACHING FALLACY

Confusing a theory of how experts learn (EPISTEMOLOGY), with a prescription of how to teach novices (PEDAGOGY)

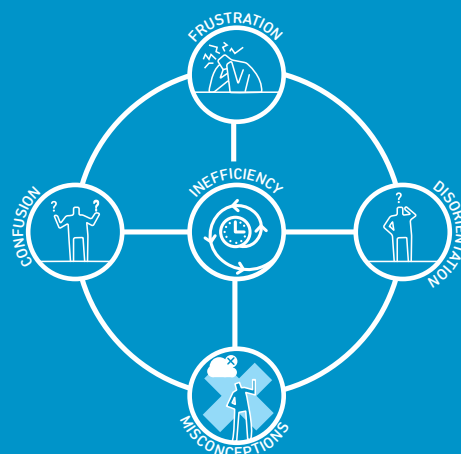
With minimally-guided instruction, novices suffer from



COGNITIVE OVERLOAD

through non-productive mental effort.

With minimal guidance instruction, novices experience



As well as...



Minimal-guidance instruction affects the less able students far more than the more able.

A WIDENING ACHIEVEMENT GAP



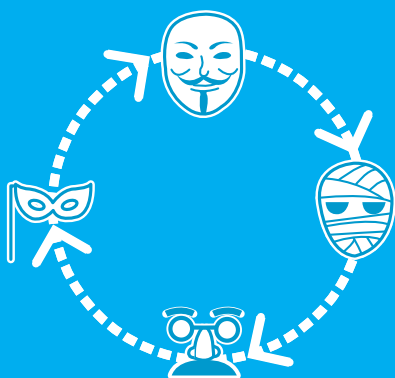
Alarming, many such students score lower in post lesson tests than they did before the lesson.

MINIMAL-GUIDANCE METHODS IN DISGUISE

Over the decades, minimal guidance approaches have been reborn as...

- discovery learning
- problem-based learning
- inquiry learning
- experiential learning.

And each time, we have to learn anew of its limitations, by ignoring all the previous evidence that invalidates this approach to teaching.



Fully-guided instruction isn't the dull, prosaic alternative. It is enjoyable, effective and efficient, containing...

