



THE CASE FOR FULLY-GUIDED INSTRUCTION

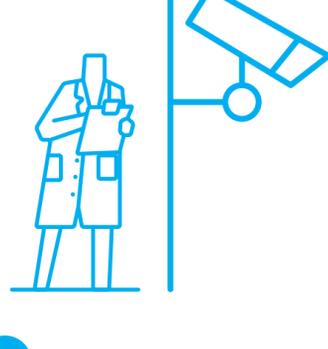
AN INFOGRAPHIC SUMMARY OF THE ARTICLE **PUTTING STUDENTS ON THE PATH TO LEARNING**

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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

BECAUSE

NOVICES



&

EXPERTS



LEARN DIFFERENTLY

Have no access to relevant schemas.



Possess schemas for connecting separate pieces of information into a single, unified whole.



v.

Try to remember and process individual aspects of a skill.



Acquire skills without needing to remember the relevant rules.



v.

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



Have important fluency needed for complex problem-solving transfer.

v.

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.

v.



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CAUSING

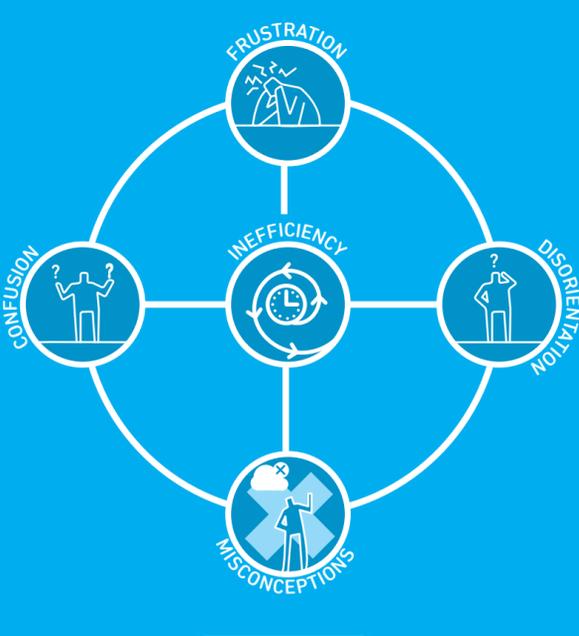
don't forget this means STUDENTS

in novices experiencing minimally-guided instruction, a case of



COGNITIVE OVERLOAD

through non-productive MENTAL EFFORT



AND, WORSE

Minimal-guidance instruction affects the less able students far more than the more able. Because of their smaller background memories soon become overloaded.



THE ACHIEVEMENT GAP WIDENS

Most alarmingly, many such students score lower in post lesson tests than they did before the lesson started. So not only does cognitive overload prevent learning, it seems even to negate existing learning.



DUE TO



What cognitive scientist, Paul Kirschner, identified in 1991 as...



THE CONSTRUCTIVIST TEACHING FALLACY

Confusing a theory of how experts learn (epistemology), with a prescription of how to teach novices (pedagogy)

RESULTING IN

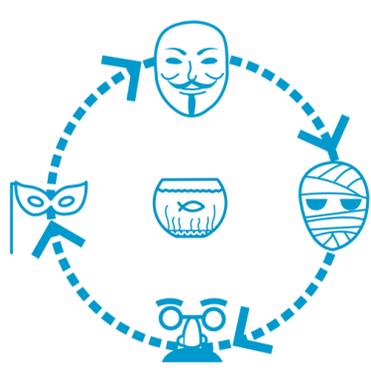
MINIMAL-GUIDANCE METHODS IN DISGUISE

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.

The goldfish syndrome?



Recent responses from champions of minimal-guidance methods to this avalanche of invalidating evidence, is to state that poor results have been due to a lack of prior fully-guided instruction in the teaching process.

In other words, successful minimal-guidance methods need a platform of fully-guided instruction. Well... what a surprise!

BUT

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

