

Cognitive load theory: Research that teachers really need to understand

The CESE literature review 'Cognitive load theory: Research that teachers really need to understand' is also a MyPL course

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About cognitive load theory

Dylan Wiliam has described cognitive load theory as 'the single most important thing for teachers to know'. Grounded in a robust evidence base, cognitive load theory provides support for explicit models of instruction.

The CESE literature review 'Cognitive load theory: Research that teachers really need to understand' explains the principles behind cognitive load theory and how it assists the human brain to learn and store knowledge.

Main findings

- The human brain can only deal with a small amount of new information at once, but it can hold a very large amount of stored information.
- Cognitive load theory provides support for explicit models of instruction.
- Research from cognitive load theory has produced a number of instructional techniques that are directly transferable to the classroom.

How memory works:



Small amounts of short term information are processed in the working memory

The average person can only hold about four 'chunks' of information in their working memory at once.



Large amounts of information are stored semi-permanently in the long-term memory

Information is stored in 'schemas' which provide a system for organising and storing knowledge.



Working memory can become overloaded

If a student's working memory is overloaded, they may not understand the content being taught.



Memory overload can be prevented

With practice, and strategies to minimise cognitive load, information can be automatically recalled from long-term memory, freeing up the working memory to learn new information.

About CESE

The Centre for Education Statistics and Evaluation (CESE) was created by the NSW Department of Education in 2012 to improve the effectiveness, efficiency and accountability of education in NSW. CESE is focused on supporting decision-making in education delivery and development with strong evidence.