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Expertise Reversal Effect

Theory

Expertise reversal effect means that

• "instructional techniques that are highly effective with inexperienced learners can lose their effectiveness and even have negative consequences when used with more experienced learners."

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This means that many practices that are helpful to novices are inefficient for experts due to the difference in knowledge. Information that might be crucial for novices to understand something is already well known and redundant²⁾ to the experts so it may produce **unnecessary extraneous load**.³⁾

Practice

In practice, expert reversal effect means learning materials should be adjusted to users depending on their **expertise level** (**prior knowledge**). For example, studying worked examples is effective for novices, but due to prior knowledge practice and solving problems becomes more and more effective technique as the expertise level increases. Also,

• "explanatory text may be essential for novices and so should be physically integrated with diagrams or presented in spoken form to reduce extraneous cognitive load. With increasing expertise, the text becomes redundant and should be eliminated." 4)

To deal with this effect, a rapid **test of knowledge** has been proposed.⁵⁾

Research status

Newer research has confirmed this effect and replicated results of previous studies. 6)

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