One Side Guide to… the Case for Fully Guided Instruction

Source: Paul Kirschner, John Sweller and Richard Clark, American Educator 2012)
(https://www.aft.org/sites/default/files/periodicals/Clark.pdf)

- Rationale: decades of research clearly shows that for novices direct, explicit instruction is more effective and efficient than partial guidance
- Small group and independent work can be effective – but as a means of practising recently learned content and skills.
- Issues with minimally guided instruction:
    - Only the most able pupils make the discovery
    - Many students become frustrated and disengage or copy the brighter students
    - Some students believe they have discovered the correct solution or information but are mistaken and so instead 'learn' a misconception.
    - Discovery learning takes far longer
    - It can increase the achievement gap (based on review of 70 studies)
- Implication is that teachers should provide explicit instruction when introducing a topic but gradually fade it out as knowledge and skill increase
- In cognitive science, constructivism is a widely-accepted theory of learning because learning requires the construction of knowledge; but this does not have to be achieved by discovering the learning yourself (i.e. you can construct knowledge by listening to a teacher or reading a book).
- Expert problem solvers draw on extensive experience stored in their long-term memory, known as mental schema.
- Provides the ultimate justification for instruction: the aim of all instruction is to add knowledge and skills to long-term memory. If nothing is added to long term memory, nothing is learned.
- A novice's only resource is constrained working memory while an expert can draw on all the relevant knowledge and processes stored in long-term memory.
- Demonstrated by the 'worked example' effect – if we try to solve a novel problem through discovery the only thing to do is blindly search for a solution. Places greater burden on working memory. Studying a worked example reduces the burden because solution only has to be comprehended not discovered.