



# Worked Examples

*Effective teachers use worked examples to reduce student cognitive load, enabling them to focus on understanding a process which leads to an answer, not the answer itself.*

## Strategy overview

Hattie (2009) found an effect size of 0.57 for worked examples.

### What is it?

A worked example is a demonstration of the steps required to complete a task or solve a problem. By scaffolding the learning, worked examples support skill acquisition and reduce the cognitive load for learners. Usually, the teacher presents a worked example to students and explains each step. Later, students can use worked examples during independent practice, and to review and embed new knowledge.

### How effective is it?

Worked examples are effective in demonstrating what success looks like, and how to achieve success. This reduces the cognitive load for students by helping them to focus on the process required to complete a task or find the solution to a problem. Research demonstrates that worked examples are most effective when the teacher explicitly teaches the steps taken to complete the worked example, and when learners use self-explanations to describe the steps to themselves and others. The overall impact on student learning is high, measured at 0.57 in Hattie's research.



## High Impact Teaching Strategies (HITS)



# Worked Examples

## Considerations

Using a series of worked examples can assist teachers to scaffold student knowledge and skill acquisition. However, when progressively incorporating additional stretch, each new example needs to be adequate to challenge the learner – not too great, not too little. Formative assessment is used to monitor student understanding and target teaching to the appropriate level of challenge.

Gradually omitting steps from worked examples can be effective too. This approach supports the students' transition from learning by using worked examples as references, to using problem solving and metacognition (for example, self-verbalisation and self-questioning).

The effectiveness of worked examples is related to the learners' relative expertise. Reliance on worked examples decreases as learners' proficiency increases.



## High Impact Teaching Strategies (HITS)



# Worked Examples

## Personal reflection on my teaching practice...

Reflective practice provides a means for teachers to improve their practice to effectively meet the learning needs of their students. Brookfield succinctly describes the advantages of reflective practice to teachers as:

- It helps teachers to take informed actions that can be justified and explained to others and that can be used to guide further action.
- It allows teachers to adjust and respond to issues.
- It helps teachers to become aware of their underlying beliefs and assumptions about learning and teaching.
- It helps teachers promote a positive learning environment.
- It allows teachers to consciously develop a repertoire of relevant and context specific strategies and techniques.

It helps teachers locate their teaching in the broader institutional, social and political context and to appreciate that many factors influence student learning.



## High Impact Teaching Strategies (HITS)



# Worked Examples

**This strategy is demonstrated when the teacher:**

- scaffolds the acquisition of new knowledge and skills by presenting students with a clear, step-by-step example

*Personal reflection on my teaching practice...*

- designs worked examples that are accessible to students (self-explanatory) and unpacks the learning process, highlighting options available to arrive at the correct solution

*Personal reflection on my teaching practice...*

- monitors student learning and supports students to move towards more independent practice.

*Personal reflection on my teaching practice...*



## High Impact Teaching Strategies (HITS)



# Worked Examples

**This strategy is not demonstrated when the teacher:**

- introduces new knowledge and skills with worked examples that are too complex and inaccessible to learners

*Personal reflection on my teaching practice...*

- uses the same worked examples for all learners, including those with an already advanced knowledge of the topic or subject matter.

*Personal reflection on my teaching practice...*

**This strategy is demonstrated when students:**

- are engaged and on task because the worked example is pitched at the right level of challenge

*Personal reflection on my teaching practice...*



## High Impact Teaching Strategies (HITS)



# Worked Examples

- understand that the focus is on understanding the process required to complete the task

*Personal reflection on my teaching practice...*

- can move with confidence from using worked examples to independent practice.

*Personal reflection on my teaching practice...*



## High Impact Teaching Strategies (HITS)



# Worked Examples

## Continuity of practice

Teachers access professional learning to build teacher knowledge and skills in using worked examples.

Teachers sometimes use worked examples to introduce new knowledge and skills.

Teachers identify worked examples as a focus for learning and development in Performance and Development Plans.

Teachers regularly use worked examples to present new knowledge and skills, and to scaffold student learning.

Teachers collaboratively develop and share worked examples in Professional Learning Communities. They monitor the impact on student learning outcomes to evaluate their effectiveness.

Professional Learning Communities support building knowledge and skills in effectively using worked examples, as referenced in teachers' Performance and Development Plans.

Teachers collaboratively develop and share worked examples. They use them to scaffold student learning and to foster metacognition.

Teachers analyse a range of data, including student feedback, to measure the impact on student learning and to evaluate the effectiveness of worked examples.



## High Impact Teaching Strategies (HITS)



# **Worked Examples**

Worked examples are used deliberately and systematically, and embedded in lesson and unit structures. They are used consistently across learning areas. As part of the school improvement focus on evidence-based high impact teaching strategies, the school monitors the use of worked examples, and evaluates their effectiveness in improving the quality of learning.



## **High Impact Teaching Strategies (HITS)**