



1.

Setting Goals



2.

Structuring Lessons



3.

Explicit Teaching



4.

Worked Examples



5.

Collaborative Learning

Overview

Lessons have clear learning intentions with goals that clarify what success looks like.

Lesson goals always explain what students need to understand, and what they must be able to do. This helps the teacher to plan learning activities, and helps students understand what is required.

Overview

A lesson structure maps teaching and learning that occurs in class.

Sound lesson structures reinforce routines, scaffold learning via specific steps/activities. They optimise time on task and classroom climate by using smooth transitions. Planned sequencing of teaching and learning activities stimulates and maintains engagement by linking lesson and unit learning.

Overview

When teachers adopt explicit teaching practices they clearly show students what to do and how to do it.

The teacher decides on learning intentions and success criteria, makes them transparent to students, and demonstrates them by modelling. The teacher checks for understanding, and at the end of each lesson revisits what was covered and ties it all together (Hattie, 2009).

Overview

A worked example demonstrates the steps required to complete a task or solve a problem.

By scaffolding the learning, worked examples support skill acquisition and reduce a learner's cognitive load.

The teacher presents a worked example and explains each step. Later, students can use worked examples during independent practice, and to review and embed new knowledge.

Overview

Collaborative learning occurs when students work in small groups and everyone participates in a learning task.

There are many collaborative learning approaches. Each uses varying forms of organisation and tasks.

Collaborative learning is supported by designing meaningful tasks. It involves students actively participating in negotiating roles, responsibilities and outcomes.

Key elements

- Based on assessed student needs
- Goals are presented clearly so students know what they are intended to learn
- Can focus on surface and/or deep learning
- Challenges students relative to their current mastery of the topic
- Links to explicit assessment criteria

Key elements

- Clear expectations
- Sequencing and linking learning
- Clear instructions
- Clear transitions
- Scaffolding
- Questioning/feedback
- Formative assessment
- Exit cards

Key elements

- Shared learning intentions
- Relevant content and activities
- New content is explicitly introduced and explored
- Teacher models application of knowledge and skills
- Worked examples support independent practice
- Practice and feedback loops uncover and address misunderstandings

Key elements

- Teacher clarifies the learning objective, then demonstrates what students need to do to acquire new knowledge and master new skills
- Teacher presents steps required to arrive at the solution so students' cognitive load is reduced and they can focus on the process
- Students practice independently using the worked example as a model

Key elements

- Students work together to apply previously acquired knowledge
- Students cooperatively solve problems using previously acquired knowledge and skills
- Students work in groups that foster peer learning
- Groups of students compete against each other

Related effect sizes*

- Goals – 0.56
- Teacher clarity – 0.75

Related effect sizes*

- Scaffolding – 0.53
- Formative evaluation – 0.68
- Teacher clarity – 0.75

Related effect sizes*

- Goals – 0.56
- Worked examples – 0.57
- Time on task – 0.62
- Spaced practice – 0.60
- Direct instruction – 0.59
- Teacher clarity – 0.75

Related effect sizes*

- Worked examples – 0.57
- Spaced practice – 0.60

Related effect sizes*

- Peer tutoring – 0.55
- Reciprocal teaching – 0.74
- Small group learning – 0.49
- Cooperative learning vs whole class instruction – 0.41
- Cooperative learning vs individual work – 0.59
- Cooperative learning vs competitive learning – 0.54

Months of progress**

- Collaborative learning +5
- Peer tutoring +5

* As reported in: Hattie, J. (2009). *Visible Learning: A synthesis of over 800 meta-analyses relating to achievement*. Milton Park, UK: Routledge.

** As reported in: Evidence for Learning (2017) *Teaching and Learning Toolkit - Australia*. <http://evidenceforlearning.org.au/the-toolkit/>



6.

Multiple Exposures

Overview

Multiple exposures provide students with multiple opportunities to encounter, engage with, and elaborate on new knowledge and skills.

Research demonstrates deep learning develops over time via multiple, spaced interactions with new knowledge and concepts. This may require spacing practice over several days, and using different activities to vary the interactions learners have with new knowledge.

Key elements

- Students have time to practice what they have learnt
- Timely feedback provides opportunities for immediate correction and improvement

Related effect sizes*

- Time on task – 0.62
- Spaced practice – 0.71
- Feedback – 0.73

Months of progress**

- Mastery learning +5



7.

Questioning

Overview

Questioning is a powerful tool and effective teachers regularly use it for a range of purposes. It engages students, stimulates interest and curiosity in the learning, and makes links to students' lives.

Questioning opens up opportunities for students to discuss, argue, and express opinions and alternative points of view.

Effective questioning yields immediate feedback on student understanding, supports informal and formative assessment, and captures feedback on effectiveness of teaching strategies.

Key elements

- Plan questions in advance for probing, extending, revising and reflecting
- Teachers use open questions
- Questions used as an immediate source of feedback to track progress/understanding
- Cold call and strategic sampling are commonly used questioning strategies

Related effect sizes*

- Questioning – 0.46



8.

Feedback

Overview

Feedback informs a student and/or teacher about the student's performance relative to learning goals.

Feedback redirects or refocuses teacher and student actions so the student can align effort and activity with a clear outcome that leads to achieving a learning goal.

Teachers and peers can provide formal or informal feedback. It can be oral, written, formative or summative. Whatever its form, it comprises specific advice a student can use to improve performance.

Key elements

- Precise, timely, specific, accurate and actionable
- Questioning and assessment is feedback on teaching practice
- Use student voice to enable student feedback about teaching

Related effect sizes*

- Feedback – 0.73

Months of progress**

- Feedback +8



9.

Metacognitive Strategies

Overview

Metacognitive strategies teach students to think about their own thinking.

When students become aware of the learning process, they gain control over their learning.

Metacognition extends to self-regulation, or managing one's own motivation toward learning. Metacognitive activities can include planning how to approach learning tasks, evaluating progress, and monitoring comprehension.

Key elements

- Teaching problem solving
- Teaching study skills
- Promotes self-questioning
- Classroom discussion is an essential feature
- Uses concept mapping

Related effect sizes*

- Teaching problem solving – 0.63
- Study skills – 0.60
- Self-questioning – 0.64
- Classroom discussion – 0.82
- Concept mapping – 0.64

Months of progress**

- Metacognition and self-regulation +8



10.

Differentiated teaching

Overview

Differentiated teaching are methods teachers use to extend the knowledge and skills of every student in every class, regardless of their starting point.

The objective is to lift the performance of all students, including those who are falling behind and those ahead of year level expectations.

To ensure all students master objectives, effective teachers plan lessons that incorporate adjustments for content, process, and product.

Key elements

- High quality, evidence based group instruction
- Regular supplemental instruction
- Individualised interventions

Related effect sizes*

- RTI – 1.07
- Piagetian programs – 1.28
- Second and third chance programs – 0.5

Months of progress**

- Individualised instruction +2
- Mastery learning +5