THE PRINCIPLES OF INSTRUCTION

1. Challenge: Students have high expectations of what they can achieve.
2. Explanation: Students acquire new knowledge and skills.
3. Modelling: Students know how to apply the knowledge and skills.
4. Students: Deliberate Practice: Students made to think hard with breadth, depth and accuracy.
5. Questioning: Students think about and further develop their knowledge and skills.

What makes a great curriculum?

1. Early engagement: awe and wonder; relevance; enjoyment; line of sight to employment.
2. Early success: early wins’ focus on learning routines; clarity of expectations in lessons and between lessons.
3. Relationships: focused on learning — feeling that you are in safe hands; challenged and supported.

How to improve retention

1. Theories of Learning: understanding the learners’ memory system.
2. Curriculum Design for Distinction: focus on the specific skills and knowledge that students need to learn.
3. Principles of Instruction: teaching techniques that help students learn and retain information.

THEORIES OF LEARNING

Daniel Willingham’s Simple Diagram of the Mind

1. Environment: the physical and social context in which learning occurs.
2. Attention: the ability to focus on a particular task.
3. Working Memory: the site of awareness and thinking, where new information is stored temporarily.
4. Long-term Memory: the place where information is stored for the long term.
5. Forgotten: the process of forgetting information over time.

Principles of Instruction

1. Provide models: better teachers taught in small steps followed by practice.
2. Guide student practice: success rate of around 80% has been found to be optimal.
3. Ask questions: some questions are taken to mean no problems. False.
4. Independent practice: ensures no overloading of students’ working memory.
5. Obtain high success rate: students acquire new knowledge and skills.

Curriculum Design for Distinction

1. Strategy 15: Begin with the End. Start with unit planning and then progress to lesson planning. First define the objective and then the method of assessment. Only then choose lesson activities.
3. Measurable: degree of success can be determined.
4. Made first: guiding activities, not the other way around.
5. Most important: linked to long-term success, not peripheral.

Theories of Learning

Carol Dweck’s Growth Mindset

1. Fixed mindset: avoid failure. Desire to look smart. Avoids challenges. Stick to what they know. Feedback and criticism is personal. They don’t change or improve.

Carol Dweck’s Growth Mindset

Ron Berger’s Austin’s Butterfly

1. 1st draft: improvement focused.
2. 2nd draft: making mistakes.
3. 3rd draft: delivery of mastery.
4. 4th draft: integrated products.
5. 5th draft: perform under pressure.

Curriculum Design for Distinction

Barak Rosenshine’s Principles of Instruction

1. Big Picture, Small Picture: course overviews and detailed specifications.
2. Skills and Drills: elements that can be practised over and over again.
3. Knowledge organisers: the material that must be learned in a format that supports self-quizzing.

Barak Rosenshine’s Principles of Instruction

Doug Lemov’s Teach Like a Champion

1. Strategy 15: Begin with the End. Start with unit planning and then progress to lesson planning. First define the objective and then the method of assessment. Only then choose lesson activities.
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Curriculum Design for Distinction

6. Theories of Learning: understanding the learners’ memory system.
7. Curriculum Design for Distinction: focus on the specific skills and knowledge that students need to learn.
8. Principles of Instruction: teaching techniques that help students learn and retain information.

THE LEARNING SCIENTISTS

Six Strategies for Effective Learning

1. Modelling: students need cognitive support to help them learn how to think out loud.
2. Challenge: students need to be challenged to learn.
3. Explanation: students need to understand the knowledge and skills.
4. Feedback: students need to think about and further develop their knowledge and skills.
5. Questioning: students need to be asked questions to help them learn.

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