
1. Formative Assessment
   - Occurs within a course
   - Provides immediate descriptive feedback
   - Enhances learning experience
     - Promotes learning
     - Motivates
     - Evaluates Understanding
     - Informs criteria for testing
   - Progression toward the professional
     - From external assessment (Classroom environment)
     - Peer assessment (Social environment)
     - Self assessment (Research environment)
   - For the teacher
     - Mechanisms to encourage particular learning strategies
     - Allow evaluation of student understanding/field levels
     - Evaluate teaching effectiveness

2. For the Student
   - Active problem solving
     - Promotes using knowledge
     - Encourages development of higher cognitive skills
     - Promotes reflection and active experimentation
   - Change from passive learning (listening)
     - Feedback on performance: “How was I doing?”
     - Peer assessment example: “How well did you do?”
     - Reassures specific problem area
     - Suggests route to improvement
   - Self assessment (Research environment)
     - Informs criteria for testing
     - Evaluates Understanding
     - Motivates
     - Promotes learning
     - Encourage higher cognitive skills

3. Problems
   - Feedback has been shown to be one of the most important aspects for learning
   - BUT
     - It is one of weakest areas in the academic experience

4. On-line Tutorial
   - Format
     - Student draws their own diagram while being guided by the on-line tutorial
     - Step by step guide
     - Hints to help without giving the complete answer
     - Explanations for complex component provided
   - Example
     - At any time and place environment to the student
     - Student controls pace
     - Help if needed

5. Small Group Problems Class
   - Format
     - Tutorial groups / Single answer
       - Help each other
       - Reduces marking load (from 130 -> 16)
     - On the day
       - 5 min introduction
       - 25 min to answer question
       - Swap problems
       - 10 min to mark another groups, model answer provided
     - Follow-up
       - Lecturer adds detailed feedback
       - Monitor student evaluations
       - Feedback results of online feedback (anonymous)
   - Example
     - Questions to promote understanding with “Instant” answers available
     - Online feedback (anonymous)
     - Asked other lecturers to evaluate
     - Monitor use of web-page
     - Self comments
     - Student comments page

6. In-Class Activities
   - Format
     - A simple problem
       - Reinforce material just presented
       - Requires effort to evaluate not regurgitate
     - Given 5min to complete
       - Discuss with neighbor
       - Time to assimilate
       - Work at own pace
     - Exemplar answer (various options)
       - Swap with next person and “mark”
       - Discuss with class or show of hands
       - Go through an exemplar in detail
   - Example
     - More than memorising, learning to be critical
     - New perspective!
     - Instant feedback
     - Feedback has been shown to be one of the most important aspects for learning
     - It is one of weakest areas in the academic experience

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