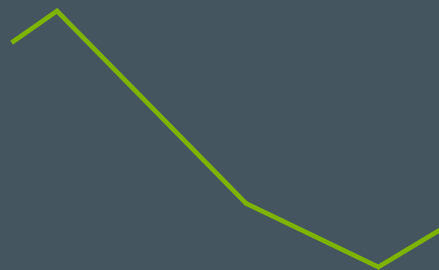


## Effective teaching, learning and assessment

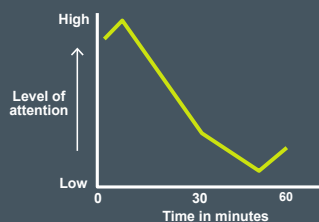


## What is this?



## Attention span in lectures

Level of student attention during a lecture



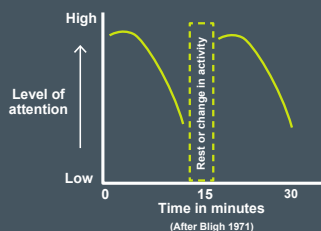
(After Bligh 1971, McLeish 1968, Lloyd 1968)

## Research about lectures

- In the first ten minutes of the lecture, students retain 70% of the information; in the last ten minutes, 20% (McKeachie)
- While teachers are lecturing, students are not attending to what is being said 40% of the time (Pollio)
- When constrained to the role of listeners, students tend to be passive not only on a behavioural level, but on a cognitive level too (Gage)
- They do not engage actively in the kinds of elaborative information processing that help to ensure understanding, retention, and transfer (Astin, Chickering & Gamson)

## Effect of a 'rest'

Effect of a rest or change in activity on level of attention



(After Bligh 1971)

## Types of 'rest'

- |                         |                      |
|-------------------------|----------------------|
| ▪ Rest                  | ▪ Read some material |
| ▪ Read notes            | ▪ Discuss a question |
| ▪ Read another's notes  | ▪ Apply this concept |
| ▪ Write down a question | ▪ Take a short test  |
| ▪ Ask your question     | ▪ Silent reflection  |
| ▪ Tackle a problem      | ▪ Planning           |

## How students learn 1

How students learn is constrained by their **skills**

(e.g. Gibbs):

- Listening
- Note-taking
- Literacy
- Numeracy
- Research
- Time management
- ???

## How students learn 2

How students learn is influenced by **beliefs** about how they learn, About what knowledge is and about what teachers should do.

(linked to *stages of intellectual development*):

*Perry:*

**dualistic** (right/wrong),

**relativistic, multiplistic**, (knowledge uncertain/opinion rules),

**some ideas more valid** (based on evidence)

## How students learn 2 *contd*

*Baxter Magolda:*

**absolute knowing** (to obtain right answer, 68% first yrs)

**transitional knowing**, knowledge partially certain/uncertain (to understand, 32% first yrs) (*both stages students are passive recipients*)

**independent knowing**, knowledge uncertain (create own perspectives

16% seniors, 57% one yr after graduation)

**contextual knowing**, knowledge based on evidence in context (think through problems & integrate & apply knowledge, 12% one yr after grad)

## How students learn 3

Students have preferred **learning styles**

(e.g. Wolf & Kolb, Pask, Honey & Mumford, Gardner, Fleming)

*Fleming/VARK:*



## How students learn 4

Students learn if they have **motivation**

(e.g. Pintrich, Brown & Weinstein):

- **Intrinsic motivation**

(desire to understand or learn for its own sake)

related to:

self-regulation/choice (incl. control of learning resources)

relevance/interest

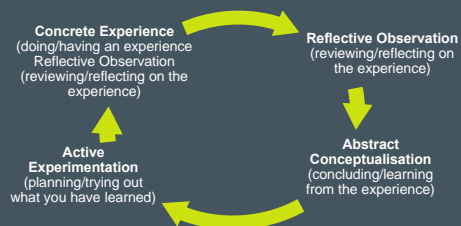
and a deep approach to learning

- **Extrinsic**

(desire to attain an external goal)

## How students learn 5

Students learn by **doing**, linking theory and practice in a cyclical sequence (e.g. Kolb)



## How students learn 6

Students learn by **constructing meaning**

(e.g. Piaget, Bruner, Vygotsky):

The social-constructivist view of learning argues that knowledge is shaped and evolves through increasing participation within different communities of practice

Learning requires a qualitative change in the learner - rather than a quantitative change in the amount of knowledge someone possesses. This qualitative change is in the understanding that the learner constructs.

## How students learn 7

Students learn by **intention** which is affected by **context**

(e.g. Marton and Saljo, Entwistle & Tait, Ramsden):

Surface or reproducing *approach* to learning  
(does not seek understanding, tend to rely on memorisation)

Deep or meaning *approach* to learning  
(seek to relate and reinterpret knowledge)

Achieving or strategic *approach* to learning  
(desire to excel and achieve top grades, which may or may not increase understanding)

*& students' approaches can be greatly influenced by the course design*

## How students learn 7 contd

- course design affect on approach

### Surface approach

A heavy workload

Relatively high class contact hours

An excessive amount of course material

A lack of opportunity to pursue subjects in depth

A lack of choice over subjects and a lack of choice over the method of study

A threatening and anxiety provoking assessment system

### Deep approach

The engendering of intrinsic motivation in the students; students wanting and needing to know

Learner activity

Interaction with others

A well structured knowledge base - i.e. where content is taught in integrated wholes and where knowledge is required to be related to other knowledge

## Need for active engagement

- Optimal conditions for learning include the provision of opportunities for students to interact with the information, ideas, materials, or procedures presented. (e.g. Cross, Entwistle & Percy, Erickson)
- Research has also highlighted the interpersonal nature of student success & satisfaction in HE (e.g. Astin). This has underscored the importance of creating as many opportunities as possible for substantive engagement among students with their academic coursework, both in and out of class (Light)

## 7 principles for good practice

Good practice....

- Encourages student-staff contact
- Encourages cooperation among students
- Encourages active learning
- Gives prompt feedback
- Emphasises time on task
- Communicates high expectations
- Respects diverse talents and ways of learning

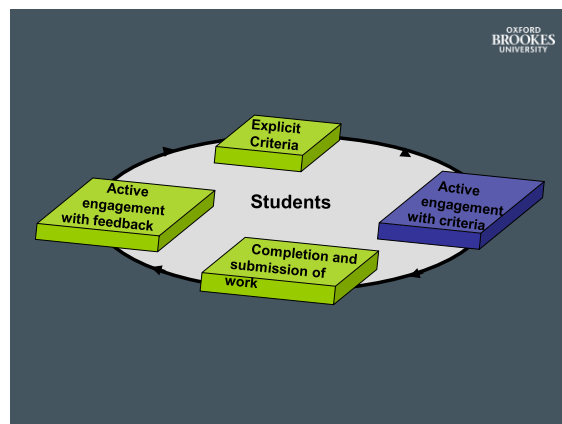
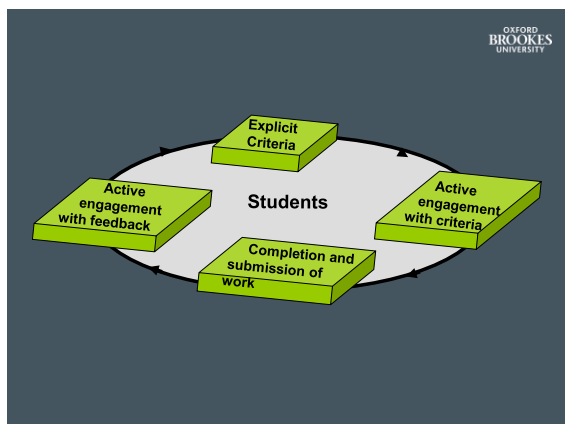
Arthur W Chickering et al,  
for the American Association for Higher Education,  
the Education Commission of the States, and the Johnson Foundation (1987)

## Engaging students with assessment

### Social-constructivist view of assessment

the social-constructivist view of learning argues that knowledge is shaped and evolves through increasing participation within different communities of practice

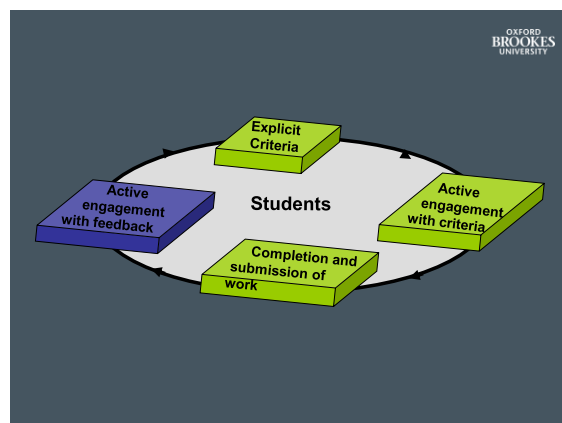
the social-constructivist process model of assessment argues that students should be actively engaged with every stage of the assessment process in order that they truly understand the requirements of the process, and the criteria and standards being applied, and should subsequently produce better work (Rust C., O'Donovan, B., & Price, M., 2005)



## Engaging students with criteria

Get students actively using the criteria through a developmental combination of:

- Marking exercises
- Self-assessment
- Peer-feedback
- Peer-assessment
- Possibly creating and negotiating criteria



## Potential of feedback

Feedback is the most powerful single influence that makes a difference to student achievement

Hattie (1987) - *in a comprehensive review of 87 meta-analyses of studies*

Feedback has extraordinarily large and consistently positive effects on learning compared with other aspects of teaching or other interventions designed to improve learning

Black and Wiliam (1998) - *in a comprehensive review of formative assessment*

Students are hungry for feedback to develop their learning (Higgins et al, 2002)

## Feedback problems

- ❑ Unhelpful feedback (Maclellan, 2001)
- ❑ Too vague (Higgins, 2000)
- ❑ Subject to interpretation (Ridsdale, 2003)
- ❑ Not understood (e.g. Lea and Street, 1998)
- ❑ Don't read it (Hounsell, 1987)
- ❑ Damage self-efficacy (Wotjas, 1998)
- ❑ Has no effect (Fritz et al, 2000)
- ❑ Seen to be too subjective (Holmes & Smith, 2003)

*It is not enough to improve feedback as a monologue; we must make it **a dialogue** (Nicol, 2009)*

## Improving feedback - prepare students (in Yr 1 esp.)

*it is the interaction between both believing in self-responsibility and using assessment formatively that leads to greater educational achievements (Brown & Hirschfeld, 2008)*

- ❑ Aligning expectations (of staff & students, & between teams of markers)
  - often a mismatch of expectations e.g. correcting errors, advice for the future, diagnosis of general problems, comments specific only to that piece of work. These mismatches occur frequently with no particular pattern about who holds which view/perspective but problems arise when the two don't coincide. Purpose of feedback may vary from assignment to assignment so would need to be clarified each time. (Freeman & Lewis, 1998)
- ❑ Identifying all feedback available (especially oral)
- ❑ Model the application of feedback
  - e.g. using previously-marked assignments to show how feedback was used (or consider how used) to improve later assignments
- ❑ Encourage the application of feedback
  - e.g. in a subsequent piece of work the student is required to show how they have used prior feedback to try to improve their work (and possibly some marks allocated for this).
- ❑ Require and develop self-assessment

## Improving feedback - ensure it is fit for purpose

- ❑ Ensure students have MOM - Motive, Opportunity, Means (Shute, 2008)
- ❑ Draft-plus-rework - feedback effort (for markers and students) is located at the draft stage, and possibly only a summative grade is given for the final submission
- ❑ Improve the linkage of assessment strategies across programmes and between modules/units
- ❑ Increase opportunities for dialogue - in-class discussion of exemplars, peer-review discussions supported by tutors, learning-sets, etc.
- ❑ Identify what is feasible in a given assessment context - written feedback can often do little more than 'diagnose' development issues and then direct students to other resources for help and support
- ❑ Consider the role of marks - they obscure feedback
- ❑ Ensure it is timely - 'quick and dirty' generic feedback, feedback on a draft, MCQs & quizzes, etc.
- ❑ Using technology – see <http://tinyurl.com/tfaproject>
- ❑ Reduce over-emphasis on written feedback - oral can be more effective (McCune, 2004). See the Sounds Good website at: <http://sites.google.com/site/soundsgooduk/>

## At its simplest, need two conceptual shifts

1. Self and peer assessment need to be seen as essential graduate attributes (i.e. learning outcomes themselves, rather than processes)
2. Feedback needs to be seen as a dialogue (rather than a monologue)

... with an explicit intention to bring students into the community of assessment practice