

# **Assessment in Teaching and Learning**

## **Practices and Principles**

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# Teaching : a moral enterprise

- To ask of other human beings that they accept and memorise what the science teacher says, without any concern for the meaning and justification of what is said, is to treat those human beings with disrespect and is to show insufficient care for their welfare.
- It treats them with a disrespect, because students exist on a moral par with their teachers, and therefore have a right to expect from their teachers' reasons for what the teachers wish them to believe.
- It shows insufficient care for the welfare of students, because possessing beliefs that one is unable to justify is poor currency when one needs beliefs that can reliably guide action.
- S. Norris (Alberta), 1997 in *Science Education*

# Formative Assessment

An assessment activity can help learning if it provides information to be used as *feedback*, by teachers, and by their students, in assessing themselves and each other, to modify the teaching and learning activities in which they are engaged.

# Questions

*Do you think friction would be the same on the moon as on the earth?*

*Which is the odd one out:*

*bird, cat, fish, elephant ? Why?*

*piece of white paper, mirror, picture, television ? Why?*

*Is 0.33 the same as one-third, bigger than one-third, less than one-third,  
or can you not tell without more information ?*

*The following look like simultaneous equations, but have no solution:  
can you explain this, and use a graph to illustrate your explanation:*

$$5 = 6y + 2x$$

$$2 = x + 3y$$

# Conducting a dialogue

**T:** Monica - your group? Pair?

**Monica:** That one's grown bigger because it was on the window.

**T:** On the window? Mmm. What do you think Jamie ?

**Jamie:** We thought that . . .

**T:** You thought . . . .?

**Jamie:** That the big'un had eaten up more light.

**T:** I think I know what Monica and Jamie are getting at, but can anyone put the ideas together? Window - Light - Plants?

*Many hands go up. T. chooses a child who has not put up his hand. (continued)*

**T:** Richard.

**Richard:** Err yes. We thought, me and Dean, that it had grown bigger because it was getting more food.

*Some students stretch their hand up higher. T points to Susan and nods.*

**Susan:** No it grows where there's a lot of light and that's near the window.

**T:** Mmmm. Richard and Dean think the plant's getting more food. Susan ... and Stacey as well? Yes. Susan thinks its because this plant is getting more light.

What do others think? Tariq

# Managing Classroom Dialogue

- 1 Prepared Task
- 2 Give pupils time - to think, to put into words
- 3 Encourage – bounce back, steer not direct
- 4 Pupils talk - sentences and reasoning words

# Dialogic Teaching

Children, we now know, need to talk, and to experience a rich diet of spoken language, in order to think and to learn. Reading, writing and number may be acknowledged curriculum 'basics', but talk is arguably the true foundation of learning.

(Robin Alexander, 2004)

## Comment-only Marking

- 132 low and high ability year 7 pupils in 12 classes in 4 schools
- Same teaching, same aims, same teachers, same class-work
- Three kinds of feedback: marks, comments, marks+comments

• <b>Feedback</b>	<b>Gain</b>	<b>Interest</b>
• marks	none	top +ve bottom -ve
• comments	30%	all +ve
• both	none	top +ve bottom -ve



# Learning Principles

## Motivation and Self-esteem

- Those given feedback as marks are likely to see it as a way to compare themselves with others (ego-involvement), those given only comments see it as helping them to improve (task-involvement): the latter group out-perform the former.
- Feedback given as rewards or grades enhances ego rather than task involvement

( see R. Butler, Enhancing and undermining intrinsic motivation; the effects of task-involving and ego-involving evaluation on interest and performance. “British Journal of Educational Psychology”, 1988, **58**(1), 1-14.

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- With ego-involvement, both high and low attainers are reluctant to take risks and react badly to new challenges, and failures simply damage self-esteem
- With task-involvement, learners believe that they can improve by their own effort, are willing to take on new challenges and to learn from failure.

(see “Self-Theories” by Carol Dweck, 2000, Philadelphia, PA: Psychology Press)

# Changes in Marking

- Teachers changed their view of the role of written work in promoting learning
- Teachers were challenged to compose comments on written work which address the learning needs of the individual and reflect key aspects of the subject
- Teachers had to give more attention to differentiation in feedback
- Students changed their view of the role of written work as part of their learning

# Do we need to have marks on everything ?

Students are not good at knowing how much they are learning, often because we as teachers do not tell them in an appropriate way

.....

When asked by a visitor how well she was doing in science, the student clearly stated that the comments in her exercise book and those given verbally provide her with the information she needs.

*Derek, Century Island School*

***Should pupils, parents, school management expect to have marks given and recorded on every piece of each student's work?***

# Advantages of Peer-Assessment

- All pupils can be involved
- They use pupil language - and start to talk the language of the subject
- They are more honest and challenging with one another than with their teacher
- Seeing your work through the eyes of your peers helps you to be more objective
- Teacher can spot where they might best spend their time

## **BUT**

- Pupils need to be trained to work effectively in groups

# Rules for Effective Group Work

- All students must contribute:
  - no one member say too much or too little
- Every contribution treated with respect:
  - listen thoughtfully
- Group must achieve consensus:
  - work at resolving differences
- Every suggestion/assertion has to be justified:
  - arguments must include reasons

# Mercer at al.

## science classes - 10 years old

### Indicator words used by students

• Word	Pre-intervention	Post-intervention
• because	<b>13</b>	<b>50</b>
• I think	<b>35</b>	<b>120</b>
• would	<b>18</b>	<b>39</b>
• could	<b>1</b>	<b>6</b>
•		
• TOTALS	<b>67</b>	<b>215</b>

# Talking the talk

Vygotsky, as we have already seen, argues that such *external* and *social* activities are gradually internalised by the child as he comes to regulate his own intellectual activity. Such encounters are the source of experiences which eventually create the ‘inner dialogues’ that form the process of mental self-regulation. Viewed in this way, learning is taking place on at least two levels: the child is learning about the task, developing ‘local expertise’; and he is also learning how to structure his own learning and reasoning.

*From David Wood - How Children Think and Learn*

# Formative Use of Summative Assessment

- Students should be engaged in a reflective review of the work they have done to enable them to plan their revision effectively.
- Students should be encouraged to set questions and mark answers to help them, both to understand the assessment process and to focus further efforts for improvement.
- Students should be encouraged through peer- and self-assessment to apply criteria to help them understand how their work might be improved. This may include providing opportunities for students to rework examination answers in class.



# Changing the role of tests as perceived by the students

They feel that the pressure to succeed in tests is being replaced by the need to understand the work that has been covered and the test is just an assessment along the way of what needs more work and what seems to be fine.

*Belinda, Cornbury Estate*

***“A test at the end is too late.” What are the consequences of taking this seriously?***

# Managing Classroom Dialogue

- 1 Prepared Task
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- 4 Pupils talk – sentences and reasoning words
- 5 Involve all pupils – reflection, self-assessment
- 6 Review – aims and criteria – meta-cognition

# Formative in Pedagogy

- A Decide learning aims
- B Select and plan activities
- C Implement in classroom
- D **Review: informal summative assessment**
- E **Formal summative assessment**

# Purposes of summative assessments within schools

Decisions about teaching sets

Information for the next teacher

Reporting to Senior Management Team

Reporting to Parents

Guiding the pupil

# Four steps in development

- 1 Audit**
- 2 Validity**
- 3 Evidence**
- 4 Dependability and comparability**

# **Validity**

## **What does it mean to be good at - - -**

The project made me think more critically about what exactly I was assessing. The first question I remember being asked ('what does it mean to be good at English?') gave me a different perspective on assessment. I find myself continually returning to this question.

# Evidence

## Design of tasks

What makes a good task?

Validity

Discrimination across a range

Motivating

# Evidence

## Design of tasks – Mathematics

- Compare, describe and classify standard paper sizes (A0-5).

I think one of the reasons is that it's a good task is that it's a real task. It's all based on A4, A5 and A6 you know, which is in real life, kids know that ... they can physically hold up an A5 sheet against an A4, ... a lot of kids are engaged straight away ... it's a piece of work that every kid could achieve from.

- Compare different newspapers (e.g., tabloid, broadsheet, local) by generating and investigating a hypothesis using simple descriptive statistics.



# Steps in development

**1 Audit**

**2 Validity**

**3 Evidence**

Design of tasks

Pupil portfolios

**4 Dependability and comparability**

Agreed criteria

Moderation – in and between schools

## 4 **Dependability and Comparability** **Moderation meetings**

. . . that the moderation and standardisation process was incredibly valuable in ensuring rigour, consistency and confidence with our approach to assessment; that teachers in school were highly motivated by being involved in the process that would impact on the achievement of students in their classes

*English Teacher*

# Can Summative Assessment be Improved?

## **Black & Wiliam 2007**

Where summative becomes the hand-maiden of accountability matters can get even worse, for accountability is always in danger of ignoring its effects on learning and thereby of undermining the very aim of improving schooling that it claims to serve. Accountability can only avoid shooting itself in the foot if, in the priorities of assessment design, it comes after learning

## **Fairbrother 2008: National Science Tests Age 14 England**

Marks: 1 or 0 for 90% of the questions. Enquiry: 17.5%

Cognitive level of questions:

Knowledge	45%
Comprehension	43%
Application	12%

# Can High-Stakes Summative Assessment be Improved?

- Use more evidence - more externally provided
  - more teacher/school assessment
- For validity - smarter tasks (more expertise, more cost)
  - more varied demands, and contexts
- Can teachers' assessment be trusted ?
  - group moderation (more cost)
- BUT : Will Goodhart's Law get you ?

# Validity in the future?

... the teacher is increasingly being seen as the primary assessor in the most important aspects of assessment. The broadening of assessment is based on a view that there are aspects of learning that are important but cannot be adequately assessed by formal external tests. These aspects require human judgment to integrate the many elements of performance behaviours that are required in dealing with authentic assessment tasks.

- p.31 in Stanley, G., MacCann, R., Gardner, J., Reynolds, L. & Wild, I. (2009). *Review of teacher assessment: what works best and issues for development*. Oxford University Centre for Educational Development; Report commissioned by the QCA.

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## Dependent or Independent ?

Educators can take over functions that learners should be doing –learning how to learn, making up their own minds, reaching personal decisions. Such imbalance ill serves learners and can be destructive to educators. There is a fine line between empowering learners as their own people and overpowering them– making them too dependent or indebted to teacher or parent. Walking this tightrope is an aspect of the educator’s spiritual discipline of a balanced life.

*From Thomas Groome (Educating for Life)*

# Contact details

- e-mail : paul.black@kcl.ac.uk
- Web-site: www.kcl.ac.uk/education/research/kal.html

- ***Assessment for learning : Putting it into practice.***

Black, Harrison, Lee, Marshall & Wiliam 2003 London:Open University Press

## **The Black Box Series ; all published by *GLAssessment***

- ***Inside the Black Box*** Black and Wiliam
- ***Working Inside the Black Box.*** Black, Harrison, Lee, Marshall & Wiliam
- ***Science Inside the Black Box*** Black & Harrison
- ***Maths Inside the Black Box*** Hodgen & Wiliam
- ***English Inside the Black Box*** Marshall & Wiliam
- ***Geography Inside the Black box***Weeden & Lambert
- ***I.C.T. Inside the Black Box*** Webb and Cox
- ***M.F.L Inside the Black Box*** J. Jones and Wiliam
- ***D & T Inside the Black Box*** Moreland, A.Jones & Barlex
- ***Inside the Primary Black Box*** Harrison & Howard
- See <http://tinyurl.com/blackboxseries>



# Sources for Developing Group Work

## Thinking Together

Lyn Daws, Neil Mercer and Rupert Wegerif

*Published 2003 by Imaginative Minds Ltd.*

<http://www.thinkingonlinecatalogue.co.uk/>

## Promoting Effective Group Work in the Primary Classroom

Ed Baines, Peter Blatchford and Peter Kutnick

*Published 2009 by Routledge*