Assessment and Learning Research #1

Purpose:
To find out about recent research that shows strong connections between classroom assessment practices and student learning.

The “Black Box” studies
Paul Black and Dylan Wiliam from Kings College, London, began a series of important studies in the 1990s. Their famous paper, “Inside the Black Box”, was published in 1998 and became the first in an important research series. This activity helps you explore the focus of that research: how assessment interacts with learning.


What you need:
- This page and one Discussion Starter for each pair of teachers
- a highlighter pen per pair of teachers.
This activity uses the “2-4-8-whole group” strategy.

Step 1: (10 minutes)
- READ and HIGHLIGHT your Discussion Starter.
- ANNOTATE it and PREPARE how you will teach the key ideas to another pair.
What implications does it have for you?

Step 2: (10 minutes)
- FORM “4s” from 2 pairs, who have read different Discussion Starters.
- Each pair TEACH the other about the key ideas in their research.
- Each group of 4 then PLAN how they will teach another group of 4 about the key ideas in their two Discussion Starters.

Step 3: (10 minutes)
- FORM “8s”, who have read different Discussion Starters.
- Each group of 4 LEADS a discussion on the key ideas in their two Discussion Starters.
- As a group of 8, DISCUSS:
  “What implications does all of this research have for us, here?”

Step 4:
Further research is available in Activity 1.4B, the Professional Reading and/or the references and websites on the Module 1 Resources web page.

Office of Learning and Teaching, DE&T
Assessment and Learning Research

Activity 1.4A - Discussion Starter 1

Linking assessment of, for and as learning with curriculum, teaching and learning.

The Scottish “Assessment is for Learning (AifL)” work has built on the Black and Wiliam study reported in “Inside the Black Box”. The Scottish one page overview shows the relationships between “curriculum”, “learning & teaching”, and “assessment” through placing them at the points of a triangle. It also shows how “assessment for learning”, “assessment as learning” and “assessment of learning” link these three basic aspects of our work with students. The website asks the question: “What is an AifL school?” and answers it with: “A Place Where Everyone is Learning Together”.

“ASSESSMENT AS LEARNING [linking “Curriculum” with “Learning and Teaching”]
• Our pupils and staff identify and reflect on their own evidence of learning.
• Our pupils and staff help to set their own learning goals.
• Our pupils and staff practise self- and peer-assessment.

ASSESSMENT FOR LEARNING [linking “Learning and Teaching” with “Assessment”]
• Our pupils, staff and parents are clear about what is to be learned and what success would be like.
• Our pupils and staff are given timely feedback about the quality of their work and how to make it better.
• Our pupils and staff are fully involved in deciding next steps in their learning and identifying who can help.

ASSESSMENT
• Our classroom assessment involves high quality interactions, based on thoughtful questions, careful listening and reflective responses.

ASSESSMENT OF LEARNING [linking “Curriculum” with “Assessment”]
• Staff use a range of evidence over the term to check on pupils’ progress.
• Staff talk and work together to share standards in and across schools.
• Staff use assessment information to monitor their establishment’s provision and progress, and to plan for improvement”.

View or download the Scottish triangle at: http://www.ltscotland.org.uk/assess/about/bigideas.asp

Because this single page is coloured, it is easier to read on-screen or printed in colour. Go to the bottom of the screen to download a .pdf version - or view it on-screen by clicking on “The AifL triangle diagram” at the side. There is an early years version there, too.

The general website for the Scottish Assessment is For Learning (AifL) information is at: http://www.ltscotland.org.uk/assess/ and is well worth a visit.

Discussion starters:

1. What are the key ideas in this reading that you can teach your colleagues about?

2. What are the implications of this extract for your classroom assessment?
Assessment and Learning Research
Activity 1.4A - Discussion Starter 2

Improving assessment to improve learning.

“Learning is driven by what teachers and pupils do in classrooms. Teachers have to manage complicated and demanding situations, channeling the personal, emotional, and social pressures of a group of 30 or more youngsters in order to help them learn immediately and become better learners in the future. Standards can be raised only if teachers can tackle this task more effectively…

…present policies [in the UK and the US] … seem to treat the classroom as a black box. Certain inputs from the outside -- pupils, teachers, other resources, management rules and requirements, parental anxieties, standards, tests with high stakes, and so on -- are fed into the box. Some outputs are supposed to follow: pupils who are more knowledgeable and competent, better test results, teachers who are reasonably satisfied, and so on. But what is happening inside the box? …

Teachers need to know about their pupils’ progress and difficulties with learning so that they can adapt their own work to meet pupils’ needs -- needs that are often unpredictable and that vary from one pupil to another. Teachers can find out what they need to know in a variety of ways, including observation and discussion in the classroom and the reading of pupils’ written work.

We use the general term assessment to refer to all those activities undertaken by teachers -- and by their students in assessing themselves -- that provide information to be used as feedback to modify teaching and learning activities. Such assessment becomes formative assessment when the evidence is actually used to adapt the teaching to meet student needs. …

There is nothing new about any of this. All teachers make assessments in every class they teach. But there are three important questions about this process that we seek to answer:

• Is there evidence that improving formative assessment raises standards?
• Is there evidence that there is room for improvement?
• Is there evidence about how to improve formative assessment?

In setting out to answer these questions, we have conducted an extensive survey of the research literature. …

The conclusion we have reached from our research review is that the answer to each of the three questions above is clearly yes. …

…we also acknowledge widespread evidence that fundamental change in education can be achieved only slowly -- through programs of professional development that build on existing good practice. Thus we do not conclude that formative assessment is yet another “magic bullet” for education. The issues involved are too complex and too closely linked to both the difficulties of classroom practice and the beliefs that drive public policy.”


Discussion starters:
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Assessment and Learning Research
Activity 1.4A - Discussion Starter 3

Three assessment difficulties.

“The most important difficulties with assessment revolve around three issues. The first issue is effective learning.

• The tests used by teachers encourage rote and superficial learning even when teachers say they want to develop understanding; many teachers seem unaware of the inconsistency.
• The questions and other methods teachers use are not shared with other teachers in the same school, and they are not critically reviewed in relation to what they actually assess.
• For primary teachers particularly, there is a tendency to emphasize quantity and presentation of work and to neglect its quality in relation to learning.

The second issue is negative impact.

• The giving of marks and the grading function are overemphasized, while the giving of useful advice and the learning function are underemphasized.
• Approaches are used in which pupils are compared with one another, the prime purpose of which seems to them to be competition rather than personal improvement; in consequence, assessment feedback teaches low-achieving pupils that they lack “ability”, causing them to come to believe that they are not able to learn.

The third issue is the managerial role of assessments.

• Teachers’ feedback to pupils seems to serve social and managerial functions, often at the expense of the learning function.
• Teachers are often able to predict pupils’ results on external tests because their own tests imitate them, but at the same time teachers know too little about their pupils’ learning needs.
• The collection of marks to fill in records is given higher priority than the analysis of pupils’ work to discern learning needs; furthermore, some teachers pay no attention to the assessment records of their pupils’ previous teachers.

Of course, not all these descriptions apply to all classrooms. Indeed, there are many schools and classrooms to which they do not apply at all.”


Discussion starters:

1. What are the key ideas in this reading that you can teach your colleagues about?

2. What are the implications of this extract for your classroom assessment?
“A report of schools in Switzerland states that ‘a number of pupils ... are content to “get by”.... Every teacher who wants to practice formative assessment must reconstruct the teaching contracts so as to counteract the habits acquired by his [sic] pupils’....

The ultimate user of assessment information that is elicited in order to improve learning is the pupil. There are negative and positive aspects of this fact. The negative aspect is illustrated by the preceding quotation. When the classroom culture focuses on rewards, “gold stars,” grades, or class ranking, then pupils look for ways to obtain the best marks rather than to improve their learning. One reported consequence is that, when they have any choice, pupils avoid difficult tasks. They also spend time and energy looking for clues to the “right answer.” Indeed, many become reluctant to ask questions out of a fear of failure. Pupils who encounter difficulties are led to believe that they lack ability, and this belief leads them to attribute their difficulties to a defect in themselves about which they cannot do a great deal. Thus they avoid investing effort in learning that can lead only to disappointment, and they try to build up their self-esteem in other ways.

The positive aspect of students being the primary users of the information gleaned from formative assessments is that negative outcomes -- such as an obsessive focus on competition and the attendant fear of failure on the part of low achievers -- are not inevitable. What is needed is a culture of success, backed by a belief that all pupils can achieve. In this regard, formative assessment can be a powerful weapon if it is communicated in the right way. While formative assessment can help all pupils, it yields particularly good results with low achievers by concentrating on specific problems with their work and giving them a clear understanding of what is wrong and how to put it right. Pupils can accept and work with such messages, provided that they are not clouded by overtones about ability, competition, and comparison with others. In summary, the message can be stated as follows: feedback to any pupil should be about the particular qualities of his or her work, with advice on what he or she can do to improve, and should avoid comparisons with other pupils.”


Discussion starters:

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Activity 1.4A - Discussion Starter 5

Improving learning through self assessment.

“Many successful innovations have developed self- and peer-assessment by pupils as ways of enhancing formative assessment, and such work has achieved some success with pupils from age 5 upward. This link of formative assessment to self-assessment is not an accident; indeed, it is inevitable.

To explain this last statement, we should first note that the main problem that those who are developing self-assessments encounter is not a problem of reliability and trustworthiness. Pupils are generally honest and reliable in assessing both themselves and one another; they can even be too hard on themselves. The main problem is that pupils can assess themselves only when they have a sufficiently clear picture of the targets that their learning is meant to attain. Surprisingly, and sadly, many pupils do not have such a picture, and they appear to have become accustomed to receiving classroom teaching as an arbitrary sequence of exercises with no overarching rationale. To overcome this pattern of passive reception requires hard and sustained work. When pupils do acquire such an overview, they then become more committed and more effective as learners. Moreover, their own assessments become an object of discussion with their teachers and with one another, and this discussion further promotes the reflection on one’s own thinking that is essential to good learning.

Thus self-assessment by pupils, far from being a luxury, is in fact an essential component of formative assessment. When anyone is trying to learn, feedback about the effort has three elements: recognition of the desired goal, evidence about present position, and some understanding of a way to close the gap between the two…. All three must be understood to some degree by anyone before he or she can take action to improve learning.

Such an argument is consistent with more general ideas established by research into the way people learn. New understandings are not simply swallowed and stored in isolation; they have to be assimilated in relation to pre-existing ideas. The new and the old may be inconsistent or even in conflict, and the disparities must be resolved by thoughtful actions on the part of the learner. Realizing that there are new goals for the learning is an essential part of this process of assimilation. Thus we conclude: if formative assessment is to be productive, pupils should be trained in self-assessment so that they can understand the main purposes of their learning and thereby grasp what they need to do to achieve.”


Discussion starters:

1. What are the key ideas in this reading that you can teach your colleagues about?

2. What are the implications of this extract for your classroom assessment?
“Discussions in which pupils are led to talk about their understanding in their own ways are important aids to increasing knowledge and improving understanding. Dialogue with the teacher provides the opportunity for the teacher to respond to and reorient a pupil’s thinking. However, there are clearly recorded examples of such discussions in which teachers have, quite unconsciously, responded in ways that would inhibit the future learning of a pupil. What the examples have in common is that the teacher is looking for a particular response and lacks the flexibility or the confidence to deal with the unexpected. So the teacher tries to direct the pupil toward giving the expected answer. In manipulating the dialogue in this way, the teacher seals off any unusual, often thoughtful but unorthodox, attempts by pupils to work out their own answers. Over time the pupils get the message: they are not required to think out their own answers. The object of the exercise is to work out -- or guess -- what answer the teacher expects to see or hear.

A particular feature of the talk between teacher and pupils is the asking of questions by the teacher. This natural and direct way of checking on learning is often unproductive. One common problem is that, following a question, teachers do not wait long enough to allow pupils to think out their answers. When a teacher answers his or her own question after only two or three seconds and when a minute of silence is not tolerable, there is no possibility that a pupil can think out what to say. There are then two consequences. One is that, because the only questions that can produce answers in such a short time are questions of fact, these predominate. The other is that pupils don’t even try to think out a response. Because they know that the answer, followed by another question, will come along in a few seconds, there is no point in trying. It is also generally the case that only a few pupils in a class answer the teacher’s questions. The rest then leave it to these few, knowing that they cannot respond as quickly and being unwilling to risk making mistakes in public. So the teacher, by lowering the level of questions and by accepting answers from a few, can keep the lesson going but is actually out of touch with the understanding of most of the class. The question/answer dialogue becomes a ritual, one in which thoughtful involvement suffers.

There are several ways to break this particular cycle. They involve giving pupils time to respond; asking them to discuss their thinking in pairs or in small groups, so that a respondent is speaking on behalf of others; giving pupils a choice between different possible answers and asking them to vote on the options; asking all of them to write down an answer and then reading out a selected few; and so on. What is essential is that any dialogue should evoke thoughtful reflection in which all pupils can be encouraged to take part, for only then can the formative process start to work. In short, the dialogue between pupils and a teacher should be thoughtful, reflective, focused to evoke and explore understanding, and conducted so that all pupils have an opportunity to think and to express their ideas.”


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Assessment and Learning Research

Activity 1.4A - Discussion Starter 7

A classroom culture of questioning and deep thinking.

“… a teacher’s approach should start by being realistic and confronting the question “Do I really know enough about the understanding of my pupils to be able to help each of them?”

Much of the work teachers must do to make good use of formative assessment can give rise to difficulties. Some pupils will resist attempts to change accustomed routines, for any such change is uncomfortable, and emphasis on the challenge to think for yourself (and not just to work harder) can be threatening to many. Pupils cannot be expected to believe in the value of changes for their learning before they have experienced the benefits of such changes. Moreover, many of the initiatives that are needed take more class time, particularly when a central purpose is to change the outlook on learning and the working methods of pupils. Thus teachers have to take risks in the belief that such investment of time will yield rewards in the future, while “delivery” and “coverage” with poor understanding are pointless and can even be harmful.

Teachers must deal with two basic issues that are the source of many of the problems associated with changing to a system of formative assessment. The first is the nature of each teacher’s beliefs about learning. If the teacher assumes that knowledge is to be transmitted and learned, that understanding will develop later, and that clarity of exposition accompanied by rewards for patient reception are the essentials of good teaching, then formative assessment is hardly necessary. However, most teachers accept the wealth of evidence that this transmission model does not work, even when judged by its own criteria, and so are willing to make a commitment to teaching through interaction. Formative assessment is an essential component of such instruction. We do not mean to imply that individualized, one-on-one teaching is the only solution; rather we mean that what is needed is a classroom culture of questioning and deep thinking, in which pupils learn from shared discussions with teachers and peers. What emerges very clearly here is the indivisibility of instruction and formative assessment practices.

The other issue that can create problems for teachers who wish to adopt an interactive model of teaching and learning relates to the beliefs teachers hold about the potential of all their pupils for learning. To sharpen the contrast by overstating it, there is on the one hand the “fixed I.Q.” view -- a belief that each pupil has a fixed, inherited intelligence that cannot be altered much by schooling. On the other hand, there is the “untapped potential” view -- a belief that starts from the assumption that so-called ability is a complex of skills that can be learned. Here, we argue for the underlying belief that all pupils can learn more effectively if one can clear away, by sensitive handling, the obstacles to learning, be they cognitive failures never diagnosed or damage to personal confidence or a combination of the two. Clearly the truth lies between these two extremes, but the evidence is that ways of managing formative assessment that work with the assumptions of “untapped potential” do help all pupils to learn and can give particular help to those who have previously struggled.”


Discussion starters:
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