

GTIP Think Piece – Assessment for learning (Paul Weeden)

In this Think Piece, Paul Weeden (University of Birmingham) discusses the purposes of formative assessment, its relationship with other forms of assessment and ways in which geography teachers might promote formative assessment in their classrooms.

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Introduction

Assessment for learning has been increasingly prioritised in schools over the last ten years since the publication of the highly influential pamphlet *Inside the Black Box* by Black and Wiliam in 1998a. This pamphlet was a summary of the key findings from a major research review (Black and Wiliam in 1998b). Since that time there has been further research into what works in the classroom (Black et al. 2003).

Assessment for learning or **formative assessment** is one of four assessment purposes commonly identified in the literature. The other three are for summative, evaluative and accountability purposes. All four purposes are important but the drive to raise standards over the last twenty years has emphasised the summative (end of key stage, examination results) and accountability (school performance) purposes. Assessment for learning has been promoted as a whole school focus because it was felt that the quality of day to day assessment processes in the classroom was being lost in the drive to improve examination scores.

'Assessment for Learning (AfL) means using evidence and feedback to identify where students are in their learning, what they need to do next and how best to achieve this.'

DCSF Standards

There is debate as to whether the four purposes of assessment can easily sit together. Can one assessment serve a number of different purposes? Some authors have argued these purposes cannot overlap while others suggest they can be more intimately linked (Black et al, 2003; Taras, 2007). This has implications for classroom practice because if summative and formative purposes can be more closely linked then assessment for learning will not be an additional burden on teachers.

What is assessment for learning?

[Assessment FOR learning](#) (formative assessment) is integral to every lesson because it uses the information that teachers 'collect' daily about students to help improve learning. It is not a bolt on extra; it arises from normal day to day activities, but it does require teachers and students to be more aware of assessment opportunities.

- For teachers the key is to use the information they gather about students' learning more effectively to plan and teach their lessons.
- For students it is important they take an active part in understanding their current learning, the outcome they are trying to reach and most importantly what they need to do to improve.

Some key strategies identified are:

- classroom questioning/dialogue
- feedback through marking
- peer and self-assessment
- the formative use of summative tests

Classroom questioning / dialogue

'More effort has to be spent in framing questions that are worth asking: that is, questions which explore issues that are critical to the development of students' understanding.' (Black et al. 2003)

Questions can be used in different ways in the geography classroom. For formative purposes teachers should move beyond limited factual recall of knowledge or comprehension questions because these reduce opportunities for dialogue. When teachers ask a closed question and receive a short answer they often go on to develop it further themselves. This type of questioning does not help students think more deeply. On the other hand extended questioning allows teachers to get to know their students' understanding and misconceptions better.

Examples of geographical questions	Bloom's Taxonomy (hierarchy)	Question foci
	High-order thinking	
<ul style="list-style-type: none"> • Which was the better strategy to use? • Which management choice is likely to have the most positive impact? 	Evaluation	Assess, judge, evaluate, compare and contrast
<ul style="list-style-type: none"> • What conclusions can you draw from the experiment? • Reflecting on the supposed causes of global warming what would you do? 	Synthesis	Reflect, predict, speculate, design, create, combine, hypothesise
<ul style="list-style-type: none"> • Why did this NGO decide this was the most appropriate way of dealing with the problem? • What is the function of regeneration projects? 	Analysis	Explain, infer, draw conclusions, prioritise
<ul style="list-style-type: none"> • Why? • Why does the climate graph for Kathmandu show this pattern? 	Application	Use, interpret, use in a new context, relate
<ul style="list-style-type: none"> • How do waves erode the coast? • Describe the climate graph. 	Comprehension	Explain, summarise, describe, compare

<ul style="list-style-type: none"> • What is the capital city of Germany? • What is the name for a multi-channelled river? 	Knowledge	Define, recall, describe
	Low-order thinking	

The table above (from Phil Wood's Think Piece on Questioning) shows how questions might be developed to encourage better understanding by students. More complex questions need thinking time for students to formulate answers yet Rowe (1974) found that teachers in primary schools allowed on average less than one second after asking a question. 'Wait' or 'thinking' time therefore needs to be built into questioning strategies so that there are opportunities for students to develop their answers. More recent research in secondary classrooms found that with practice teachers could increase their wait time to around 3—5 seconds. Black et al (2003) found that this had important consequences because:

- longer answers were given than previously
- more students were choosing to answer
- fewer students refused to answer
- students commented on or added to the answers of other students
- more alternative explanations or examples were offered.

Other useful questioning strategies that encourage thinking include:

- **discussion partners** - pairs of students discuss the answer to a question
- **snowballing** - groups of students (usually 4) explain their answers to each other
- **traffic lights** - students indicate their level of confidence about their answer
- **explaining** – teachers shift the emphasis for explaining answers to the students by using phrases such as 'why?', 'tell me more', 'go on'
- **phone a friend** - students nominate someone to help them answer a question

Students can take more responsibility for their own learning by **asking their own questions**. They can be stimulated to do so by being given prompt materials, such as photographs, text or a short video clip, or by asking them to develop questions about an issue or fieldwork activity. The questions that are generated can then be analysed by pairs or groups to see which are the most geographical. This will help develop their understanding of geography because they have to justify and explain their responses.

Challenging activities also help teachers find out what students understand in geography rather than just what they know and can recite. These activities might involve applying ideas within a new context or from a different viewpoint. Other activities could encourage students to use their current knowledge to make connections, predict outcomes, solve problems or appreciate different values and attitudes. Useful activities could involve:

- **Comparing**
What is similar and different about...? (e.g. comparing how people interact with their environment in two countries, regions or cities, or localities).
- **Categorising, grouping and recognising exceptions**
Why is... an example of...? Is it always true that...? (e.g. investigating the spatial patterns of different types of shop; using a photograph to describe expected and unexpected features of a place).
- **Predicting**
What might happen if...? (e.g. investigating the outcome of changing the policy on sea defences; reasoning what the implications of hosting the Olympic Games may be for the development of London).

Strategies to support all learners

Through formative questioning, the teacher hopes to collect rich evidence of the students' understanding. The aim is not simply to find out what they know but also what they don't know and possibly, more importantly, what they partly know. Teaching is about helping youngsters realise this and then guiding them to upgrade their part-knowledge to a fuller understanding. In a sense this helps distinguish formative assessment from the assessment of learning, where we can find out what students know. Formative assessment is about moving their knowledge and understanding forward and providing a means for helping students do this. (Weeden and Lambert, 2006)

Assessment for learning aims to create a **learning environment** where students feel confident to reveal their current knowledge and able to share ideas with others. Answers formulated in this way are better formed and it is less threatening to individuals if an answer is limited or incorrect because it is the group's decision.

Assessment for learning should encourage open discussion. This helps overcome learners' reluctance to expose their inadequacies to others. Teachers can act as facilitators encouraging answers and listening carefully to others. Examples of questions that encourage reflection are:

- What can we add to J's answer?
- Which parts of P's answer would you agree with?
- Can someone improve on C's answer?
- Where else might we find F's idea working?
- What sort of evidence would challenge N's idea?
- Are T's and W's ideas the same or different?

Teachers play an important role here by being patient and allowing different ideas to emerge before directing the discussion. Early intervention will result in less opportunity to discover misconceptions and little chance for reflection by students.

Feedback

Research has shown that feedback, either orally or in writing, is essential for effective assessment for learning. Traditional marking usually takes the form of marks, grades or short comments that are used to sum up student's work. Often it is just a measure of whether the task has been completed, more or less satisfactorily.

This type of marking isn't effective because:

- Students don't get sufficient information about how to improve their work from either marks or comments such as 'good work', 'try better', 'learn your spellings'
- Grades get in the way, with students focusing on the grade rather than the comment. This encourages competition not learning
- Marks don't challenge high attainers and demotivate low attainers.

The key for teachers is to find feedback mechanisms that engage students in dialogue and effective learning. The commonest way that teachers provide feedback is to write comments but these take time and for some tasks are of little use. Teachers need to decide when it is appropriate to write meaningful comments that need action by students and when to merely check work. Sometimes checking can be done by students or peers so that they begin to take more responsibility for their own learning. Useful comments, written every two to three weeks, are more helpful than a mark on every piece of work.

Feedback works best where students:

- **Understand what they are doing.** Some teachers have found the WALT (We are learning to...), WILF (What I'm looking for...) and TIBS (This is because...) technique useful for clarifying outcomes (Birmingham, Wolfe and Sweasey, 2003), but there are many other ways of sharing learning intentions
- **Have opportunities to react to comments.** This means that teachers need to provide opportunities in lessons for students to react to comments and to discuss how to improve their work.
- Are encouraged to engage in a **dialogue** with the teacher. Teacher comments and student responses can be kept on a separate sheet in the student's book so that improvements and specific problems can be easily monitored.
- Are **supported** by the classroom culture. In this type of classroom success is underpinned by a belief that all can achieve. Comments are specific and give specific achievable targets.
- Are given **appropriate prompts** (Clarke, 2005). The prompts are targeted at the pupil so that high attainers have reminders that encourage them to think more deeply about the topic, most students are given scaffolds to provide more structure and low attainers are given examples to choose between. Time is provided in class for students to respond to the 'close the gap' comments.

Self- and peer-assessment

'Students can only achieve a learning goal if they understand that goal and can assess what they need to do to reach it. So self-assessment is essential in learning.' (Black et al, 2003, p.10)

Successful independent learners reflect on their work and use feedback to inform them about how to improve. Self-assessment enables them to develop a realistic sense of their progress and what they need to do next. However not all learners are so successful and teachers can assist them by providing manageable steps that help them develop their self assessment skills.

Developing self-assessment (based on Clarke, 2005, p110-111)
Stage 1: students identify their own successes
Stage 2: students identify a place for improvement
Stage 3: students identify their successes and make an 'on the spot' improvement.

An important starting point for students is knowing what is expected and how to make work better. Students can attempt to match their work with exemplar criteria to identify what they have done well (Stage 1). They then identify where improvements can be made (stage 2) and attempt to rewrite the description (stage 3).

Peer-assessment can help students develop and hone their self-assessment skills. Students can recognise success and problems in other students' work even they aren't working at that level. With coaching students can look at specific pieces of work and use criteria to make judgements. Teachers can model the sort of comments peers can provide to help them discuss their work with peers and provide feedback. Regular small peer and self assessment activities help embed better learning behaviours and raise overall attainment (Weeden and Lambert, 2006).

Start small when developing peer and self assessment. Use checking of work, such as correct spelling of keywords for the topic or that maps have titles, direction arrows, a key and a scale, as a starting point. Students can comment on one good point and one thing to develop. Once this becomes a regular part of practice, they can move on to looking for specific criteria in a piece of extended writing. Modelling by the teacher and discussion about how to improve work is an important part of

the process. Some students will learn these assessment skills quickly, while others take longer to understand the process. Research suggests that low achieving students will benefit most from more structured approaches because it helps them break the cycle of repeated failure and gives them clarity about what they have to do to improve. High achievers may improve less because they are already able to use self-assessment more successfully. All learners will benefit from explicit understanding of the process of self assessment. Geography teachers in Staffordshire have developed a series of frameworks that help students understand how to improve their work by using better descriptions, explanations and judgements (George et al, 2002).

Formative use of summative tests

Summative tests can be very effective in developing students' understanding of what is required if they are used formatively and students are involved in identifying where there are problems. If teachers use assessments (tests) to analyse where there are misconceptions or problems these areas can be targeted either in future teaching or in a feedback session. Difficult questions can be reworked, discussed and further examples attempted as a whole class. Where only a few students have wrong answers they can be told to find someone in the class who got it right and get them to explain how they arrived at their answer.

Pre-testing (giving the class the module test at the beginning of the module) can identify class prior knowledge and gaps. Students can be asked what they know, partly know and do not know. They can use traffic-light icons as follows:

- green - studied this topic and think I can answer this question correctly
- amber - studied this topic but not certain I can answer it correctly
- red - never studied this topic

If almost all of the students label a question green the teacher might decide there is no need to teach that part of the module so that teaching time can focus on the red and amber ideas in the topic. When tried by one teacher the average mark for the class had risen significantly when compared with similar classes in the same year and with the teacher's class in the previous year. This was because the teaching was better matched to students' needs (Weeden and Lambert, 2006: 21).

What are the key principles of assessment for learning?

Effective assessment for learning can happen all the time in the classroom. It involves teachers ensuring that students are clear about:

- the learning goals
- their own strengths and weaknesses as learners,
- the standards to aim for
- the feedback they receive from teachers

Ten key principles of assessment for learning, based upon research evidence, have been identified by the Assessment Reform Group (ARG) and published in a poster. Download: [Assessment for Learning Poster](#) (PDF) These principles suggest that teachers need to:

- provide feedback that helps students to identify how to improve
- believe that every pupil can improve in comparison with previous achievements
- review and reflect on students performance and progress with them
- help students learn self-assessment techniques to discover areas they need to improve
- recognise that both motivation and self-esteem, crucial for effective learning and progress, can be increased by effective assessment techniques
- help students become progressively more independent of the teacher when learning

Assessment for learning is therefore an essential part of day to day planning, teaching and learning. It actively involves the students in assessing their learning so that they have a better understanding of how they can improve. Some implications for teachers are that they need to:

- know their students well
- understand the learning process
- recognise the common misconceptions that students make in geography
- share learning intentions
- provide review time within lesson time

Are schools and teachers using assessment to promote learning?

There is evidence that despite the effort invested in developing assessment for learning in schools there is still room for improvement. The barriers include the dominance of the summative assessment system and the feeling amongst teachers that assessment for learning is an additional burden. The ideal is that assessment becomes more focused and productive and the students are more involved in their own learning and progress (Taras, 2005).

One study, the [LEARN project](#), suggested in 1999 that there was grave cause for concern. The students' responses suggested that despite achieving higher standards in formal tests, they were no more empowered as independent learners than before, indeed perhaps even less so, as the obsession with performance in external examinations increased. What emerged was that while students were better prepared to pass particular tests, they were not necessarily better equipped to use their knowledge and skills effectively in other contexts.

Schools meanwhile were under pressure to retain or improve their place in published league tables and to meet specified achievement targets and had little time or energy to implement what they saw as an addition to their assessment regime.

Is the situation any different now?

The answer, coming from a range of sources, suggests that while assessment practice has improved over the years teachers could achieve still more if they used the information they gather about students learning more effectively to plan and teach their lessons. The pressure on teachers to 'teach to the test' is enormous in a culture where performance is prioritised.

In order to promote assessment for learning in a performance based culture its ability to raise performance by one or two grades has been emphasised (Black and William, 1998a,b; Black et al. 2003). For example the [QCA website](#) defines assessment for learning as the process of:

*'using assessment in the classroom to **raise students' achievement**. It is based on the idea that students will **improve** most if they understand the aim of their learning, where they are in relation to this aim and how they can achieve the aim (or close the gap in their knowledge).'*

This is a subtly different definition from the definition at the beginning of the article. This textual difference is then taken further in the way the key ideas are developed. Essentially assessment for learning requires the following elements:

- a judgement to be made about **performance**
- this is compared with intended or possible **outcomes**
- feedback about the gap between current and intended **performance** is provided
- **strategies** to bridge the gap are identified and implemented

Schools have become increasingly driven by the need to improve their 'league table' positions so many schools have developed tracking systems that identify under-achieving students so that they can be targeted for remedial action. While this is useful in helping teachers **record** students progress better it may not help them **know** the student better. Assessment for learning is much more than measuring performance and identifying those students that are under- or over-achieving because, according to the old saying: '*merely weighing the pig does not make it fatter*'.

Teachers should use formative assessment to help students understand how to learn better, not just to get better grades in their examinations, although both are useful and important outcomes.

AFL is a school development priority in many schools and there has been substantial training in the use of AFL through the National Strategies programme. However the rhetoric of the strategies still has an underlying emphasis on using AFL to improve summative assessment outcomes.

Suggested activities for PGCE students

The following are suggested activities for PGCE students and can be found in the following document.

Download: [Suggested activities for PGCE students](#) (Word, 37k)

Activity 1: What are your experiences of assessment?

Activity 2: Giving feedback

Activity 3: Using effective questioning techniques

Activity 4: Which comments are most effective?

Activity 5: Sharing learning goals

Activity 6: Are formative assessment purposes still being swamped by summative purposes?

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References

- Birmingham, S., Wolfe, P. & Sweasey, P. (2003) 'Communicating to maximise learning from AFL', *Curriculum Briefing*, 2, 1.
- Black, P. & Wiliam, D. (1998a) *Inside the black box*, London: Kings College.
- Black, P. & Wiliam, D. (1998b) 'Assessment and Classroom Learning', *Assessment in Education*, 5, 1, pp. 7-74.
- Black, P., Harrison, C., Lee, C., Marshall, B. & Wiliam, D. (2003) *Assessment for Learning: Putting it into Practice*. Maidenhead: Open University Press.
- Clarke, S. (2005) *Formative assessment in the secondary classroom*. London: Hodder & Stoughton.
- George, J., Clarke, J., Davies, P. & Durbin, C. (2002) 'Helping students to get better at geographical writing', *Teaching Geography*, 27, 4, pp. 156-9.
- Lambert, D. & Lines, D. (2000) *Understanding Assessment: Purposes, Perceptions, Practices*. London: Routledge-Falmer.
- Rowe, M.B. (1974) 'Relation of wait time and rewards to the development of language, logic and fate control', *Journal of Research in Science Teaching*, 11, 4, pp. 292.
- Taras, M. (2005) 'Assessment – Summative And Formative – Some Theoretical Reflections', *British Journal of Educational Studies*, 53, 4, pp. 466-478.
- Weeden, P. & Lambert, D. (2006) *Geography inside the Black Box: Assessment for learning in the geography classroom*. London: nferNelson.
- Weeden, P. & Winter, J. (1999) *The LEARN project: Report for QCA*, London: QCA.