

## Proposed paper to IAEA conference

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Learning about 'assessment for learning' - trainee teachers' perceptions of the purposes and nature of school assessment

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### Abstract

Recommendations from research that emphasises the value of formative modes of assessment for effective teaching and learning under the label 'Assessment for Learning' has been adopted in England as part of government guidance to teachers. However, the English education system remains committed to high-stakes testing that inevitably emphasises the importance of summative assessment outcomes by which learners, teachers and schools are judged. This creates a complex professional context for new teachers who are expected to make sense of the tensions between what they are told is 'good practice'; and what appears to be necessary to be seen to be doing the job of a teacher. This paper reports from a research project that has been exploring how graduates undertaking initial teacher education understand the purposes and characteristics of assessment in schools. A sample of trainee teachers were interviewed after one term of their course, shortly before entering their second professional placement where they would take on regular responsibility for school classes. The paper reports on trainees' developing understanding of the rationale for, and principles, of 'Assessment for Learning' in terms of how prior experiences as learners and observations on school placement influenced their learning from University-based sessions.

## **Introduction**

Prospective teachers come to an initial teacher training course with their own individual conceptions of assessment which are based largely on their past experiences as learners. After an initial input from university-based sessions, trainees are given the opportunity of being placed in schools, where they are able to observe and experience teaching, learning and assessment practices first hand. This paper reports on a sample of trainee teachers' perceptions of the meaning and purposes of assessment, after their initial/first placement in schools.

The focus of school assessment has undergone considerable changes in recent years stemming primarily from a shift in the way educators view learning, i.e. from associationist-behaviourist theories of learning, to cognitive-constructivist approaches. Shepard (2000) suggests that there is a dissonance between current *teaching* practices, which have emerged from cognitive and constructivist learning theories, and *assessment* procedures which are still largely based on associationist and behavioural learning theories. Shepard quotes Graue (1993) as saying 'assessment and instruction are often conceived as curiously separate in both time and purpose' (Shepard, 2000 : 291), and points out that formal, standardized testing of students may, in fact, serve to obstruct the application of constructivist approaches to instruction. It is sometimes suggested that 'alignment between assessment practice and learning theory is something to strive for' (James, 2006). Despite the immense difficulties encountered in attempting to develop assessment practices compatible with cognitive-constructivist theories of learning, the premise that assessment *should* be used to support and foster learning is now not only generally accepted in principle, but has been incorporated into the education policies of many countries.

Various definitions of assessment *for* learning (formative assessment) suggest this mode of assessment aims to give feedback on performance so as to advance learning (Sadler, 1998), encompassing 'as those activities undertaken by teachers and/or their students, which provide information to be used as feedback to modify the teaching and learning in which they are engaged' (Black & Wiliam, 1998 : 7):

'the core of the activity of formative assessment lies in the sequence of two actions. The first is the perception by the learner of a gap between a desired goal and his or her present state (of knowledge, and/or understanding, and /or skill). The second is the action taken by the learner to close that gap in order to attain the desired goal.'

(Black & Wiliam, 1998 : 20)

Studies in student performance and school productivity have also tended to favour more formative approaches to assessment, claiming that formal standardized testing practices do not provide an accurate basis for assessing either individual

students' knowledge and understandings, or the contribution educational institutions make to the learning of their students (Black & William, 1998; Marshall and Drummond, 2006; Bryk *et al*, 1998). The detrimental effect of high-stakes testing on teaching and learning has been well documented in the literature (Madaus *et al*, 1992; Harlen, 2005; Whitford & Jones, 2000; Bryk *et al*, 1998). Yet despite this, William *et al* (2004) assert that 'it appears as if there is a widespread belief that teaching well is incompatible with raising test scores', thereby possibly making it even more difficult to practice formative assessment.

Hence, when trainee teachers come into the profession, it is in this culture of the changing meaning of assessment and the problems associated with implementing assessment *for* learning practices, that they must try to find their way. How they do this within the context of an entrenched system of summative assessment and high-stakes external testing, will determine how effective they will be in using assessment to support and advance learning in their classrooms. One part of teaching trainees how to use assessment effectively is for them to observe teachers in practice, and encourage them to think about, try out and develop relevant forms of assessment. It was thought that taking stock of trainees' evolving ideas about assessment a few months into their training course, could be helpful to their mentors in schools as well as to initial teacher educators in that it could offer feedback and inform them about what 'action' might be needed to progress trainees assessment practices. Moreover, 'trainees' conceptions of assessment can provide the framework through which they view ideas about pedagogy' (Winterbottom *et al*, forthcoming).

## ***The Present Study***

### ***Research Context***

The team involved in this project work in an English University that runs a one-year initial teacher training programme for graduates, and works in partnership with secondary schools in our region. The majority of partner schools and colleges, which number over sixty, work with students of age ranges 11-16, 11-18, 13-18 and 16-19, and most are coeducational. The institutions are located in several counties in both rural and urban communities, and despite being 'comprehensive', serve a range of local demographics. This particular course offers 36 weeks of education and training, two thirds spent on placement in partner schools, allowing trainees to meet and usually well exceed the government's standards for gaining Qualified Teacher Status, while at the same time achieving a Master's level post-graduate certificate of education (PGCE).

Trainees are inducted into teaching by moving from observing, to helping, to leading parts of lessons and team teaching, to assuming responsibility for planning teaching and assessing students in whole lessons, and finally extended series of lessons. The initial teacher education course begins with a two-month programme

spent in both the Faculty of Education and in partner schools, with trainees having the opportunity to learn about assessment from Faculty input whilst also observing experienced practitioners. This is followed by a four-week block placement in partner schools, with trainees working alongside teachers. A sample of trainee teachers were interviewed after this four-week placement, and their ideas about assessment analyzed.

**Data Collection**

It was thought that semi-structured interviews would be the most appropriate way to explore trainees ideas about the assessment practices they had observed during their time in partner schools, as well as their own past experiences as learners, especially in light of their learning from the recent university-based sessions. The interview schedule comprised very general open-ended questions, with respondents encouraged to talk about their experiences, observations, views and concerns (Figure 1). A survey questionnaire was also administered to all trainees shortly after the interviews had been conducted, the results of which have been analyzed and published elsewhere (Winterbottom *et al* (2008), Winterbottom *et al* (forthcoming)).

- Interview Schedule for the Trainees:*
1. What do you think assessment is/what does assessment mean to you?
  2. Who do you think assessment is for/what is the value of assessment?
  3. How do you think teachers conduct assessment?
  4. Do you think assessment differs across subjects, if so, in what way?
  5. How would you make assessments in your subject?
  6. What if your training was in a different subject area?
  7. How do you think assessment is normally carried out? How do you think it should be carried out?
  8. What does formative assessment mean to you?
  9. What does summative assessment mean to you?

**Figure 1 Interview schedule for semi-structured interviews of trainees**

A convenience sample of 17 trainees from a total cohort of 338, were invited to participate in the study, with 16 interviews being conducted in total. One of the four pilot interviews involved 2 trainees, and it was subsequently decided not to repeat this, as the respondents tended to respond to different questions, and not to respond to all questions. Interviews were approximately one hour each in duration and were all conducted within a four-week period prior to the start of the second term. Trainees’ subject specialisms represented A range of those offered on the course and are shown in Table 1.

Trainee Subject Specialism	Number of trainees (interview labels given in brackets)	Gender

English	1 (P1)	1F
Physics	4 (P2, M2, M3, M7)	3M & 1F
Modern Languages	4 (P3, M5, M8)	4F
Maths	5 (P4, M9, M10, M11, M16)	3F & 2M
Biology	1 (M1)	1F
Music	2 (M4, M6)	2F

**Table 1 Distribution of trainee subject specialisms**

All interviews were transcribed in full and an iterative process of qualitative analysis was employed, drawing upon elements of grounded theory. Analysis began with open coding, assigning codes using respondent's own words as far as possible. A set of categories were then constructed which were thought to best describe trainees' conceptions. These categories are outlined in the next section.

## ***FINDINGS***

This paper reports on the findings of a qualitative study exploring how graduates undertaking initial teacher education, attempt to make sense of the purposes and characteristics of assessment, with particular emphasis on their conceptions of assessment as a means of supporting learning. The trainees' developing understanding, at the end of their first term and after their first placement in schools, is reviewed against the backdrop of their own prior experiences as learners, and their observations during school placement, in particular as these experiences impacted on their University-based sessions.

As the data set comprised of 16 semi-structured interviews, each lasting approximately one hour, it appeared to be of more value to try and obtain a broad canvas of trainees' conceptions, rather than report on the relative frequency of these ideas.

### **Trainees' conceptions of the principles and purposes of assessment**

Trainees' ideas on the nature and purposes of assessment, in particular as it impacted on students learning, generally seemed to fall into the following categories:

- ***Assessment as monitoring student knowledge and progress***

The view of assessment as a way to gauge a student's present state of knowledge and monitor his/her progress was evident in practically all the trainees' interviews. A maths specialist noted that 'assessment now has a much broader meaning than

hitherto understood', as students are now assessed *throughout* their course as well as at the end (M16), meaning that a range of formative and summative assessment practices are used in schools to monitor student knowledge and understanding. The same maths trainee stressed that the formative assessment of students during their course was important since, it offered students a way of gaining a 'perspective of what things they've done well, how they can improve their attainment levels', an MFL trainee concurred, saying it was part of learning – 'it tells you where you are . . . and what you need to improve' (M8).

- **Assessment as monitoring progress during teaching practice**

The idea that assessment was a valuable means of evaluating one's own teaching practice was put forward by several of the trainees (M1, M2, M7). This was thought to be enacted in two ways: firstly, by tracking 'where you are within what you are doing' (M7) and thereby informing 'your teaching plan' (M3), and secondly, by critiquing one's own teaching and so discovering out 'how well you are teaching' (M2, M9) and what may have to be changed (M7). Therefore, assessment was described as being 'diagnostic for teachers to guide their teaching' (M2), especially 'at the start of a unit or year' (M3).

- **Assessment as a measure of knowledge**

Almost all the trainees appeared to hold the view that assessment was a means of measuring a student's present state of knowledge, some taking this notion of measurement further by saying that assessment attached a numerical value to learning, e.g. it 'makes learning quantifiable' (P1), 'something which allows you to quantify' (P3), and 'for numerical results' (M8). Despite assessment having a 'broader meaning' nowadays (M16) trainees still felt that on the whole 'assessment, whether rightly or wrongly, is driven by summative assessment' (P1) and, furthermore, it seems to be 'increasingly *presented* as summative' (M16) serving as a judgment of the standard of a piece of work.

Alongside this notion of assessment as a number reflecting an amount of knowledge, trainees also felt that assessment could be viewed as measuring performance against a set of targets or levels of attainment (P1, M8, M16), that is, 'providing information about how they (pupils) have been doing against how well they are expected to be doing' (P3).

- **Assessment informing decision making**

Several trainees saw assessment as being about practitioners 'making a judgment about what students can achieve' (M4), followed by making decisions about what *action* should be taken (by the teacher or pupil or school) which would be in the best interests of the pupil. This seems to infer that trainees believe practitioners are responsible for making judgments and taking actions which might have a bearing on both a student's future education and on his/her prospective career.

- **Assessment for external agencies**

Several interviewees appeared to think of assessment in terms of official recognition for students' 'capabilities' (M8, M10). An MFL specialist (M8), amongst others, expressed the view that assessment 'puts the pupils out of the classroom', meaning that, to some extent, assessment is 'for the rest of society' providing 'proper qualifications' for external agencies such as employment and further education providers. Furthermore, a maths specialist suggested that what teachers are actually assessing is the 'capabilities' that students can take 'beyond the school environment' (M16). He cited reasoning for problem-solving and logical thought processes as two examples of the 'nature of the capabilities that you are trying to build into students' (M16).

This concept of official recognition of 'capabilities' was linked to the notion of *accountability* as 'institutions are now visible to a lot more stakeholders, so assessment results are used to inform the general public about how well the school is doing' (M16), and assessment 'ensures that schools and teachers are doing their job properly' (M11).

- **Assessment for student motivation**

It was also thought that assessment (mainly summative) could also 'be a motivation for pupils' as 'some pupils are strongly motivated by results'. It was felt that often students disregarded discursive comments and focused primarily on the mark or level awarded (M8, M4, M16).

- **Assessment as support for learning**

Prior to being asked *specifically* about their views on assessment for learning (or formative assessment), surprisingly few respondents (M8, M16, M9, M11) indicated that a key feature of assessment was to support learning. Of those who did, two reasons were put forward for viewing assessment as part of the learning process' (M8): first, it served as 'guidance' for students 'to know which level they're at', and second, it informed the student about 'what you need to improve' (M8).

A maths specialist maintained that 'really valuable assessment is the sort of feedback that you give back to a child that helps them move on' (M11), while a biology trainee thought that giving feedback and recommending improvements to pupils should be *constructive* and accompanied by praise (M1). Thus, it was thought that a teacher should provide students with 'constructive . . . inputs . . . which would allow them to accommodate that input into subsequent pieces of work' (M16). This reinforced the view held by a majority of trainees', of assessment being 'student-focused' requiring practitioners 'to assess the child in terms of their own capability' (M11).

Other trainees felt that formative assessment was important as a means towards achieving summative objectives, i.e. to 'know how to get to the summative assessment' (M5), the objective being to 'try to find a balance between giving

marks and . . . formative feedback' (M9). Nevertheless, in the words of an English specialist, 'in order to produce the best kind of learning formative assessment should be critical' (P1).

### **Impact of trainees' past experiences**

The majority of trainees referred back to their own past experiences of assessment from when they were still school-going pupils. These ranged from those who came 'from a generation where assessment was once only, at the end of the year' (M16) to those who recalled frequent testing at the end of each unit and at regular intervals throughout the year, the emphasis being on summative, exam-style testing – 'we never got comments or anything' (M9) and so, as an English trainee put it, 'I used to find it hard to understand how I could improve my essay' (P1). An overwhelming majority recalled 'undue emphasis on summative' assessment (M16), many finding that although this was generally still the case in their placement schools, it was not 'all summative' any longer (P4). The consensus now appeared to be that there is an awareness of assessment as 'an *on-going* thing that you do during class all the time . . . to ensure that you are taking all the pupils with you . . . a way of helping students get the education that's appropriate for them' (M11).

One trainee, an MFL specialist from abroad, welcomed the use of formative methods in England, recalling (with a shudder!) that 'assessment is more like punishment in our country' and went on to point out that in her home country assessment was 'just *checking* if you've learnt . . . it's not *helping* you to learn, which is a huge difference' (M8).

An English specialist, amongst others, admitted that her ideas about assessment had changed quite a lot since shifting from a position of 'being assessed to being an assessor' (P1), whilst a maths specialist admitted that when she was at school she 'never understood how' she 'got a certain mark or grade on my essay' – essay *criteria* were (and she implied still *are*) 'a bit arbitrary'. She suggested that 'it would be really helpful to make assessment criteria explicit' to students (P4).

Yet another respondent, a physics trainee, recalled always getting good grades at school, attributing this to the fact that he 'had just learnt all the tricks . . . very particular *techniques* that enable you to do well'. He saw this as the prime focus of his school learning, that is, learning the 'tricks' he needed to do well in exams, rather than 'learning about different subjects', describing this as 'quite sad' (M2).

A thought-provoking remark made by an English specialist requires mention. Although she acknowledged that 'assessment has changed' from the time she was at school (her year group being the first ever to take SATs in year 6), the change effected has been from *grades* to *levels* – 'it was all about grades and now it's all about levels' (P1).



## Impact of trainees' school placement observations

Trainees commented on a wide-ranging set of practices which they observed during their placement(s) in schools. Many were particularly interested in the *whole-school* assessment policies they observed and were keen to talk about the extent to which these appeared to be implemented by their particular departments. On the whole, whole-school policies towards assessment seemed to be in place in some form in all the placement schools, some specifying 'highly structured criteria' (M7) while others were less so. Nevertheless, the extent to which these policies were implemented was 'left to individual departments' (M7). Respondents reported that some whole-school policies included the awarding of effort grades in addition to attainment levels and /or grades (M9, M4, M8).

Within *departments* assessment practices were also observed to be diverse. At one end of the spectrum, some departments followed highly structured methods (M2, M3, M7), such as worksheets with specific mark-schemes, regular end of term tests, and end of topic self-assessment forms – described as 'old-style science teaching and science marking' by one trainee (M7). One maths trainee claimed she had never witnessed teachers giving evaluative feedback / comments (M10). Several trainees observed that at their placement school, assessment was definitely 'summative-driven' (P1, M8). At the other end of the spectrum, another science trainee reported that in her placement school, 'in science all assessment is formative' (M1). However, the majority of interviewees disclosed that departmental policies were generally seen to be 'a compromise' providing 'both a score and some formative assessment' (M16).

*they're moving more towards assessment for learning and making it more formative and trying to make it so that the students can know where they're going and why they're being marked in such a way and give targets and things like that' (M10)*

Several trainees called attention to 'inconsistencies' in the way assessment was conducted (M4, M5, M6, M16), with some teachers giving only a grade, and others 'reams and reams of feedback' (M4). An MFL specialist noted that despite the school's efforts 'to make sure there is consistency for pupils', and even though students have 'targets in their books' one 'didn't get a sense that students understood what was expected of them and how they could improve' (M5). One trainee remarked on what he perceived to be 'a *tension* present in schools today', on the one hand between schools, and on the other between individual departments within schools, with regard to inconsistencies

in the manner in which assessments were made, saying that this caused tensions between departments / schools – ‘in many subjects, marks were given and in other subjects . . . they weren’t, and students were left at times feeling uncertain why that is’ (M16).

Trainees also thought that inconsistencies also appeared to be evident in the manner in which individual pieces of work were assessed. Generally, individual teachers made up their own criteria for marking (M1, M6, M10) set pieces of work, although a few trainees reported that set departmental mark schemes were used for some (and in one case, *all* (M7)) worksheets and homework.

In addition to the tensions and inconsistencies already mentioned, many trainees also pointed out that they were aware of ‘an element of *pressure* imposed on students to get good scores, to retain their position in the top group, for instance’ (M16, M8) – in some cases it was argued that this could suppress a child’s ‘natural curiosity’ (M2).

When *evaluative feedback* was given to students, respondents were, on the whole, of the view that the feedback was in the form of a ‘commentary’ rather than as short remarks such as ‘good’ or ‘well done’. Furthermore, the comments given tended to (a) highlight areas pupils had done good work in, i.e. positive feedback, and (b) direct students on how to build on this, i.e. how to construct new learning on what they already knew (M16, M11, M1). Trainees were impressed by this kind of feedback and welcomed it, describing how a ‘fantastic team’ of teachers at one school give frequent ‘very individual based assessment’ (M8).

With respect to *self-assessment*, trainees in maths, physics and music reported that students in their departments filled in self-assessment forms – usually at the end of units – and teachers based their allocation of levels on such information. *Peer-assessment* was mentioned by only two respondents (maths and music trainees), one of whom conceded that, although pupils seemed to enjoy this sort of activity, she remained skeptical about its value because ‘the classroom was very noisy’ (M8).

## **Discussion**

As a relatively small, convenience sample of trainees were interviewed, it would not be reasonable to assume that the ideas they expressed were representative of the entire cohort. However, a parallel study was conducted using an instrument which had previously been used to investigate teachers’ perceptions about assessment (James & Pedder, 2006; Pedder, 2007). This survey reported that (a) cluster analysis found trainees’ responses matched similar (though not the same) cluster found by Pedder and James (2007) in their study with in-service teachers; (b) there were indications of subject-based differences in trainees’ perceptions of some aspects of

assessment; (c) there was a mismatch between trainees' perceptions of their own practices whilst in placement schools and what they perceived to be 'good practice' (Winterbottom *et al*, 2008). The exploratory study reported here drew similar conclusions – trainees frequently point out that the classroom practices they observed and were encouraged to enact, do not match up to the 'ideals that they learnt about on their course and read about in the literature.

Although the research outlined in this paper can only be said to offer a glimpse of trainee teachers' conceptions about assessment, the trainees interviewed have raised a number of points which need to be considered and addressed, if the focus and purpose of school assessment is to be brought closer in line with cognitive-constructivist learning theories. Trainees made the following points:

- (1) A better balance between formal testing practices and evaluative feedback (to support learning), needs to be struck for practitioners to successfully shift emphasis away from exam-technique oriented teaching.
- (2) The criteria used to evaluate students' work need to be made explicit to students, and should be consistent – at least within departments.
- (3) It should not be taken for granted that making evaluative comments on students' work automatically means they will take this on board, as pupils frequently simply disregard evaluative feedback focusing only on the grade or level awarded. Students should work in partnership with teachers (and/or other students – as in peer assessment) in deciding the *action* that needs to be taken to move the learner forward in his/her understanding and knowledge.
- (4) Extra time should be built into classroom timetables to ensure that the above problems are resolved

In the words of one trainee: 'make sure that each assessment chosen *actually* assesses the *individual* capabilities and qualities, not just what you can do, but what you are potentially able to do because you've got such and such personal qualities, not so much as a pupil . . . than as a person . . . *ideally* . . .! I'm not sure if that's actually feasible . . .'

 (M8).

## Notes on Contributors

Fran Riga has taught science and mathematics in South Africa, in an American international school in Greece, and in comprehensive schools in England. She is currently undertaking part-time doctoral research into student learning in astronomy, and is a part-time research assistant in the Faculty of Education, University of Cambridge where she has worked on the ASCEND project and the Assessment in Secondary Schools project. A recent publication is: *Working together to provide enrichment for able science learners*. In *Science education for gifted learners* (Routledge).

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