Chapter 15
Enabling Personalised Learning through Formative and Summative Assessment

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ABSTRACT
This chapter considers some ways in which personalised learning can potentially be delivered by means of appropriate assessment and the use of associated technologies. Recognising that for many students, learning is driven by summative assessment, the chapter considers how by blending summative and formative assessment, students can be encouraged to develop and take responsibility for their own learning along with ways in which technology can make this assessment be tailored to the individual student. The approaches described can support and encourage self-regulated learning – itself an effective way of providing the more general concept of student-centred learning. The framework of learning that is engendered – with the use of technology – has the potential to allow an educational pathway which reflects individual students’ needs and aptitudes, and which can thus provide a form of personalised learning. This chapter describes some of the relevant theory – which forms the context within which this work is based and has developed - before then describing two case studies where this blend of formative and summative assessment is described and analysed. This is followed by a discussion of some of the more general issues.

INTRODUCTION
This chapter considers the experiences of the author in introducing technology based interventions intended to deal with issues such as increasing class sizes and an increasing breadth of diversity within a given cohort, issues that are now present in many areas of U.K. Higher Education (tertiary education), and further afield. The interventions considered are focussed on using technology to provide individual support for students within a typical Higher Education (H.E.) learning environment, where large class sizes and restrained contact hours typically mean that the opportunity to personalise the learning experi-

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ence can seem limited. However, the flexibility and support offered through technological solutions can provide a way to provide this personalised learning. Assessment is well acknowledged as a driver for student engagement – whether the assessment is formative or summative in nature and the chapter describes how to utilise this to encourage elements of student centred and personalised learning. Furthermore, technology offers a way to offer more flexible and individual assessment approaches, as well as more generally offering more flexible learning pathways, which offers further opportunities for a personalised learning experience.

In terms of assessment, the main focus of this chapter is on the use of diagnostic based approaches to assist students in developing their own learning and to consider the way in which technology can offer some opportunity to personalise that learning. We make use of case studies to demonstrate some specific examples, where the assessment can help students in:

1. Developing approaches to self regulated learning;
2. Developing self-analytical skills, and through these learn to identify areas of knowledge or skills that require training and enhancement;
3. Developing time management skills;
4. Developing an understanding of assessment criteria;
5. Developing an appreciation of the benefits of learning itself – not just remaining with the “marks are all” mantra.

BACKGROUND: ISSUES IN HIGHER EDUCATION

In considering personalised learning, it can be helpful to first explore some of the wider context around learning issues, in particular the relevant areas of assessment which influence the case studies that we discuss below. A more general discussion on some of the wider contextual issues is explored after the case studies.

The use of assessment within the learning context is well-known, and the use of formative and summative assessment is well recognised and documented (Biggs, 1998). Whilst it is common to distinguish between these in terms of the feedback and expected outcomes, in practice the distinction between formative and summative can be less clear (Brown, 1997), and in many respects and instances it can be more productive to combine these into single forms of assessment.

Formative assessment itself is characterised as assessment which can be used to modify learning and teaching (Sadler, 1989). In this respect, the results can apply equally to teacher and to learner. Formative assessment is typically done during a learning process and provides information which can help the learner in developing their understanding, and can help the teacher in modifying their teaching to ensure that the learning objectives are met.

In contrast to formative assessment, summative assessment may be typified as having no learning value itself, but is purely a way to measure performance. In this respect, summative assessment is usually considered as taking place at the conclusion of the learning process. Summative assessment within tertiary education has been typified as the finals – the exams at the end of a period of learning. Whilst commonly these would be the end of academic year exams, the focus on modular teaching, with immediate assessment has placed more focus on end of semester assessments.

In a traditional approach to teaching – as typified by a common view of traditional university teaching – material would be taught, with comments from a teacher to the students on formative assignments to assist the student in their learning, and to assist the teacher in focussing their teaching, and this would be followed by the summative assessment, usually exams.