

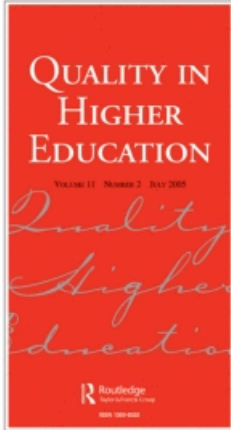
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Defining and Assessing Competence in Generic Skills

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ABSTRACT *It is widely believed that today's student population would benefit from receiving explicit training in generic skills, but there is substantially less agreement concerning the best way in which to bring this about. It is argued in this paper that it is very difficult, and perhaps impossible, to establish the skills levels that students should reach by the various stages of their degree courses. There appear to be two issues: the different needs of various disciplines and courses on the one hand, and the differing needs and expectations of the UK's diverse student population on the other. These issues are discussed via a case study of one academic teaching department that is running a stand-alone module in generic skills, which is mandatory for all first-year students.*

Introduction

The growing number and heterogeneity of the higher education student population, coupled with the squeeze on resources, has raised questions about how best to facilitate effective independent studying in students. The ability to study independently, and having adequate study skills, have both been shown on many occasions to contribute to good performance in higher education (Tait *et al.*, 1998), and the recent Government emphasis on lifelong learning adds further weight to the case for raising the profiles of study, generic and transferable skills.

Despite the changes to the student population, universities still tackle the enhancement of study and generic skills somewhat patchily, either passing responsibility to individual teaching departments, or offering general workshops and adjunct classes on an *ad hoc* basis. Although free-standing sessions can often solve the problem that individual teaching staff feel they lack the skills and knowledge to 'teach' general skills, the transferability of skills from these sessions to day-to-day studying is extremely poor. Furthermore, staff running optional sessions tend to report that the neediest students choose not to attend and, where sessions are mandatory (which is uncommon), students who engage most are again those who are least at risk. Two anecdotal explanations for these last two observations have been offered. First, many students who are weak in their chosen subject are also generally dilatory, and are thus unresponsive to offers of help that will result in additional work or class time. Second, many students who are generally weak are also poor at reflection on, and self-regulation in, studying, and fail to recognise that they would benefit from help.

Napier University has responded to widespread local concern at the perceived inadequacy of generic and transferable skills across the university, by developing a university-wide 'ToolKit' policy. This policy states that all first-year students are to be given compulsory and explicit help in five generic skills: study skills, information skills,

information technology, mathematics and communication. Responsibility for delivering ToolKit rests with individual departments, which can opt to operationalise the policy by delivering a stand-alone module (carrying one-eighth of the year's credits) or, alternatively, can embed the skills training within existing subject-based modules. Irrespective of its mode of delivery, the ToolKit policy requires that its learning outcomes be assessed, and that assessment be on a pass/fail basis, where 'pass' reflects the minimum level of competency to permit effective independent study in higher education. Students are to be given opportunities to resubmit work, repeatedly if necessary, until this minimum level or 'acceptable standard' of competence is demonstrated.

This paper reports, and critically reflects upon, the first experiences of one department that opted to deliver a stand-alone module (called 'Effective Learning') and assess it primarily via a portfolio. The decision to deliver a free-standing module was not taken lightly, and the reasons for not choosing the model of embedding the skills in existing subject-based modules are too complex to cover in this paper. While many aspects of the experience are worthy of being shared, the focus will be on the assessment elements of the module.

Defining Competence in Higher Education

Toolkit requires all students to be brought up to a minimum level of competence in generic and transferable skills to enable effective independent learning in higher education to take place. What exactly do students need to be competent in? Birenbaum (1996) suggests that today's student requires four different types of competencies:

- cognitive competencies, such as problem solving, critical thinking, formulating questions, searching for relevant information, making informed judgements, efficient use of information, conducting observations, investigations, inventing and creating new things, analysing data, presenting data communicatively, oral and written expression;
- meta-cognitive competencies, such as self-reflection or self-evaluation;
- social competencies, such as leading discussions and conversations, persuading, co-operating, working in groups;
- affective dispositions, such as perseverance, internal motivation, initiative, responsibility, self-efficacy, independence, flexibility.

Entwistle (1994), while not using the term 'competency', states that the single most important aim of higher education is to develop in students independent critical thinking.

It appears to be difficult to move beyond these general higher education aims and competencies to generate qualitative descriptions of levels of competencies that have widespread applicability, and are meaningful, in describing what students require in order to progress satisfactorily from one year of a degree course to the next. Instead, the requirement for progression is often described in terms of a specific number of credits with no corresponding 'translation' of what these credits should mean. The nearest equivalent appears to be statements about aims of specific years of individual degree courses, though where these exist, they tend to restrict themselves to subject-based 'content' rather than skills or general competencies. One course at Napier University that has attempted to add a qualitative dimension to the number of credits required to progress from first to second year includes the following alongside its discipline-specific aims:

developing students' skills in verbal and written communication and presentation; enhancing collaboration in small groups such as tutorials and workshops;

developing basic statistical and research skills; providing a grounding in the analytical and problem solving skills required in the workplace; and improving the students' potential for employment and continuing education/training.

The course handbook further describes the progression from second to third year as being:

dependent on the students' ability to develop their intellectual potential through a scientific, analytical and critical approach to academic study; to develop skills in relation to data and information gathering, interpretation and analysis; to gain experience of the use of computer software packages; to develop further their communication skills and conceptual abilities; to develop team work and presentation skills; to organise their time and work to deadlines; and to be prepared for employment and continuing education/training. (Napier University, 1997, pp. 14–15)

This course, thus, aims to develop the competencies outlined by Birenbaum.

One other potential source in the quest for competencies for specific years of degree courses is the learning outcomes of module descriptors or equivalent, that are overseen by, and often lodged with, quality units within higher education institutions. Their phraseology allows some inferences to be drawn, since words such as 'describe' are commonly used for first year, 'compare' and 'contrast' for second year, and 'analyse', 'synthesise' and 'reflect' for subsequent years. In addition to describing outcomes relating to course content, there has been strong encouragement to write learning outcomes for transferable or 'enterprise' skills. Yet there is often a sense that 'lip service' is being paid to these skills, since they are not always integral to the formal assessment of the module.

In a substantive research programme looking at the relationship between the attributes of graduates and organisational change, a useful distinction is presented between students' *personal attributes* and *interactive attributes*, which are umbrella terms for *inter alia* knowledge, intellect, willingness and ability to learn, flexibility and adaptability to change, and self-skills, and communication, teamworking, and interpersonal skills respectively (Harvey *et al.*, 1997, Ch. 6). This presents a clear and helpful picture of what students should ideally be competent in by the end of their course of studies, but does not aim to, and consequently does not, identify 'stepping-stones' on the way.

It thus appears that there are no general clear guiding principles for what a student at any given stage of a degree course should be competent in, and that such description that does exist is at local course or module level rather than at global higher education or university level, and that local description tends to focus rather tightly on the specifics of a particular discipline.

Assessing Competence in Higher Education

The word 'assessment' is derived from *ad sedere* meaning to sit down beside, and consequently carries with it notions of its primary function being that of 'providing guidance and feedback to the learner' (Brown, 1993). Instead of being an adjunct to any module or course, assessment should aim to be a valid and reliable integral part, planned at the same time as the module content to ensure maximum match with that content and that it 'tests' that the learning outcomes or broad aims of the module have been met. Assessing must be recognised as being no more and no less than a process of sampling a student's work, making inferences from it, and subsequently estimating worth. In addition,

assessment should be promoted as a vehicle for student learning, ranking alongside lectures, tutorials and private reading. However, this is a rather idealised picture of assessment. Often assessment is primarily, and perhaps solely, seen to serve the summative purpose of grading or ranking.

There are many well-known, tried-and-tested methods and sources of assessment (Birenbaum & Dochy, 1996; Hounsell *et al.*, 1996; Entwistle *et al.*, 1992, Ch. 8; Ramsden, 1992, Ch. 10). However, the changes in higher education over this decade have encouraged a fresh and more critical look at assessment approaches in the light of higher education's broader remit, which is now embracing generic and transferable skills in addition to discipline-specific material. Criteria and methods are having to be established for assessment in these non-traditional areas. Many interesting and innovative approaches to assessment have emerged, which include simulations, log books and journals, group projects, exhibitions, observations, oral presentations and portfolios (Birenbaum, 1996). It is clear that not all assessment devices are equally suitable for all tasks, and the advantages and limitations of any approach need to be considered in relation to what is being assessed. It could be argued, for example, that multiple-choice tests are not the most apt way of assessing skills and that essay-writing is less appropriate to arithmetic than are problems of a computational nature. Not only does the *what* of assessment need to be clarified, but so too does the *why*. Brown (1993) lists thirteen reasons why assessment might be carried out: to pass or fail a student; to diagnose a student's strengths and weaknesses; to provide feedback to students; to motivate students; to provide a profile of what a student has learnt; to predict success in future courses; to evaluate a course's strengths and weaknesses; to provide feedback to lecturers; to motivate lecturers; to grade or rank a student; to predict success in employment; to select for future course; or to select for future employment.

Selecting an Assessment Device for the 'Effective Learning' Module

The structure and content of 'Effective Learning' had been designed to avoid many of the criticisms commonly levelled at study skills, by making the study skills advice principled by basing it on student learning research, by promoting reflection and self-regulation in studying so that skills developed in this module could more readily be transferred into other learning situations, by suggesting ways of going about tasks that were realistic in terms of time and resources, by trying to cater for a range of student abilities and backgrounds, and, perhaps most importantly, by avoiding suggesting that there was a 'right' way of going about tasks and instead promoting the idea that there is a range of alternatives and that the student must choose the most appropriate way for them (Tait *et al.*, 1995). These principles impacted directly on the type of assessment that would be appropriate.

A survey of assessment methods and approaches, both in isolation and in relation to modules sharing some common elements (such as, skills-based modules), began to suggest that portfolio assessment would meet the needs of 'Effective Learning'. As an assessment device, portfolios have seen a surge in popularity in recent years (Hounsell *et al.*, 1996). Portfolios are not a specific form of assessment, nor a unitary one, but are instead 'a cumulative collection of a student's work' (Davis, 1993, p. 247). The operational rules of portfolios vary but, typically, students select, within constraints and with a reflective commentary, what examples of their work to include, with the remit of making their portfolio reflect their accomplishments over the semester—'a kind of autobiography of growth' (Järvinen & Kohonen, 1995, p. 30). In some cases, students are instructed to select their best work to form an exemplary portfolio, while in others they are required to include

drafts as well as final products to form a process portfolio (D'Aoust, 1992). Combined portfolios are also possible. The reflective element of portfolios is instrumental in students' development of self-regulation, which is an essential element of effective independent learning in higher education and which appears to be particularly underdeveloped in generally weak students (Sternberg, 1998; Vermunt, 1998).

The 'Effective Learning' Portfolio

The portfolio consisted of a reflective log book and a folder containing demonstration of the module's learning outcomes: an essay (word-processed), a completed and scored approach to studying inventory, a time-management plan or timetable, a reflective report on a group presentation, a library trail exercise, an exercise on calculator functions, an algebra test, an Excel spreadsheet, and pages printed out from the World Wide Web. Opportunity for reflection was incorporated, since it is known to be instrumental in giving learning a cyclical dimension. In the case of 'Effective Learning' students received explicit skills input that was given didactically in an abstract lecture setting, they were then given an exercise to enable them to develop that skill, and they then reflected on this experience to aid them to 'extract meaning from the experience ... (and to) increase (their) involvement, responsibility of and ownership for ... learning' (Järvinen & Kohonen, 1995, p. 29). In addition to the reflective comments made in relation to each of the learning outcomes, students also sat a reflective examination. The examination was set primarily to give students experience of sitting an examination in a university environment and under university regulations. It was also designed to increase the credibility of the module in the eyes of both the wider university and the participating students. Initially, the notion of an examination had been rejected, since it was recognised that strong emphasis had been placed on the fact that this was a skills-based module and that an examination that focused on the content of the module would thus be contradictory. The examination was consequently of a reflective nature and students were asked to:

- select two skills that had been covered by the module;
- reflect on how their skill level had developed;
- identify the main sources of this development.

The quality of reflective comments gained from this examination was unexpectedly high, and students later commented on how valuable they had found the exercise in making them think about how they had developed during their first semester at university. The examination was again graded on pass/fail basis (there were, in fact, no fails besides absentee).

Students were able to rework any components of the portfolio that failed to reach an acceptable standard. In the absence of clear-cut guiding principles from the literature, 'acceptable standard' was taken to be the achieving of all the sub-elements of each learning outcome. For example, the essay was to be 750 words in length, well-structured, written in an 'academic style', was to include both theory and everyday examples of that theory, and was to contain references to the literature. A session dedicated to essay writing had unpacked each of these, and a tutorial had given students a range of essay titles and had asked them to work in small groups to plan how they would go about researching for it and ultimately writing it as additional preparation for their first 'real' university essay. The individual essays were returned to the students quickly, with copious feedback on strengths and weaknesses, and with a clear explanation of what would need to be remedied where the standard fell short of acceptable. This same general principle was

adopted for each piece of portfolio work. With this in operation, the 'effective learning' portfolio could be said to be adopting the rationale of the process portfolio, since students were actively encouraged to redraft work, and the rationale of the exemplary portfolio by ensuring that all pieces of work in the final portfolio met the required standard. This combined style of portfolio has also been described (D'Aoust, 1992).

Assessing the 'Effective Learning' Portfolio

Permission was granted by the university to have two atypical facets to the assessment of 'Effective Learning'. First of all, all ToolKit modules were to be assessed on a pass/fail basis. No marks or grades were thus attached to the portfolio, or indeed to its individual components. Secondly, although 'Effective Learning' ran as a module in the first semester, students were able to delay the submission of their portfolio until the end of the second semester if they so wished. However, far from facilitating the assessment of the module, both of these irregularities proved to be problematic. The pass/fail aspect resulted in the most able or diligent students feeling aggrieved that their efforts to complete work on time and to a high standard were not being sufficiently rewarded. Many of the less assiduous students occupied substantial amounts of staff time in being pursued for submissions. They also presented sloppy pieces of work, knowing that there would be an unlimited number of future opportunities to bring their work up to an acceptable standard. The optional delay in submission, until the end of the first year of study, appeared to have the effect of legitimising a lower priority being given by some students to the module. While diligent students invariably submitted their completed portfolios at the end of the first semester, many of the weakest students never completed the portfolio at all, presumably because the pressures of a full complement of other modules in the second semester, coupled with the absence of formal contact time for 'Effective Learning' in the second semester, meant that the portfolio never rose to the top of these students' agendas.

Students who completed the portfolio to an acceptable standard, and those who submitted nothing, proved unproblematic, since they fitted neatly into existing university regulations for passing and requiring to be reassessed, respectively. The monumental problem, for which no satisfactory solution has been found, is how to deal with those students who have submitted some, but not all, of the required work, despite the many opportunities to do so, and the numerous communications both by notices displayed prominently on the noticeboards, and individual letters sent out to term-time addresses. The pass/fail approach makes averaging marks impossible. The nature and ethos of the module renders it inappropriate to require these students to repeat the module when in their second year of study, and several of the individual components were designed to induct students into their studies in higher education and thus lose their impact at resit time. Yet 'Effective Learning' carries an equal number of credits to any other module and subsequent cohorts of students must not be allowed to believe that they can let this module drift with no adverse consequences. Some of these issues will be discussed further below.

Lessons for the Future

Portfolio assessment proved to be onerous on all staff involved in 'Effective Learning' and on all students who were not assiduously keeping pace with the module. Furthermore, there were logistical problems encountered with partial submission that resulted in an unacceptable number of students' 'failing' the module at the end of their first year. Feedback indicated that many of the students who were slow to take on the responsibility

for their own learning had work outstanding from an early stage in the semester and felt rather overwhelmed by this and were, in some cases, unable to see how to catch up. These students invariably failed to negotiate a workable solution with staff, and it is conjectured that this might be again due to their inability to reflect upon, and monitor, their own studying. Despite these non-trivial problems, 'Effective Learning' is committed to using portfolio assessment next year, and to review it again after its second year of operation. Clearly, changes will be implemented, such as a stricter policy on adhering to deadlines, better policing of students who appear to be falling behind and a repeated emphasis on the credit-bearing nature of the module. In particular, it is anticipated that students will be asked to submit short assignments perhaps even on a weekly basis, right from their first week at university, to serve three purposes:

- to try to get students into the habit of working steadily throughout the semester;
- to allow work to be 'checked off' as it is done, so that all students get a sense of their progress on the module;
- to alert staff at an early stage to students who are not keeping pace.

Although these problems were dispiriting to staff involved, there were some positive aspects to portfolio assessment. First, the reflective elements proved invaluable to staff as well as to students. Students reported (via both formative and summative feedback) that they had been forced to think about the ways in which they were going about studying, to identify their strengths and to confront their weaknesses and determine ways forward. Staff felt they were getting a quality of information that was giving a new insight into how students were coping with the demands placed on them in the unfamiliar learning environment of higher education. The staff were consequently more able to be proactive rather than reactive in offering help of different types. Second, those students who had completed the portfolio reported having found it both straightforward and useful as an assessment device. Third, there was considerable anecdotal evidence that the portfolio approach could be used as an early warning system, alerting staff to students who were falling behind for one reason or another, and with better policing next year, it is hoped that more students could be put back on track at a sufficiently early stage in the year to make academic success more probable.

Many of the more assiduous students began to report that they were 'seeing the point' of the module as they studied their other subjects and were making increasing use of the skills they had begun to develop. It is hoped that a more systematic study of this first cohort of 'Effective Learning' students can be made as they progress through their second year in order to understand better the impact of the module on them.

The pass/fail approach had been initially believed maximally appropriate to a skills-based module of this type, yet its implementation proved problematic. First, it was impossible to average marks where some elements of the portfolio were missing, and second, it was found that many students quickly learned to be strategic and do the minimum required to pass, since better than adequate performance was not rewarded. Consequently, it is likely that the major pieces of work at least will receive grades or percentage marks, and that Napier's policy of awarding merits for overall module marks above 65% will be operationalised. This should serve as an additional motivational factor for students.

The first run of the module involved inappropriate amounts of staff time being spent 'chasing up' students or their work, only to find subsequently that the profiles of the majority of these dilatory students was such that they either had multiple resits or they had dropped out of university at some point during the year. It thus seems important not to

be drawn into the familiar situation in which the majority of staff time is spent on a minority of students, to the detriment of concentrating effort on those who are keen and willing to work. While this does not solve the problem of how to develop a meaningful resit for the module, it does help to keep the problem in perspective.

The emerging picture is that even with a university-wide policy driving and supporting credit-bearing modules such as 'Effective Learning', history is repeating itself in that conscientious students pass, and others fail to take full advantage of the help on offer, to the extent that, in many cases, they fail the module. However, since the policy does exist, the challenge is to find better and more effective ways of running the module and assessing students on it. A different department in Napier University, which had opted to run voluntary adjunct study skills sessions for its common first year of 500 students, was getting around 1–2% attendance at these sessions, in comparison with an attendance of around 60% at 'Effective Learning' classes. Thus, it would appear that formalising the module did have a substantial impact on attendance. Although this figure is still low, and would be considered unacceptable for a subject-based module, it should be noted that the module was timetabled to run for a 2-hour block on Friday afternoons, a time that never attracts good attendance. It is hoped that the proposed weekly submission of small pieces of work should give the module more momentum from the start and also increase attendance.

The practical problems of portfolio assessment of 'Effective Learning' must not be allowed to overshadow the more fundamental question of whether relevant competencies are ultimately being assessed at an appropriate level. It would appear that Birenbaum's (1996) four competencies (cognitive, meta-cognitive, social and affective) are all reflected to some extent in the 'Effective Learning' module, and it could consequently be argued that we are helping to develop the appropriate skills. As for the appropriate level of competence in these skills, in the absence of guiding principles from the literature, the considerable collective experience of teaching staff was used to determine the criteria for 'competent' performance for a first-year student in each of the module's designated areas. Unfortunately, at present there is no evidence beyond individual student testimonies and intuition from staff that these competence levels are optimal, and it will not be until a few cohorts of students have completed this module that it will be possible to evaluate it more fully.

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