Aligning assessment with long-term learning

David Boud and Nancy Falchikov, *University of Technology, Sydney, Australia*

Abstract

Assessment in higher education is commonly held to contribute to feedback to students on their learning and the certification of their achievement. This paper argues that this short-term focus must be balanced against a longer-term emphasis for learning-oriented assessment to foster future learning after graduation. The paper proposes that students need to become assessors within the context of participation in practice, that is, the kinds of highly contextualised learning faced in life and work. It discusses the kinds of practices that are needed to refocus assessment within higher education courses to this end.

The raison d'être of a higher education is that it provides a foundation on which a lifetime of learning in work and other social settings can be built. Whatever else it achieves, it must equip students to learn beyond the academy once the infrastructure of teachers, courses and formal assessment is no longer available. This is a formidable challenge and it competes with a number of other goals to receive the attention it deserves in a university education. In recent times, the role of higher education in life- long learning has been recognised through a number of developments. These include a focus on learning outcomes (Hussey & Smith, 2003), the use of graduate attributes (Hager & Holland, in press), the promotion of key skills and the adoption of an agenda of employability (Dearing, 1997) and the development of capability (Stephenson & Yorke, 1998). In all of these the role of assessment has generally been taken for granted. The range of matters to be assessed has been extended to encompass the issues mentioned and this has prompted the development of new assessment methods. However, a reappraisal of the role of assessment has not occurred.

There are, however, some signs that this may be starting to happen. A critique has been building on the inadequacy of formative assessment practices that help students' learning during their courses (Sadler, 1998; Hounsell, 2003; Yorke, 2003). There has also been substantial criticism of the role of summative assessment and its negative effects on student learning (Ecclestone, 1999; Knight, 2002; Knight & Yorke, 2003). There is a flourishing literature, much of which is found in *Assessment & Evaluation in Higher Education*, exploring assessment practices that have positive effects on learning (e.g. Woodward's (1998) work on reflection in the context of journals and portfolios), and in recent years there has been considerable interest in the notion of constructive alignment (Biggs, 2003). That is, the components in the teaching system, particularly the methods used and the assessment task are closely aligned to the learning activities assumed in the intended outcomes. There have also been important initiatives that look at the long-term

consequences of university courses, including assessment, on subsequent learning in professional practice (Mentkowski, 2000). What is missing in all this has been a conceptualisation of the place of assessment in learning beyond the academy and the contribution higher education can make to it.

In an earlier paper (Boud, 2000), the needs of assessment in a learning society were identified and the requirements for a new way of thinking about assessment introduced. It was suggested that current assessment practices in higher education did not equip students well for a lifetime of learning and the assessment challenges they would face in the future. It was argued that assessment practices should be judged from the point of view of whether they effectively equip students for a lifetime of assessing their own learning. The paper further proposed that the concept of sustainable assessment might be usefully adopted. It took the view that assessment could be sustainable if it 'meets the needs of the present without compromising the ability of students to meet their own future learning needs' (Boud, 2000, p. 151). That is, assessment activities should not only address the immediate needs of certification or feedback to students on their current learning, but also contribute in some way to their prospective learning.

The current paper takes up this discussion in the context of learning-oriented assessment and identifies some of the main issues involved in assessment practices that can potentially lay the foundation for a lifetime of learning. The first part starts by clarifying the main purposes of assessment and the role of sustainable assessment within them. It proposes that a third purpose of assessment—assessment to foster learning throughout life—be given equal attention alongside the well-established purposes of assessment for certification and assessment to aid current learning. It proceeds with an examination of the particular role of assessment in formal courses to argue that a strategic point of entry for providing a foundation for future learning is through assessment. The second part of the paper starts with a discussion of the nature of learning post-graduation and points to its primarily socially situated character and the fact that it is typically embedded in everyday tasks and contexts in contrast to the, often, abstracted nature of learning in higher education. It focuses on an exploration of the characteristics of assessment tasks and illustrates how assessment activities might be conceptualised to promote a sustainable approach that can equip students for future learning challenges.

Purposes and problems of assessment

It has long been assumed that there are two main purposes of assessment. The first is to provide certification of achievement. This enables students to graduate with a validated record of their performance in the program in which they have participated. Certification is used by employers and by educational institutions, typically to make judgements about acceptability for employment and further study. The second purpose of assessment is to facilitate learning. Through the provision of information about responses to various kinds of test or assignment, students are enabled to more effectively judge their own achievements and what they need to do to learn more effectively within the program. These two purposes have been associated with two sets of practices: summative and formative assessment respectively.

In considering learning for the long-term, the question arises of whether summative and formative assessment practices, as presently conceived and executed, are able to adequately address a wider set of needs. Can they and do they equip students for a lifetime of learning? We suggest that while in principle they might be able to do this, there are sufficient problems with them to lead us to believe that it is fruitful to establish an additional purpose of assessment.

Summative assessment has the clear purpose of certifying a level of attainment of a student at the point of completion of a course or program. This is a widespread public expectation of assessment, and while it could be argued that this is insufficiently future-oriented, it would be difficult to mount a case that involved shifting existing well-established perceptions of this purpose. The idea is too entrenched in public consciousness to provide a fruitful entry point for change. There are, of course, many substantial issues that have already been identified as needing to be addressed by summative assessment, but to add another to the list would not help in addressing any of them. Knight (2002) suggests that summative assessment in higher education is a practice in such disarray that it is difficult to know what grades or classifications mean and risky to treat them as reliable. He goes on to argue that the problems of summative assessment are so deep-seated that changes to assessment itself are insufficient and that a reappraisal of the nature of the curriculum of higher education is needed.

Similarly, formative assessment has been the subject of debate in recent years. Black and Wiliam's (1998) substantial study identified many issues that had not been fully addressed in assessment practice such as focusing assessment on learning, separating grading and feedback and using self and peer judgements. More recently, Yorke (2003) has argued that

> [T]here is a need for further theoretical development in respect of formative assessment, which needs to take account of disciplinary epistemology, theories of intellectual and moral development, students' stages of intellectual development, and the psychology of giving and receiving feedback. (p. 477)

From a similar perspective in relation to the use of feedback on student work, Hounsell (2003) identifies 'growing concerns that the provision of feedback on assignments may be in decline' (p. 68). He proposes two directions for development: 'student involvement in the generation of feedback, and a more open and collabora- tive approach to assignments' (p. 78). Each of these authors points to important directions for formative assessment. However they focus on learning for immediate tasks, and do not concern themselves, except indirectly, with assessment for future learning.

These concerns by writers on assessment are underscored by a system-wide review by the Quality Assurance Agency for Higher Education (QAA, 2003). In a report analysing the nine-year teaching quality assessment exercise undertaken by visits of QAA panels to universities in England and Northern Ireland, they identify assessment as the practice most in need of improvement. The main deficiencies identified in university courses were not related to teaching and learning, but to assessment practices. Early QAA reviewers had found a very narrow range of assessment methods in use and over-reliance on

traditional examinations. This situation persisted in more recent visits. Assessment tasks were often found to present an inadequate intellectual challenge and to fail to distinguish between the demands of different levels of study. In a 'significant minority' of cases, marks awarded bore little relation to marking criteria. Feedback, too, was deemed deficient, being perfunctory and lacking in constructive comment. Moreover, it was too often provided too late to enable students to benefit from it (Baty, 2004).

Becoming an assessor

Preparing students for lifelong learning necessarily involves preparing them for the tasks of making complex judgements about their own work and that of others and for making decisions in the uncertain and unpredictable circumstances in which they will find themselves in the future. A central feature of the third purpose of assessment is that students are constructed as much more active players in the assessment process than is implied by summative or formative assessment. While it is not a defining feature of summative or formative assessment, students have been the subjects of assessment: they are required to undertake tests, they are given feedback on matters that teachers judge important. They are recipients of the actions of others, not active agents in the assessment process. Such conceptions of assessment are inappropriate for long-term learning and they also limit current learning. Neither teachers nor a curriculum drive learning after graduation; it is the desires of learners, the initiatives they take and the context in which learning takes place that are powerful influences.

One of the items typically omitted from lists of key skills required by graduates, but implicit in the notion of learning-how-to-learn and becoming a lifelong learner, is that of developing the capacity to be an assessor of learning. Indeed in the lifelong learning literature, while there is frequently an emphasis placed on learning activities and what is to be learned, there is a tendency to neglect students' ability to determine what has been learnt and to plan accordingly. It is almost as if it is assumed that the consequential language of assessment should not disturb the positive discourse of lifelong learning. Ability in being an effective assessor of learning is not to be confused with ability on performing well in assessment tasks designed by others. The framework within which they operate is quite different. The latter is more of a responsive role; the former is more generative. Graduates in the workforce will not in general be taking examinations or writing academic essays. They will be puzzling over what counts as good work and how they will be able to discern whether they are producing it. There is some overlap between this and judging whether one is prepared to take an examination, but the workplace task has many additional elements, and may involve greater risks. We need therefore to examine what students are getting practice in doing now and what else they may need to engage in.

Traditional assessment practices can, as we have seen, undermine students' capacity to judge their own work. Importantly, this works to constrain the lifelong learning agenda. Candy *et al.* (1994) in their study of the role of undergraduate education in promoting lifelong learning reported:

> ... if students are to be encouraged to be lifelong learners, they must be weaned away

from any tendency towards over-reliance on the opinions of others. Ultimately, in real world contexts, they must be able to judge or evaluate the adequacy, completeness or appropriateness of their own learning, so whatever assessment practices are used must be comprehensible to the learners so that they can be internalised as criteria for critical self- evaluation. (p. 150)

In other words, if students are always attending to the judgements of others they may not acquire the broader set of skills that enable them to do this for themselves. Further, assessment tasks often emphasise problem solutions rather than problem formulation and they commonly utilise unrealistic and decontextualised settings to assess learning. In many assessment practices student involvement in the design of the assessment is omitted and so key stages in judging learning, such as the establishment of appropriate criteria for the completion of tasks are rendered invisible. In addition, courses often imply, and teachers often assume, that collaboration is cheating and thus students are discouraged from working cooperatively. Students frequently do not have the opportunity to see how the process of assessment actually works. It is something they experience as a procedure to which they submit themselves rather than something they own.

Assessment systems and practices exert considerable constraints on students' learning behaviour. The highly individualised set of assumptions about the assessment of students manifest in grades and individual certification is one such limitation. Another is the fragmentation of assessment tasks (and indeed the curriculum) prompted by modularisation that inhibits some holistic approaches to assessment. Most pervasive of all, the treatment of assessment as grading leads students to focus on marks rather than the learning they purport to represent.

These concerns about the negative influence of assessment practices do not only apply to traditional approaches. There are now new assessment traps. Strategies having a positive effect on current learning (e.g. providing students with criteria for assessment), may have unintended longer-term consequences which have yet to be identified. For example, while the use of learning outcomes and specification of standards may be desirable, an unintended consequence is to portray to students the idea that the specification of standards and outcomes is a given and that learning only

proceeds following such a specification by others. Yet in the learning that profession- als do outside the academy, learning outcomes are rarely specified in explicit terms. What is required of the learner is embedded in a professional practice or a particular local context. Before learning can even commence there is a need for learners to identify for themselves what they need to learn, taking into account a range of contextual factors, and to judge what counts as good work. Of course, appreciation of appropriate criteria may need to be scaffolded through feedback from teachers. Indeed Orsmond's work suggests that this be carefully conducted (Orsmond *et al.*, 2000, 2002). Nevertheless, the goal must always be that students themselves can learn to judge for themselves what constitutes good work and be given opportunities to prac- tise this skill. Indeed, without having the development of students as assessors as a clear goal translated into specific practices we may end up inadvertently undermining what we are trying to achieve.

Higher education has an important role to play in the preparation of students for what is to follow because it is becoming the final systematic stage of education for the majority of the population, and the key stage for all those proceeding to professional work. However, formal education prepares students for much more than the formal aspects of work. Indeed, relatively few of the activities of work and life can be characterised by the degree of systematisation and formality found within educational institutions. Colley *et al.* (2003) in their discussion of the danger of polarising formal and informal learning point to the importance of acknowledging that formal features can be identified in what is otherwise taken as informal learning. Similarly, many features of informality are a normal part of learning in formal settings. This encourages us to look to the ways in which formal higher education contributes to what has been previously regarded as informal learning throughout life. Interestingly, this work also prompts us to consider informal aspects of higher education and how they make a contribution to later learning opportunities. We must not make the mistake of attributing all the benefits of education to those aspects under the direct control of teachers or the curriculum. Neither must we assume that the informal experience is identical for all students. As the student population becomes more heterogeneous, and as pressures on students from work and family increase, there will be increasing differentiation of the student experience and greater expectations on the formal aspects of courses. These will need to include what might have previously, and desirably, been in the domain of informal experiences (cf. in peer learning Boud *et al.*, 2001; Falchikov, 2001).

While Boud (2000) identified the importance of considering assessment for lifelong learning there has been little discussion of where sustainable assessment fitted in to the broader picture. Boud argued that 'purposes of assessment should be extended to include the preparation of students for sustainable assessment' (p. 151). He emphasised the specific role of assessment activities in contributing positively to the development of knowledge, skills and disposition for learning beyond the academy. However, it is not the preparation of students for sustainable assessment that is important, as was argued then, but the use of sustainable assessment as part of the preparation of students for their future learning and assessment careers (cf.

Ecclestone & Pryor, 2003). Sustainable assessment is not a new type of assessment practice, but a way of building on summative and formative assessment to foster longer-term goals.

Capabilities that can contribute to long-term learning need to be developed in a variety of ways and assessment activities in higher education are only one site for this. Clearly, all aspects of teaching, learning and assessment have an important role to play in long-term learning. However, discussion here focuses on the role of assessment while being mindful that assessment in itself cannot carry the main burden. There are a number of important reasons for a focus on assessment as such. Assessment has a powerful effect on learners, teachers and programs. Assessment communicates intent to students and is an indicator to students of what is regarded as most important. If lifelong learning priorities are not signalled in assessment practices, particularly in summative assessment practice, they

may not be taken seriously. Assessment influences student perceptions of the curriculum and the ways in which they may engage in processes to foster lifelong learning skills. There is a backwash effect of assessment that influences student actions and emphases. For these many reasons assessment provides a strategic point of intervention to influence the development of learning for the longer term.

Conceptualising assessment in terms of participation in practice

Before it is possible to elucidate what assessment for long-term learning might incorporate it is necessary first to identify the general nature of learning after graduation. While the specific character of it is of course unknowable, there are a number of aspects that are immediately apparent, but which are often ignored in undergraduate courses. Learning in work and life settings is always socially constructed. It is highly situated and embedded in a particular context. To a great extent it occurs, in Sfard's (1998) metaphors, through participation rather than through acquisition. That is, it takes place through everyday activities, not courses or programs from which specific knowledge or skills are acquired. Non-routine work tasks typically demand learning. Learning takes place in work groups, families, and social and community settings through participation. It frequently involves working cooperatively with others. Working and learning are inextricably linked and they are also linked to social relationships. Work occurs within communities of practice. These, whether overtly or not, foster learning (Lave & Wenger, 1991). Learning is an adjunct to, and necessary part of, almost everything that we do, whether it is purchasing a vehicle, solving a technical problem, coping with a difficult relationship or changing job. Sometimes, learning is conscious and systematic, but mostly it is so linked to the tasks we do that it is difficult to discern what is learning and what is simply doing the job (Billett, 2001).

Rømer has discussed the issue of situated learning and assessment and how people learn through participating with others. He takes up Lave and Wenger's work on learning through apprenticeship and draws attention to learning through participation. 'To "have learned" is to be able to participate more competently or more fully

in the communities of practice offered by a particular profession' (Rømer, 2002, p. 234). Participating more fully in communities of practice can be a helpful way of viewing students as learners also. He goes on to note,

The most basic point made by Lave and Wenger is that learning is always taking place in a community of practice with transparency between full and peripheral participation and with the possibility of moving between different points in the community towards a more full identity within a particular profession. (p. 234)

However, in many courses, it is not clear to students what the community of practice is that they should be identifying with, its activities are not necessarily clear and the pathways from peripheral to full participation are often obscure.

Learning in educational settings presents a stark contrast to learning in work and life.

Higher education has traditionally focused on preparing students for acquisition of rather than participation in learning and Sfard (1998) argues that we focus on only one of these at our peril. Learning in educational institutions tends to be decontextualised. Courses are often constructed as islands apart from the bodies of knowledge and practices from which they are generated and on which they focus. They tend not to be related to ongoing challenges of practice (except the practice of being a learner) and are not part of these challenges for obvious ethical and practical reasons. Usually, they are not related to problems experienced by students. This dilemma has, however, exercised those concerned with professional education and there are now many initiatives that have sought to address these limitations. Courses increasingly include supervised periods of work experience, problem-based learning approaches are used, and authentic assessment tasks are sought. Nonetheless, there is still a substantial divide between the experience of learning as a practitioner and learning as a student that cannot readily be addressed by course organisation.

Does 'assessment' frame the problem appropriately?

The discourse of assessment draws strongly on the metaphors of acquisition and judgement. It sits less easily with the metaphor of participation that is being increasingly used to characterise workplace learning. In the light of other research on the naming of learning (Boud & Solomon, 2003), we are also aware of the importance to learners of how they and their work is identified. The act of being assessed is one that has considerable emotional resonance. Learners tend not to recollect positive experiences of assessment and commonly do not actively seek out opportunities to assess themselves or be assessed (Boud, 1995). The label of assessment can be limiting in many ways. The use of the label of 'assessment' connotes a job for teachers. The use of the label of 'learning' connotes a job of students. Being identified as a learner can be resisted in workplaces (Boud & Solomon, 2003). Indeed, 'lifelong learning' itself is becoming seen in UK higher education in a much more limited way than, for example the European Union discourse (Commission of the European Union, 2000) implies. Great care needs to be taken in using terms such as these in ways that are not part of familiar local discourse.

Aligning assessment with long-term learning 407

This leads us to question whether the term 'assessment' has been so contaminated and associated with actions that students wish to avoid, that the notion of becoming a lifelong assessor is anathema to them. Just as the discourse of learning can be treated with scepticism in workplaces, a discourse of assessment, and becoming an assessor may provoke similar resistance in learners. Perhaps we should take care in trying to appropriate assessment discourse for activities that aim to promote learning. A new way of talking about how learners monitor their work and make decisions about learning may be needed.

Practices to align higher education assessment with long-term learning

Nevertheless, we face the immediate challenge of dealing with assessment in higher education. That will change only slowly. What role then has assessment in helping bridge

this gap between learning within educational institutions and that outside? As we suggested above, we should not be looking for a single innovation or set of innovations, in assessment or elsewhere, that can align higher education practices with longer-term learning. Instead, we argue that a reappraisal of the everyday, taken- for-granted activities that form part of every course is needed, especially assessment activities. This is compatible with, but not the same as, many of the other initiatives mentioned earlier.

A major challenge in formulating specific responses to align assessment to the long- term is that students are being prepared for a future that to a significant extent is unknown both to themselves and to those who design and conduct higher education programs (Barnett, 2000). This is not to imply that nothing can be known about such a future, or that some reasonable assumptions about it cannot be made. Barnett describes such a future as encompassing the need to deal with supercomplexity. That is, that the challenges that will need to be met will not be able to be addressed by disciplinary or interdisciplinary knowledge and problems will require the combining of expertise in new ways. Helping prepare students for an unknown future doesn't just involve focusing on the few parts of the future that may be predictable. These are likely to be limited to existing professional knowledge and forms of practice and may well operate only in the short term and not over the career of a learner. It is neither possible nor desirable to be fully instrumental as this would require knowledge about what would be required that is intrinsically inaccessible.

Boud (2000, pp. 158-160) used Black and Wiliam's (1998) analysis of recent research on formative assessment as a starting point to identify issues to be incorporated into an agenda for assessment reform. The points to be taken into account in revision of assessment practice to make it more sustainable were:

1. The importance of a standards-based framework to enable students to view their own work in the light of acceptable practice.

2. A belief by teachers that all students can succeed.

3. The need to foster confidence about students' capacity as learners because their beliefs about this affect achievement.

4. The need to consider separating comments from grades because grades distract from engaging with feedback.

5. The need to focus assessment on learning rather than performance.

6. The vital role of the development of self-assessment abilities.

7. Encouragement of reflective assessment with peers.

8. Ensuring that comments on assessment tasks are actually used to influence further learning.

However, it is necessary to go beyond the identification of particular items to be pursued to an analysis of what kinds of practices are needed and what should guide our focus on them.

It is not possible to develop a definitive account of the types of assessment activity that are needed to pursue an agenda of learning for the longer term. However, debate might usefully be stimulated through the use of a range of examples that indicate directions in which a move to a more contextualised, participatory and relational assessment regime can proceed. The following are some illustrations of ways of thinking about everyday practices—in teaching and learning or assessment activities—that emphasise preparation for learning that is socially constructed, participative, embedded and necessarily contextualised.

Engages with standards and criteria and problem analysis

- provides practice in discernment to identify critical aspects of problems and issues and knowledge required to address them

- involves finding appropriate assistance to scaffold understanding from existing knowledge base

- gives learners practice in identifying, developing and engaging with criteria and standards

Emphasises importance of context

- locates issues in a context that must be taken into account

- identifies of aspects of context that must be considered

- decides on what aspects of work requires feedback from others

- recognises solutions vary according to context

Involves working in association with others

- participates in giving and receiving feedback

- utilises practitioners and other parties external to the educational institution

- involves engagement with communities of practice and ways in which their   knowledge is represented

- involves working collaboratively with others (not necessarily involving group   assessment) including parties external to the educational institution

Involves authentic representations and productions

- identifies and uses of communities of practice to assist in developing criteria for good work and peer feedback

- tasks directly reflect forms of activity in professional practice commensurate with level of skill possessed (i.e. high level of authenticity)

Promotes transparency of knowledge

- invites analysis of task structure and purpose

- fosters consideration of the epistemology of learning embedded in tasks

- tasks draw attention to how they are constructed and seeks to make this transparent

Fosters reflexivity

- fosters linking of new knowledge to what is already known

- not all information required for solution of problems is given

- prompts self-monitoring and judging progression towards goals (testing new knowledge)

Builds learner agency and constructs active learners

- involves learners in creating assessment tasks

- assumes learners construct their own knowledge in the light of what works in the world around them

- focuses on producing rather than reproducing knowledge (fosters systematic inquiry)

- provides opportunities for learners to appropriate assessment activities to their own ends

Considers risk and confidence of judgement

- provides scope for taking initiative (e.g. always taking the safe option is not encouraged)

- elements of task are not fully determined

- confidence in outcomes is built and sought (e.g. tasks encourage students to be confident of what they know and not know)

Promotes seeking appropriate feedback

- involves seeking and utilising feedback

- feedback used from a variety of sources (e.g. from teacher, peer, and practitioner)

- grades and marks subordinated to qualitative feedback

Requires portrayal of outcomes for different purposes

- identifiably leave students better equipped to complete future tasks
- involves portraying achievements to others (e.g. portfolio or patchwork text construction)

Of course, some of these are in tension with each other. Promoting transparency of knowledge may be hard to reconcile with the use of authentic examples as situated problems are rarely transparently constructed. There will often be a pedagogical need to scaffold problems from students' present level of expertise to that required for particular kinds of authentic problem. These potential contradictions illustrate the importance of using these suggestions as a stimulus for thinking rather than regarding them as prescriptive.

The limited number of assessment tasks in any given course could not be expected to demonstrate a large number of desirable features. While each suggestion that follows relates to many aspects of education such as curriculum design, teaching and learning as well as to assessment, we shall limit ourselves to a consideration of how assessment may support the development of skills for future learning directly. For example, 'Engages with standards and criteria and problem analysis', in addition to identification and engagement with criteria, also involves practice in discernment to identify critical aspects of problems and finding appropriate assistance to scaffold understanding.

Of course, this points to an agenda for an entire program, not an individual course or unit of study. This implies a more holistic approach to considerations of assessment than has often been the case. Assessment activities in one unit of study will need to complement those in others. Together a regime of assessment needs to address the variety of outcomes being sought and this can only occur if there is a high degree of cooperation between those teaching different parts of the program.

Also, such an approach cannot be pursued by attention to assessment activities alone, the influence of this way of thinking needs to permeate all aspects of teaching, learning and assessment. A careful planning of activities is needed not only so programs work towards fuller application of these ideas, but that at all levels significant engagement with each is required. Biggs' (2003) notion of constructive alignment must be extended to encompass not only consistency of purpose between the proximate elements of programs, but to look well beyond the point of graduation to seek alignment with longer-term purposes.

An important consideration is students' reactions to an assessment regime that emphasises long-term learning given how instrumental assessment practice can be. Our view is that so long as this perspective is fully integrated into courses, there is no reason

to suspect that students would not do other than take it for granted in the same way they take for granted many of the less-defensible aspects of other more familiar regimes. Dangers lie in making a long-term learning perspective an addition to practices with which it is not compatible. Resolution of these tensions is a significant practical matter that would need to be addressed in any given application.

Conclusion

We are mindful that our argument should not be interpreted as advocating a simple positivist agenda that merely seeks further alignment in an increasingly planned environment. The current discourse of assessment is disabling to the purpose we are pursuing and any apparently desirable practices indicated here are likely to be appro- priated in ways different to from our intention. The individualistic, norm-referenced orientation of assessment is still largely dominant, despite some moves to challenge it. It operates not through policy, which increasingly advocates something different, but through the lived experience of students and teachers.

This paper has argued that greater attention should be given to preparing students for the learning they will engage in throughout their lives and that assessment in higher education has an important role to play in aligning assessment not only with immediate learning requirements, but with the long-term. While there is much that can be done to develop an agenda for reform, there are considerable difficulties in this process, not least of which is a dominant view of assessment that is not sufficiently compatible with the goal of fostering learning. There are important challenges for formative and summative assessment still to be faced. However, sustainable assessment and other teaching and learning and assessment practices that actively promote the skills and dispositions needed for long-term learning must be given priority if the most important goals of higher education are not to be undermined.

Notes on contributors

David Boud is Professor of Adult Education in the Faculty of Education, University of Technology, Sydney. He has written widely on teaching, learning and assessment in higher and professional education and on workplace learning.

Nancy Falchikov is a Research Fellow at the University of Edinburgh and Honorary Associate in the Faculty of Education at the University of Technology, Sydney. She has conducted research into student involvement in assessment and peer learning. Her book, *Improving assessment through student involvement,* was recently published by Routledge.

References

Barnett, R. (2000) *Realizing the university in an age of supercomplexity* (Buckingham, Society for Research into Higher Education & the Open University Press).

Baty, P. (2004) Flaws in marking revealed by QAA, *The Higher,* 20 February 2004.

Biggs, J. (2003) *Teaching for quality learning at university* (2nd edn) (Buckingham, Society for Research into Higher Education & the Open University Press).

Billett, S. (2001) *Learning in the workplace: strategies for effective practice* (Sydney, Allen & Unwin).

Black, P. & Wiliam, D. (1998) Assessment and classroom learning, *Assessment in Education,* 5(1), 7–74.

Boud, D. (1995) *Enhancing learning through self assessment* (London, Kogan Page).

Boud, D. (2000) Sustainable assessment: rethinking assessment for the learning society, *Studies in Continuing Education,* 22(2), 151–167.

Boud, D., Cohen, R. & Sampson, J. (Eds) (2001) *Peer learning in higher education: learning from and with each other* (London, Kogan Page).

Boud, D. & Solomon, N. (2003) 'I don't think I am a learner': acts of naming learners at work, *Journal of Workplace Learning,* 15(7–8), 326–331.

Candy, P., Crebert, G. & O'Leary, J. (1994) *Developing lifelong learners through undergraduate education.* Commissioned Report No. 28 (National Board of Employment, Education and Training, Canberra, Australian Government Publishing Service).

Colley, H., Hodkinson, P. & Malcolm, J. (2003) *Informality and formality in learning: a report for the Learning and Skills Research Centre* (London, Learning and Skills Research Centre).

Commission of the European Union (2000) A memorandum on lifelong learning, Brussels. Available online at: http://europa.eu.int/comm/education/policies/lll/life/memoen.pdf (accessed 3 June 2004).

Dearing, R. (1997) *Higher education in the learning society: the report of the National Committee of Inquiry into Higher Education* (Norwich, Her Majesty's Stationery Office).

Ecclestone, K. (1999) Empowering or ensnaring?: the implications of outcome-based assessment in higher education, *Higher Education Quarterly,* 53(1), 29–48.

Ecclestone, K. & Pryor, J. (2003) 'Learning careers' or 'assessment careers'? The impact of assessment systems on learning, *British Educational Research Journal,* 29(4), 471–488.

Falchikov, N. (2001) *Learning together: peer tutoring in higher education* (London, Routledge- Falmer).

Hager, P. & Holland, S. (Eds) (in press) *Graduate attributes, learning, and employability* (Dordrecht, Springer).

Hounsell, D. (2003) Student feedback, learning and development, in: M. Slowey & D. Watson (Eds) *Higher education and the lifecourse* (Buckingham, Society for Research into Higher Education & Open University Press), 67–78.

Hussey, T. & Smith, P. (2003) The uses of learning outcomes, *Teaching in Higher Education,* 8(3), 357–368.

Knight, P. T. (2002) Summative assessment in higher education: practices in disarray, *Studies in Higher Education,* 27(3), 275–286.

Knight, P. T. & Yorke, M. (2003) *Assessment, learning and employability* (Maidenhead, Society for Research into Education & Open University Press).

Lave, J. & Wenger, E. (1991) *Situated learning: legitimate peripheral participation* (Cambridge, Cambridge University Press).

Mentkowski, M. & Associates (2000) *Learning that lasts. Integrating learning, development and performance in college and beyond* (San Francisco, CA, Jossey-Bass Publishers).

Orsmond, P., Merry, S. & Reiling, K. (2000) The use of student driven marking criteria in peer and self assessment, *Assessment & Evaluation in Higher Education,* 25(1), 23–38.

Orsmond, P., Merry, S. & Reiling, K. (2002) The use of exemplars and formative feedback when using student derived marking criteria in peer and self-assessment, *Assessment & Evaluation in Higher Education,* 27(4), 309–323.

Quality Assurance Agency (QAA) (2003) *Learning from subject review 1993–2001: sharing good practice* (Gloucester, Quality Assurance Agency for Higher Education).

Rømer, T. A. (2002) Situated learning and assessment, *Assessment & Evaluation in Higher Education,* 27(3), 233–241.

Sadler, D. R. (1998) Formative assessment: revisiting the territory, *Assessment in Education,* 5(1), 77–84.

Sfard A. (1998) On two metaphors for learning and the dangers of choosing just one, *Educational Researcher,* 27(2), 4–13.

Stephenson, J. & Yorke, M. (1998) *Capability and quality in higher education* (London, Kogan Page).

Woodward, H. (1998) Reflective journals and portfolios: learning through assessment, *Assessment & Evaluation in Higher Education,* 23(4), 415–423.

Yorke, M. (2003) Formative assessment in higher education: moves towards theory and the enhancement of pedagogic practice, *Higher Education,* 45, 477–501.