
Briefing Papers -

Introduction

This set of short briefing papers (prepared by members of the Project Team) are intended to complement our *Guidelines for Good Practice in Supporting Students in the Workplace*, which are the main outcome of a Department for Education and Employment funded project undertaken by the Open University's Quality Support Centre.

The briefing papers embed some of the issues raised in the Guidelines in the relevant literature and cover the following: learning styles and learner strategies; learning agreements; assessment strategies for work-based learning (WBL); learning outcomes and competence-based assessment; professional ethics as a dimension of the development of subject area knowledge and skills in the workplace; organisational forms of WBL.

Brenda Little, Project Manager



Assessment Strategies for Work-based learning

Brenda Little, Project Manager and Nigel Nixon, Project Director

Definitions and Purposes

Assessment may be defined as any procedure used to estimate student learning. It consists essentially in taking samples of behaviour (e.g. essay writing, solving problems and reporting their solution) at a specific point in time and gauging the worth of these behaviours. The presumption is that assessment provides a representative sample of the behaviours of the individual being assessed, enabling inferences to be made about the individual's achievements, motivation and potential (see Erwin, 1991).

Assessment is important not least because assessment tasks tend to define the syllabus for the student, and the nature of assessment tasks influences approaches to learning. Research on the complex relationships between modes of assessment and learning styles reveals that surface approaches to learning tend to be induced by high workloads, a narrow range of assessment techniques and too much emphasis on knowledge reproduction and regurgitation of facts. On the other hand, deep approaches to learning develop when learners can exercise choice, are exposed to a variety of assessment methods and are required to undertake tasks and projects requiring demonstration of understanding (Gibbs, 1992).

Brown and Knight (1994) assert that "assessment is at the heart of the undergraduate experience...": consequently, assessment needs to be an integral part of curriculum design and delivery.

The main purposes of assessment are

formative to get an estimate of achievement and feed this back to the learner to help their learning process; *diagnostic* assessments, used to identify strengths and weaknesses, can be seen as a sub-set of formative assessment.

summative which basically sums up a learner's achievement and is usually presented as a mark or grade, symbolising achievement at the end of a programme or unit of study. As such, it can be used in a pre-test sense to establish what a learner currently knows, understands and can do, prior to determining subsequent learning objectives.

These different purposes are not necessarily compatible nor separate, and tensions can arise between assessment undertaken to identify a learner's current strengths and weaknesses (and thus inform the continuing learning process), and assessment which tries to present a fair summary of a learner's achievements. There is also the question of who undertakes the assessment (see later discussion).

Assessing work-based learning

As noted earlier, assessment is at the heart of the undergraduate experience: where a student's programme of study contains elements of work-based learning, assessment of that learning should form part of the programme's overall assessment strategy.

Ashworth and Saxton (1989) offer a number of reasons for the formal assessment of work-based learning:

- giving appropriate weight to work-based learning provides a more broadly based and balanced profile of the learner's abilities, so that "not only is academic capacity recognised but also those practical skills and personal qualities that make for effective action in the workplace";
- rigorous assessment of placement performance and achievement signals the fact that placements are not a "peripheral, soft and dispensable adjunct to the solid core of a degree, but (are) rock-hard and genuinely educational";
- assessing work-based learning can help enhance the integration of theory and practice by, for instance, encouraging students constantly to balance the practical application of theory against the theoretical implications of their placement experience;
- assessment has more than a single purpose, and can make a major contribution to the learning process. By setting a series of short term goals for learners in the workplace and by regularly assessing the extent to which these are being met, it is possible for learners more realistically to evaluate their own strengths and weaknesses in the light of agreed objectives. Such formative assessment provides a means of facilitating experiential learning, by providing relevant feedback on performance to the students, and negotiating goals for the future".

- difficulties in ensuring that the supervisor/s directly involved in observing students in a range of work-based situations actually complete the relevant assessment report/documentation (as opposed to training personnel, or higher management);
- a tendency to highlight personal and social skills with insufficient attention being paid to technical competences and skills (possession of which may be taken for granted).

Some of these difficulties are not necessarily unique to employing organisation based supervisors and may occur in HEI based assessment undertaken by tutors. However, whereas HEI based tutors will have an opportunity to form networks to share ideas and interpretations and thus develop common understandings about assessment practice, no such viable networks may exist for employing organisation based supervisors (see also Wolf, 1993).

Validity and reliability re-visited

Regardless of whoever is participating in the assessment process, the validity of that process will be enhanced if assessors are encouraged to reflect systematically on the process. For example:

- be explicit about the conditions under which observations are made (as is generally the case in competence-based assessment);
- identify factors that may constrain the interpretation by the assessor of the learner's work;
- describe the intentions behind a particular assessable item (particularly important in relation to project-based work);
- verify, in collaboration with others involved in the assessment process, the evidence on which assessments are based;
- provide a clear rationale for generalising about a learner's competence, based on a sample of observed performance;
- relate workplace assessments to programme assessments overall;
- motivate learners to reflect upon, and participate in, the assessment of their competence and to provide them with full access to the assessment.

The reliability of assessing work-based learning may suffer through variations in the tasks set for the student in the workplace, and/or idiosyncratic differences between assessors.

Strategies to enhance reliability include:

- adopting standardised procedures for the gathering and recording of information;
- documenting the procedures used with particular reference to how conclusions may be drawn (making replication possible and, hence, a check on reliability);

- encouraging assessors to reflect on the tasks they undertake and the perspectives they bring to bear.

The focus needs to be on ways of obtaining consistent observation-derived information at particular points in time as the basis for specific assessments. This will increase the prospect of all parties involved achieving consensus. Even where consensus is achieved, however, it has to be acknowledged that this may simply reflect that all involved have been "socialised" into having similar standards in relation to the assessed work rather than that the work is in some objective way of a particular standard.

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Organisational Forms of work-based learning

Steve Butters, Research Fellow

A taxonomy of organisational forms for work-based learning at the undergraduate degree/diploma level

A review of the literature, particularly of reports of development projects funded by Council for National Academic Awards (CNAA) and the Employment Department, show that administrators of work-based learning (WBL) arrangements tend to choose an organisational form from among five or six well-established options. These may be distinguished in respect of duration (between one day and more than one year) and continuity (ranging from one off events, through alternating sequences of placements to paid positions on an employer's workforce). The options are arranged along a kind of spectrum of possibilities, but were restricted (like the spectrum) to several distinctive entities, as follows:

- | | |
|---|-------|
| (a) Brief Encounter | (BE) |
| (b) Short Project | (SP) |
| (c) Sandwich Placement
(or two placements in thin sandwich course) | (SW) |
| (d) Alternating Concurrent Sequence of Placement | (ACS) |
| (e) Alternating Recurrent Sequence of Placement | (ARS) |
| (f) Employment Based Learning
(with some study release) | (EBL) |
| (g) Continuing Professional Development | (CPD) |

In the table overleaf we summarise the characteristics of these organisational forms.

Curriculum design concerns affecting organisational form adopted for WBL

Clearly a number of dimensions are brought into play in WBL curriculum design which in turn affect the organisational form adopted. For example, simple learning objectives, few in number will logically require short placements/projects, whereas complex objectives might

require placements which provide sufficient space for trial and error, collaboration with other students, and critical reflection; a curriculum design based on an interplay between classroom and workplace learning will need a sequenced pattern of placement (either concurrent or recurrent). Taking each of our organisational forms in turn, we see:

- (a) **Brief Encounters** with the world of work have limited objectives of introducing one production process, or presenting some orientation facts, and the one-off day visit, interview or work shadowing exercise may well meet all the planned learning needs. The SIPS Project at Glasgow Caledonian University has demonstrated how this can be organised as a regular curriculum feature.
- (b) The curriculum design for **Short Projects** will be influenced by the breadth and flexibility of the major subject. The programme team will need to consider which elements of subject knowledge and skills require work experience for their most effective development, and where in the programme this phase of development should lie. Practical considerations may dictate that students may be guaranteed only one placement (although they may find additional opportunities on their own initiative) and therefore specification of placement/project objectives and methods will be critical for successful outcomes.

In the case of subjects in which workshop or studio teaching and learning are a major component, the "real work" placement may be seen as intensifying and integrating learning already accomplished, by demanding that competences already acquired be combined with the challenge of seeing a job through to the satisfaction of an employer or project leader. For some course designers, a focus on key competences to be assessed in the workplace (through the production of evidence) has helped to show which parts of the curriculum can best be realised in WBL: such a process may also clarify the essential and the optional learning outcomes for a short block placement/project.

- (c) Although the curriculum design for **Sandwich Placements** seems to have changed little over the past twenty years, the context of sandwich degree education has changed radically, and environmental pressures may well demand a rethink.

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Learning Outcomes And Competence-Based Assessment

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Learning outcomes and statements of competence

Recent educational developments, both within and outside higher education, have led to increased attention being given to teaching and learning processes, in particular towards more 'learner' centred approaches to teaching and learning and a focus on what a student/learner knows and is able to do (either as a consequence of completing a programme of study, or a result of learning acquired in the workplace or through prior experiential learning) rather than an emphasis primarily on course aims and objectives. This focus on 'what the learner can do', as described in learning outcomes, is reflected in modes of assessment, which seek to assess 'what the learner can do' and imply that students should be assessed against explicit criteria, rather than being assessed against a notional standard of their current cohort.

Learning outcomes describe what an individual knows or can do as a consequence of learning, through following a programme of study, through working or through prior experience. Such outcomes may cover 'knowledge' skills, critical thinking outcomes, personal information skills or practical skills. The UDACE project on learning outcomes, reported on in *Learning Outcomes in Higher Education* (Sue Otter, UDACE, 1992) drew a distinction between :

Subject-based learning outcomes (encompassing knowledge and comprehension, ability to apply knowledge in different situations and process skills acquired through the use and application of knowledge), and

Personal learning outcomes (including interpersonal skills like team work and negotiation skills, and intra-personal skills like motivation, initiative and critical self reflection).

The UDACE project demonstrated that there is no reason why learning outcomes should be associated exclusively with narrow work-related tasks. Within the project sets of possible learning outcomes for English and Social Science were included, as well as learning outcomes for Design, Engineering and Environmental Science.

A learning outcomes approach has a number of potential advantages for higher education (HE) in terms of :

accessibility and flexibility - since describing the *outcome* of HE rather than its *process* and/or *input* makes it easier to consider alternative ways of

achieving an outcome, recognising that people learn in different ways, places and times, and at different paces. Processes like credit accumulation and credit transfer, and accreditation of work based learning and other learning which takes place outside campus-based HE may be facilitated through the use of learning outcomes;

quality - a clearer specification of outcomes might make it easier to ensure that quality is protected, by ensuring that comparable outcomes are achieved whatever changes may be happening to structures and processes within HE;

motivation - more public statements of what is to be achieved during a programme of studies provides a better basis for students to choose programmes and modules, and enables them to concentrate on the demonstration of achievement rather than attendance on a course.
(UDACE, 1992)

Although it is possible, by adopting a learning outcomes approach, to describe the outcomes of HE more explicitly, such descriptions cannot be expressed as a *single* set of 'standards' since HE exists in a complex and changing environment, spans a range of social, economic and cultural needs, embodies a range of different cultures and value systems and thus meets the needs of a variety of clients and groups.

Alongside these developments with higher education, is the development of a *national system* for the assessment of occupational competence (i.e. what a person can do in the workplace), overseen by the National Council for Vocational Qualifications (NCVQ) and SCOTVEC. Since 1986, National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs) have been introduced in many occupational areas - originally up to Level 3 (broadly equivalent to GCE A Level standard), but increasingly to Levels 4 and 5 (equivalent to degree level and beyond). A common thread in both HE and NVQ developments is the focus on 'assessing what a person can do' - and the implication that such assessment is carried-out against explicit criteria.

Given the overlapping interests of employers, higher education and professional bodies in N/SVQs at Level 4 and 5 there is currently much discussion and debate surrounding the development of N/SVQs at these higher levels.

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Learning Agreements

Nigel Nixon, Project Director

Introduction

In the context of work-based learning a learning agreement consists of a formal written agreement between a learner, a tutor and the learners' employer (or employer's representative) to achieve specific learning objectives.

Such an agreement gives the learner freedom to negotiate the conditions in which the learning will be undertaken and commits her/him to supplying evidence of achievement within a specified timescale. It also provides the opportunity to acquire relevant knowledge and skills at a pace that satisfies the learner's personal development requirements. For the employer it offers the opportunity to become involved in the attainment of agreed performance standards, to obtain a clearer picture of the human resource potential of the learner/trainee and to develop an organisational perspective in the trainee by relating learning objectives to organisational goals.

Learning agreements can act as a powerful vehicle in enabling students to become more responsible and accountable for their own learning. Learning agreements are also useful devices for:

- (a) Managing a variety of programmes
- and
- (b) Resourcing students and institutional needs.

Learning agreements should:

- (i) Meet the specific needs of all the parties involved.
- (ii) Possess internal coherence.
- (iii) Possess external relevance.
- (iv) Lead to student development.
- (v) Be capable of achievement at the appropriate specified level.

Learning agreements should also enable students to plan, negotiate, monitor, demonstrate and review appropriate learning activities. Constraints, opportunities and procedures should be simple, clear and public. They should facilitate the provision of feedback at all times. Finally, they should provide students with:

- (i) Access to resources.
- (ii) Access to specialist advice.
- (iii) A forum for peer support.
- (iv) Opportunity for accreditation (this is particularly important in the context of portable credits).

Benefits of learning agreements

Students gain:

- increased motivation;
- deeper understanding;
- enhanced sense of relevance;
- support from employers;
- experience of being responsible;
- confidence;
- skills of negotiation, communication and collaboration.

College based staff gain:

- committed students;
- increased knowledge of students;
- partnership with outside organisations;
- enhanced understanding of their own subject area.

Employment based staff gain:

- motivated potential recruits;
- relevant skills and knowledge;
- better understanding among academics;
- targeted sponsorships;
- a stake in "the learning community".

Obligations imposed by learning agreements

Students have to:

- state specific goals;
- justify relevance;
- demonstrate how they will progress;
- examine resource implications;
- consider criteria for good performance;
- commit themselves.

College based staff have to:

- discover students' needs;
- make their own criteria explicit;
- work with others;

- understand external constraints;
- provide assistance, rigour; feedback; access to relevant resources and clarification concerning procedures.

Employment based staff have to:

- participate in student learning;
- work with academic staff;
- negotiate with students;
- clarify their own needs;
- provide students with advice, access to resources, placements, sponsorship/employment.

Quality Assurance and learning agreements: criteria for validating learning agreements

External to the student:

- their relevance to the level of award (if completed, would the level of achievement be comparable to others seeking the same award?);
- specification of minimum formal requirements;
- making the criteria public and transparent.

Specific criteria:

- relevance to student's purpose;
- coherence of overall plan;
- feasibility of programme.

Validating students' plans in this way provides :

- (i) Assurance to students that they are on the right track;
- (ii) Protection for students (in terms of commitment of resources; agreed basis for assessment; accreditation on completion);
- (iii) Assurance to external bodies (concerning the level and relevance of the programme);
- (iv) Appropriate rigour (in terms of clarity of objectives; feasibility of programme; evidence of understanding; coherent rationale, communication).

A Learning Agreement will normally include the following:

1. Personal details (including telephone numbers).
2. Period to be covered by the learning agreement.
3. The learning intentions in terms of:
 - (i) personal development aims;
 - (ii) specific learning objectives.
4. Learning activities - what will be done to achieve the learning objectives that have been specified.
5. Resources - those required to achieve the learning objectives specified.
6. Learning outcomes - the evidence that would be made available to demonstrate achievement of the specified learning objectives.
7. Assessment - details of how contracted learning outcomes will be assessed.
8. Signatures of all the parties to the agreement.

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Learning Styles and Learner Strategies

Nigel Nixon, Project Director

This paper reviews some of the ways in which people learn and assesses their appropriateness to study at degree level whether in college or in the workplace.

According to the final Handbook produced by the Council for National Academic Awards (CNAA), degree level study "must stimulate an enquiring, analytical and creative approach, encouraging independent judgement and critical self-awareness". Referring to the US context, T.A Angelo defines "higher learning" in the following terms: "An active, interactive process that results in meaningful long-lasting changes in knowledge, understanding, behaviour, dispositions, appreciation, belief." (*American Association for Higher Education, April 1993*)

Active learning in which learners "exert control over their own cognitive resources" (Biggs, 1989) is contrasted to passive learning in which the content, direction and pace of learning is determined by the teacher.

The active learning/passive learning distinction has affinities to the 'surface-deep' distinction originally developed by Saljo and Marton and subsequently elaborated upon by G. Gibbs (*CNAA, 1992*). For Gibbs the quality of learning outcomes is crucially affected by the way in which students approach their learning. Surface approaches are characterised by the rote learning of facts and their regurgitation, frequently under formal examination conditions. Deep approaches involve students attempting to understand underlying principles, ideas and concepts and to interpret these in personally meaningful ways. Gibbs emphasises that the two approaches are not immutable in individuals and are not linked to intelligence. What determines whether a learner adopts a surface or depth approach is primarily a mix of prior educational experience and the nature and structure of the particular task in hand.

Impediments to a deep approach include:

- too much programme material to assimilate;
- too heavy a workload;
- insufficient scope to choose topics or methods of study;
- an assessment system that induces unnecessary anxiety.

On the other hand, a deep approach will be encouraged if:

- the context provides positive motivation i.e. they feel the need to know something;

- they can interact with others on an equal to equal footing;
- their knowledge base is well structured i.e. it has been taught in integrated wholes and related to other knowledge.

Gibbs proceeds to delineate a number of strategies aimed at improving the quality of student learning. These include:

- Encouraging independent learning (involving greater control over subject matter choice, learning methods, the pace of study and the assessment of learning outcomes);
- Supporting personal development (involving the encouragement of learner motivation, recognising that individuals learn through feelings as well as through intellect);
- Presenting problems (with learning being focused upon the tackling of relevant 'real world' problems, leading to appropriate action and involving the synthesis of relevant knowledge from different subject sources);
- Encouraging reflection (methods promoting reflection on learning include: learning diaries; reflective journals; participant observation; use of videos);
- Learning by doing (emphasising the learners' active involvement through such stratagems as role-play, simulations, use of games, workplace visits).
- Working in groups (involving interactive project-based work, peer tutoring and assessment of performance);
- Developing learning skills (providing students with a sense of purpose and an awareness of task demands and feasibility). Above all, study skills need to be developed in an integrated and holistic way, through relevant and motivating learning tasks and activities;
- Setting projects (involving the application of knowledge to new situations). These can be highly engaging and motivating.

In similar vein Angelo puts forward a number of principles designed to underpin effective learning. These include:

- Less formal instruction to allow learners to learn more: "We learn to do by thinking about what we are doing."

- Learning requires focused attention and awareness of the importance of what is to be learned.
- Learning is more effective and efficient when learners have explicit, reasonable and positive goals that accord with particular aspects of their programme.
- For learning to be effective learners must be given opportunities to make meaningful connections between new information and prior knowledge.
- What learners think they already know is often a major barrier to new learning.
- Encouraging learners to organise information in meaningful ways means that it is more likely to be retained, learned and used.
- Learners need feedback on their learning, early and often, to learn effectively; to become independent learners, they need to learn how to give themselves feedback.
- The ways in which learners are assessed and evaluated powerfully affect the ways they study and learn.
- Mastering a skill or body of knowledge requires large amounts of time and effort; hence, learners must acquire a realistic understanding of the demands being placed upon them.
- Learning to transfer, to apply previous knowledge and skills to new contexts, requires much practice since most learning is highly context-bound.
- High, but reasonable, expectations encourage high achievement.
- Effective learning derives from a judicious balance of levels of intellectual challenge and learner support.
- Motivation to learn is alterable; it may be positive or negatively affected by a range of variables: the task, the environment, the individual providing learning support, the learner.
- Interaction is a powerful factor in promoting learning, whether between 'teachers' and learners or among learners themselves.

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Professional ethics as a dimension of the development of subject area knowledge and skills in the workplace

Steve Butters, Research Fellow

I. Introduction

1.1 In undertaking the (then) Employment Department funded project: Developing Students' Subject Area Knowledge and Skills in the Workplace which was organised around the production and piloting of *Guidelines for Good Practice in Supporting Students in the Workplace* it became clear that *generic* guidelines about the fostering of *specialist subject* knowledge through WBL tended to underplay issues in the teaching and learning of ethical values, because these were often *occupationally specific*. To complement the *Guidelines*, this paper discusses some of the issues concerning ethical values which face curriculum planners responsible for the work-based learning (WBL) components of specialist subject studies in higher education (HE).

1.2 The issue of professional values within a competence-focused curriculum is not new. For example, initial teacher training institutions, which were mainly monotechnic HE colleges until the late 1970s, had always offered a curriculum organised around a core commitment to professional ethics and best practice. Comparable ethical traditions are discernable in education and training for the health care and social work professions.

1.3 The undergraduate curriculum for some of the stronger, more established major professions also traditionally contained ethical issues and code-of-practice instruction. Some analysts of the professions have argued that strong internal regulation stems from economic needs for defence against interlopers, but specific rules and values were nevertheless articulated in terms of dedication to the best interests of clients. In medicine, this entailed commitment to the relief of suffering and promotion of health; in engineering, safety and security; in law, allegiance to the justice system and the rules of natural justice. Codes of practice established by the self-regulating professional bodies were taught and examined as a necessary component of the corpus of professional knowledge. Until fairly recently there was relatively little scope for debate about the application of

these codes in undergraduate courses: the student was expected to learn the rules and later apply them in all dealings with clients in an unproblematical way.

2. Three levels of knowledge and understanding of professional ethics

2.1 In all the occupational fields we encountered in our case study research (which covered the broad subject areas of engineering, computing and mathematics, health and social care, art and design) professional ethics emerged on the learning agenda at three distinct levels. Although these levels cannot be equated with academic credit levels, it is clear that they demand progressively deeper analysis and reflection for successful problem-solving. They are:

Level One: induction into the procedural codes for avoiding misconduct;

Level Two: exploration of professional values and the ethical commitments expected of practitioners;

Level Three: critical appreciation of human, as well as professional, dilemmas.

2.2 Each of the above 'levels' offers scope for continuous learning of how to think and do better as a practitioner; perhaps they should be seen as **domains** for lifelong development in which only the **entry points** may be more or less demanding. Below, each domain is reviewed.

3. Level One: Professional Ethics at the Code of Practice Level

3.1 At **Level One**, the novice professional is introduced to one or more Code(s) of Practice for dealing

