Dine Out on
Work Related Learning

Good Practice Guide to the Implementation of Work Related Learning In Agriculture, Forestry, Environment and Organismal Bioscience

Authors

Jeremy Hills[1], Emma Barron[1], Paul Freeman[1], Mike Adey[1], Gordon Robertson[2] and Robin Murphy[2]
([1]University of Newcastle upon Tyne, [2]University of Sunderland)

Contributors

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Preface

Professor Lee Harvey
Director of the Centre for Research and Evaluation
Sheffield Hallam University

"Dine Out on Work Related Learning" is a timely guide to help staff integrate aspects of work related learning into their teaching. The approach in the Guide makes manageable what is often regarded as a rather intimidating activity for those teachers who want to address employability issues. The dining analogy enables users to select the option of snack by way of a gentle introduction to work related learning or committing themselves to a full banquet.

Although the Guide is primarily aimed at the biological and environmental areas of study, much of the content is generic and the Guide can be easily adopted and used in any subject area. Indeed, I would commend it to avoid yet more re-invention of wheels.

A central and very important element of the Guide are the case studies. They serve not only as a source of good ideas but give the reader a flavour of the range and scope of different levels of engagement with work related learning. It is important to see what people are doing elsewhere and, often, a case study in one area can lead to an array of ideas for development in another.

There has been a lot of talk about employability and much emphasis on work related learning but not enough straightforward advice to those who are at the frontline of implementation. Dine Out takes a significant step towards rectifying this situation.

Professor Lee Harvey

Director of the Centre for Research and Evaluation
Sheffield Hallam University

Aperitif

How hungry are you?

Fancy serving up a feast of employment opportunities for your students? Whether you're merely peckish or absolutely ravenous, this guide has been carefully prepared to sate your appetite. What's on offer is far more than a few dry morsels. You're about to sit down to a feast which will enhance your students' employability as graduates, may revolutionise aspects of your teaching and can provide benefits in increasing quality of learning outcomes and reduce your workload.

This guide provides you with information and guidance to increase the prospects of work for your graduates. Graduate employability can be markedly increased through the addition of components of work related learning (WRL) into the curricula. This guide concentrates on practical approaches to embed WRL into Higher Education (HE) curricula. The practical examples are mostly taken from biological and environmental disciplines, but many of the lessons learned apply across the whole HE sector.

This guide is designed like a menu allowing you to snack or feast depending on your appetite. Choose as little or as much as you wish. For example, if you are knowledgeable about WRL then you might skip the canapés and starter and head straight on into the main course. If you're hungry for more then you can pig out on as many of the six courses as you see fit.

An outline of the different courses within this menu is shown below:
- Canapés - bite size nuggets on the background and basics of WRL.

- Starters - this is a varied selection which provides you with key information on how WRL fits into the main cornerstones of curriculum design.

- Main course - these nourishing pages are based around the same cornerstones of curriculum design, but provide a more in-depth, 'meaty' analysis giving a set of case studies from people like you who have implemented WRL in their teaching.

- Dessert - this appetising section includes a number of cases in which WRL has been successfully designed, integrated and implemented.

- After Dinner Mints / Coffee and Mints - rounding off the menu, this section identifies a number of issues and future challenges for WRL.

BON APPETIT

Menu

List of Chef's Special Side Dishes

List of Exhibits

Further copies of the book can be obtained from:

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Canapés

This section is an educational mixed platter involving key questions that you might have about work related learning (WRL)

WHAT IS WORK RELATED LEARNING?

WRL is about making graduates ready and able to make the transition from education to the workplace. For students, WRL encompasses skills such as personal development, communication and team working, but more specifically involves developing an awareness of the context and functioning of the workplace. As practitioners, our task is to support and enhance the development of these abilities through WRL. For those involved in teaching, we can specifically define WRL as *"learning outcomes achieved through activities which are based in, or derive from, the context of work or the workplace"*. We define it like this in order to be student-centred; it is the students' learning which is central to the process of WRL.

WHY DO WE NEED WORK RELATED LEARNING?

One of the fundamental roles of Higher Education is to supply suitably skilled graduates to the workplace. Employers expect graduates to have specific subject-based knowledge and key skills, but also a wider awareness and array of generic abilities which are required to function effectively both in the employment market and the workplace. WRL is thus used as an umbrella term for the development of such awareness and ability in students.

WHEN SHOULD I TEACH WORK RELATED LEARNING?

There is no specific answer to this as it depends on what modules and degree programmes you are teaching. However, your students should experience a wide array of WRL over the course of their degree programme. The question to ask is "How can I design my curriculum so that I maximise the benefit of knowledge, key skills and WRL?" It is worth remembering that knowledge and key skills are not exclusive to WRL. In fact WRL requires knowledge and key skills as prerequisites for the higher level learning outcomes that it aspires to. Many of the activities involved in WRL are highly motivating and can actually enhance knowledge-based learning and the practice of key skills. These activities, and illustrative case studies, are outlined in the Main Course.

WHERE SHOULD I TEACH WORK RELATED LEARNING?

WRL can be taught anywhere, from the HE Institution to the manufacturing floor of a local company. Traditionally, WRL has centred on work based learning, involving sandwich courses and placements in which students have time to experience a number of the facets of the workplace. However, many practitioners teach WRL within their institution. To do this requires curricula and associated activities to be designed which mimic, or simulate, aspects of the workplace. Within a degree programme, a balance of work-based and non work-based activities can maximise the range of WRL experienced and, consequently, student employability.

HOW SHOULD I TEACH WORK RELATED LEARNING?

There is a huge diversity of approaches to teaching WRL, ranging from work based approaches such as placements and live projects, to non work based approaches such as simulation, role playing and case studies. The student-centred approach suggests a learning outcome driven approach. However, it is important to embed this in a robust curriculum design model (Exhibit: Canapés 1). It is vital to be clear about the learning outcomes of the teaching, only then can you select from an appropriate range of teaching activities. To mix our metaphors, it is less a case of horses for courses and more a case of horses for outcomes!
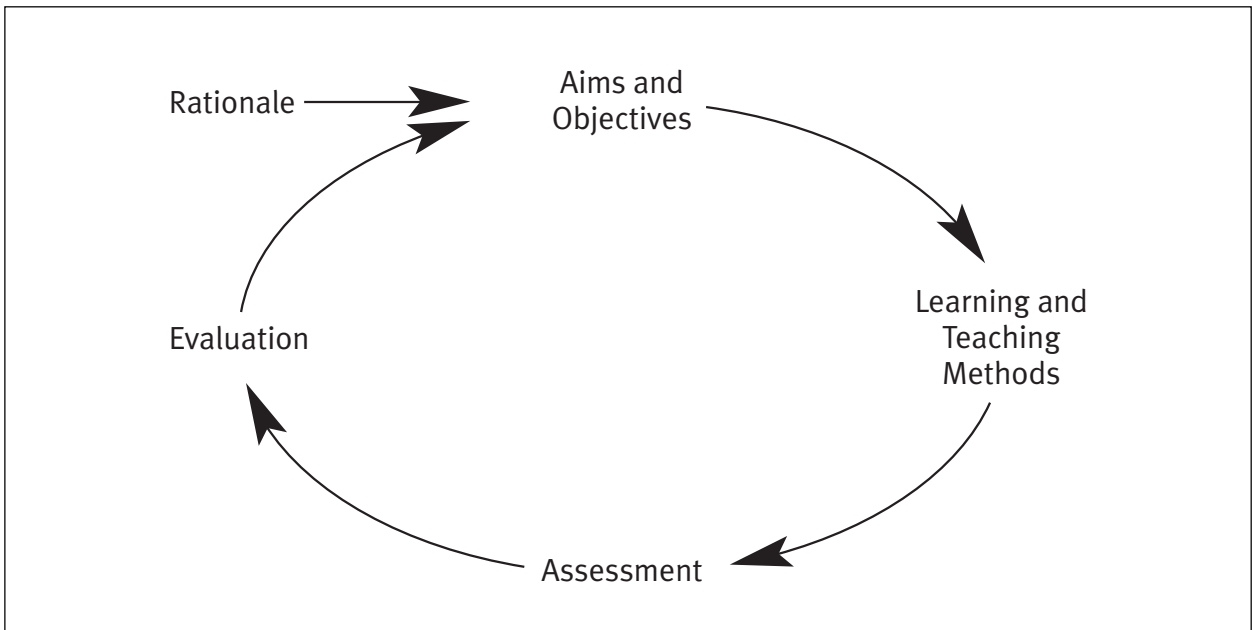
EXHIBIT: CANAPÉS 1. CURRICULUM DESIGN MODEL.

This diagram shows the framework and core components of the curriculum design model. The diagram is cyclic, allowing for feedback and continuous improvement through the teaching cycles of degree programmes. The five main components of this model correspond to the sections within both the Starter and Main Course sections of this guide.

Starters

This course offers a variety of tempting servings which follow the Curriculum Design Model (Exhibit: Canapés 1): Aims and Objectives, Learning and Teaching Methods, Assessment and, finally, Evaluation. By the end of this starter course you should have had a satisfying taster of how WRL fits into modern-day curricula. Before we serve up the four teaching components of the model we must briefly consider the Rationale component and ask the question "What should we be teaching to our students?"

Identifying Course Rationale

Although many of the physical ivory towers of the past have been superseded by red bricks and concrete slabs, there still remains in many HE institutions an academic cultural distance from many other workplaces. Academic research, especially 'blue sky' research, is revered and embedding research-led components into degree programmes is seen as an important goal. Some academics see the degradation of degree programmes from erudite academic challenges set in a research context to 'merely' vocational training as a threat. For example, the Quality Assurance Agency now expects all Higher Education courses/programmes to be specified under five main categories, the scope of which is greater than the core academic components:

- Subject knowledge and understanding - the things which students have to know and understand to achieve aims.
- Practical/Professional skills - those skills, such as using equipment, interviewing, methods and standards of reporting, which are specific to the discipline.
- Cognitive skills - the things which students have to be able to do with and in the subject content to achieve aims.
- Key skills - the things which students will acquire in the course of taking the module which can, in principle, be transferred out of the subject content.
- Professional attributes, where appropriate - things which students should think about or hold as an attitude to meet aims.

Let's turn this argument on its head and look from the opposite side, from the perspective of employers and graduates. One of the roles of the HE sector is to supply suitably skilled graduates to the workplace. However, the extent to which this is achieved is limited (Hills et al., 2002). Consequently, some changes in HE curricula are inevitable if the HE sector to fulfil this gap between the skills of graduates and employer's requirements.

This gap is being addressed by the HE sector through a "current preoccupation" with increasing graduate employability (Atkins, 1999). This crusade has been documented through the development of key (core, common, transferable, generic) skill agendas and various programmes and networks (e.g. Enterprise in HE Initiative, Discipline networks). However, the extent to which Universities will supply graduates who can, "hit the ground running" remains unclear unless there is strong financial pressure from the Funding Councils (Atkins, 1999).

So, from a consideration of both sides it seems that there is a degree of pressure, generally from higher level organisations, downwards, to increase the employability of graduates, but there is also a resistance to the erosion of academic pursuit and excellence by the chalk-face practitioners. WRL is an approach which, when effectively implemented, can address the employability agenda whilst maintaining the academic base. In fact, WRL approaches can be used as an effective and motivating vehicle for learning and developing an academic base whilst having a value-added employability component.

If WRL can raise graduate employability skills without eroding their academic base, then there needs to be a process by which it can be embedded into the curriculum. The rest of this guide develops that theme. However, prior to this it is vital that practitioners identify which specific aspects of WRL would be useful to teach in a degree programme or a module, as differing degree disciplines are aiming to achieve different blends of work related abilities in their students. There are many sources which provide advice on identifying labour market trends and first destination statistics of graduates, including your subject-related Learning and Teaching Support Network (www.ltsn.ac.uk).

Towards clarity in teaching work related learning

We have stated that the role of WRL is to both promote graduates' employability and to enhance their ability to function effectively in the workplace. We have also defined WRL as "learning outcomes achieved through activities which are based in, or derive from, the context of work or the workplace". If we are to enhance employability through WRL, then it is imperative that we are clear as to what we are embedding in our modules before we rush off and change our teaching.

The first thing that we should be aware of is that WRL is not just knowledge, or just a more fancy term for key (core, transferable) skills. WRL is a higher level outcome which integrates relevant knowledge and skills into a functional entity which is of use in a future workplace. Successful WRL will involve teaching activities which require students to interrogate their own knowledge and skills and selecting, synthesising and combining them in such a way that they can perform effectively to achieve the desired outcome. It is the use of the knowledge and skill base in this conditional manner (i.e. appropriate selection and implementation by the student to achieve desired task deliverables) which leads to the functionality associated with WRL. It is through this functionality that students develop the flexibility of approach to deliver work related and task-specific outcomes not only in the classroom but also in future employment.

The second issue is that if we are developing effective functioning, through an awareness of the conditionality of the skill and knowledge base, then this will have a big impact on our teaching. Rather than students as surface learning, knowledge-download automatons, we are trying to craft able and flexible thinking individuals. The challenge for practitioners is to design teaching which challenges students with complex and open-ended projects and problems, and then support them to select and utilise knowledge and skills which permits them to perform and achieve the required deliverables. Such selection should be based on a reflection of their knowledge and experiences and informed by clear aims. Through this they can individually develop generic threads and associations and higher-level abilities which will allow them to articulate what they have learnt and address such tasks more effectively in the future. In addition, gradates need to have developed the confidence to do, and articulate, all of this without the support structures of tightly defined (and controlled) HE learning environments.

Hopefully, WRL no longer appears a nebulous concept, but a coherent higher-level learning outcome related to potential future workplaces of graduates. We can now serve you with the basics of WRL associated with each of the five components of the Curriculum Design Model.

Aims and Objectives

Who hasn't been infected by the periodic Quality Assurance stomach bug, which requires a powerful dose of rewriting module Aims and Objectives for effective treatment? Who hasn't cynically written the unnatural and bulky declensions of the required verbs to tame the Quality Assurance infection, whilst knowing deep down that it will not actually affect what you will teach anyway? Afterwards, ivory village life returns to normal and you join huddles of fellow villagers wondering how soon the next bout of infection will strike!

Many HE practitioners experience a distinct gap between the values placed on quality assurance and good practice guidelines by the Quality Assurance fraternity and those by those at the chalk-face. This seems especially apparent in the form and terminology of Aims and Objectives. It should be noted that Aims and Objectives take centre stage in any curriculum, this is because we are trying to be learning-centred not teaching-centred. Or, to put it another way, it is the achievement of the learning outcomes which is of prime importance, irrespective (within reason!) of how they are achieved.

In this Starter we are going to guide you through how to be SMART in writing Aims and Objectives for WRL. The Main Course will build on this to outline why Aims and Objectives are so important and why the whole of your learning and teaching strategy needs to be informed by them.

Aims and Objectives of educational provision have developed specific meanings.
- Aims are broad and general statements of educational intent and should inform the student of the overall purpose of a programme or module, and should answer the question "Why is the education provided?"
- Objectives, however, are more focused than aims and are not about provision. Objectives set out the learning outcomes and experiences that demonstrate successful completion of the study. They should address the questions, "what are the intended learning outcomes?" and "how are the learning experiences achieved?"

Aims and Objectives should be tightly coupled together, and Objectives should lead to achievement of the Aim(s). Clear and coherent Aims and Objectives for WRL allow the importance of the teaching activities and assessment to be seen. When used to drive curriculum design clear Aims and Objectives can help to ensure that teaching provision is student-centred.

So, is there anything different about WRL Aims and Objectives? The answer here is a qualified yes! Most module Aims and Objectives tend to reflect the knowledge-rich module content and are knowledge based, (e.g. know the basic chemical structure of common herbicides). Such Objectives can be considered as declarative, i.e. students need to be able to declare or state their knowledge. Generally this is in written exams. However, WRL Objectives tend not to be declarative, but require the synthesis and application of a blend of knowledge and skills. Confirmation of such synthesis and application means that students have to show, or perform, tasks that provide evidence of the successful achievement of the WRL outcome; such Objectives can be termed performative. Performative outcomes do not necessarily mean that students have to "perform" in the theatrical sense of the word, but that they have to show some degree of integration and synthesised outcomes, which blend skills and knowledge. This could, for example, be solely a mental process or could involve "performing" in a presentation or role play scenario. Consequently, it is important that the learning outcome that you are facilitating inculcates an active learning and synthesis process in the student, and clearly, this is the outcome that you assess.

Significantly, declarative Objectives are closely related to teaching as they involve a simple process of memorising by the student. In contrast, performative Objectives require considerable synthesis and implementation by the students to be successfully achieved. As most WRL Objectives will be performative, real care needs to be taken in writing them.

Writing Aims and Objectives is a skill, but it is one that everyone can master with a little application. As an introduction, using the simple guidelines below, you can always make sure that they are SMART!

Aims and objectives should be written so that they fit the SMART requirements:

Specific detail about particular aspects of provision.

Meaningful, in language that is understandable to trainers and students.

Appropriate "fit for purpose" and suit learners and satisfy standards.

Realistic given time constraints, resources, etc.

Testable, measures of progress and achievement of them can be formulated.

Exhibit: Starter 1.

Designing aims and objectives using the SMART checklist

So far we know that Aims and Objectives should be associated with provision and outcomes respectively, that most WRL aims and objectives are performative and they need to be SMART. An example is shown on the following page.

TYPICAL

Aim:

1 To provide a background to the industrial vegetable harvesting and freezing industry in the UK, using the garden pea as an example.

Objectives:

1 Have been introduced to the types of industrial vegetable harvesting and freezing industry.

2 Have developed a detailed knowledge about the garden pea industry in the UK following a site visit.

SMART

Aims:

1 To provide an introduction to the processes, issues and problems faced by the industrial vegetable harvesting and freezing industry in the UK.

2 To use the UK garden pea industry as an example which typifies a large and economically successful industrial process which operates under considerable time constraints.

Objectives:

1 Have a clear understanding of the main elements of industrial vegetable harvesting and freezing and consequently be aware of the reasons for each of the multiple stages of the process from field to freezer.

2 Be able to identify the main issues associated with effective management of this process and to be aware of some of the associated problems.

3 Through working in groups, using the UK garden pea industry as an example, to have critically assessed each stage of the process in light of the time constraints and proposed economically-viable innovative plant or management practises to improve the process. Following the site visit and feedback from the plant manager, to have reflected on the possibilities for enhanced practises.

4 Through a plenary session and discussion, be able to synthesise the key areas for improvement of the process and able to apply this to other examples of industrial harvesting and freezing processes in the UK.

Comment: Clearly these two sets of Aims and Objectives are different although they might involve exactly the same teaching - check back and assess each of them against the SMART indicators. Also look back over the Aims and Objectives and think about the degree to which the assessment of the module might be based on declarative or performative assessments. The poorer example fails to flag the functionality necessary in coherent WRL. The Aims and Objectives are too strongly "declarative" with an inadequate "performative" element.

Your Aims and Objectives should provide a clear orientation and structure to your module. If they do not then it is probably not clear to the students what they should learn and therefore what you are trying to teach them.

EXHIBIT: STARTER 2.

Examples of typical and smart practice in work related aims and objectives

In the Main Course we investigate Aims and Objectives using a conceptual model which can really help make learning clearer in your mind. We then present a number of case studies in which a revision of the Aims and Objectives has led to a modification of the teaching and learning strategy by the embedding of aspects of WRL.

LEARNING AND TEACHING METHODS

It seems that *"teaching"* is a term rarely used in the HE sector these days as it has recently gained an irksome and immovable prefix, *"learning and…"!* This reflects the recent move to more closely coupled teaching and learning or, as some would say, to create a more learning-centred environment. The essence of teaching is not so much what you teach, but what the students learn. Thus, teaching should focus on creating opportunities for learning, so you are no longer a "lecturer" but a "learning facilitator".

WRL presents particular challenges as it frequently involves development of higher-level performative outcomes (see the previous section: Starter - Aims and Objectives). An effective lecturer needs to create structured circumstances in which students can discover, practice, understand and reflect on these outcomes. A clear appreciation of the intended learning outcomes is essential both for you as a teacher and also for your students.

When designing or modifying a module, it is easy to start thinking about what you will do - "I think I will do some fieldwork on the seashore", or "Maybe, I will use the case study that is collecting dust on my shelves". However, this type of thinking should only come later. Your first thoughts should be based on the degree/module rationale (what do my graduates need to be effective in their future world?). In light of this, the next thing to consider is the Aims and Objectives ("What learning outcomes do I want my students to obtain?"). Then it is worth tracking onto assessment and ensuring that the outcomes are assessable ("Do I have the skill, time and resources to ensure a valid and secure assessment of these outcomes?").

Only after you have outline Aims and Objectives which are both assessable and meet your degree rationale, should you really start to consider the teaching activities required. If you want to teach about the taxonomy of post-Cambrian siliceous diatoms, for example, then selection of the teaching activity is relatively straightforward. However, the higher level complexity of WRL outcomes means that the teaching activity must be built up from the outline Aims and Objectives to ensure that the coupling between Aims and Objectives, teaching activity and assessment strategy is coherent. This is why it should be a staged and iterative process.

The most effective learning (i.e. the quickest and most long-lasting!) occurs when students are engaged with their study material. This means relating it to their existing knowledge and prior experience, evaluating, considering its limitations and, most importantly, using the learning. This is what Entwistle (1992) calls "deep learning". WRL requires students to be able to either transfer their learning to a work based context or to new situations within the workplace. This requires an ability to think about what is being learnt and apply the learning in alternative situations (Exhibit: Starter 3). "Deep learning" is therefore particularly important for developing WRL.

	SURFACE	DEEP
Approach	• Intention is to memorise and reproduce	• Intention is to understand
Indicators	• Focus on elements of content	• Focus on content as a whole
	• Try to remember as much as possible	• Try to see the connections
		• Think about structure as a whole
	• Try to learn off by heart	• Try to understand meaning
Outcomes	• Rote learning / memorising	• Meaning / understanding

EXHIBIT: STARTER 3. *Some differences between surface and deep learning*

Everyone's a teacher

Much WRL involves working in groups. This is primarily for two reasons:

1 WRL outcomes are usually open-ended and complex and thus can often only be realistically addressed through a group activity. Groups allow task complexity and output quality to be enhanced. This can allow students to achieve the highest possible level of performative outcomes.

2 Most graduate employment involves interactions with colleagues and/or customers at some, or all levels of the organisational hierarchy. This can be occasional in some circumstances e.g. travelling salesman, but is often fairly constant in most professions. Working in groups thus mimics this real world situation.

A continuum of teaching can be identified which moves from classroom group exercise (group = student peers), to activities which involve visits to workplaces or interactions with external employees (group = student peers, but with external input) to work based learning (group = external employees). Group work can not only mimic the employment situation, it can also help you, the lecturer, to achieve WRL outcomes.

Within any group there is always a variety of personalities, experiences and outlooks. Part of this is due to the variety of learning preferences of the individuals. Research demonstrates that people have varied preferences as to how they best receive and communicate information (Fleming, 2001, Fleming & Mills, 1992). These preferences can be classified into four styles of handling information (Exhibit: Starter 4). Individuals appear to prefer one, or a particular combination, of these.

Visual	Visually depicted information; graphs, flow charts, "mind maps", etc.
Audio/Aural	Information conveyed by "hearing"; lecture, tutorials, discussion, etc.
Reading/Writing	Text-based information; books, lecture notes, handouts, etc.
Kinaesthetic	Related to experience and practice; laboratory work, field trips, simulations, role play, real-life experience, etc.

Exhibit: Starter 4.

Four sensory modalities used for conveying or receiving information

A variety of experiences, personality traits, different levels and ways of engagement with different learning practises are mixed and processed to create different views and perspectives. A key WRL outcome is to be aware of and embrace the diversity of individuals in order to create effective, functioning teams that can deliver high quality work related outputs.

Much of the learning which takes place during such activities is as a consequence of being in a group trying to achieve a structured task. Thus, the group is the centre of the learning; the teacher's job is not to broadcast wisdom, but to structure, support and provide motivation for the group so that learning can take place.

This is not to say that WRL is only about skills involved with working in groups, but by working in groups, other high level WRL outcomes can be achieved. Along with group work should come identified periods of individual reflection in which students can ponder upon their recent activities and embed them in their wider experience. Evidence for successful progression through the module should come not just from group activity during that module but also through the quality of personal reflection, as suggested by the Kolb Learning Cycle (Kolb 1983). These generic aspects are core to developing coherent teaching of WRL within a module. They indicate the areas in which assessment should be based.

Therefore WRL uses a range of learning situations to ensure that students see a context for their learning and reflect on their experience in order to better appreciate how their learning may be transferred to other situations. These learning structures include learning logs, live projects and case studies. Examples of these can be found in the Main Courses along with a serving of the Kolb Quiche which is used to provide you with a recipe for structuring your own WRL.

Assessment

Ever made your own bread? Just like good quality, targeted assessment, it can seem like a chore when a pre-processed alternative is sitting there waiting to be used. And yet, something as fundamental as good, fresh food or assessment should not be skimped on. The effort and creativity involved in cooking up your own assessment strategies for a module are far outweighed by the benefits, such as enhanced learning and defensible marking schemes. Assessment is an integral part of the learning process, providing a vehicle for feedback to the student as to achievement and the identification of areas where learning has been more or less successful.

We know students tend to concentrate on those elements of a module which are assessed. Student learning strategies are thus influenced by assessment and the assessment outcomes effectively become the learning outcomes: these are the ones that ultimately matter.

This situation is unlikely to change, so how can we use it to our advantage? First we need to consider some basic principles.

Why do we assess?
- It has a strong influence on learning and can motivate students.
- It informs the student and the tutor about achievement and performance.
- External stakeholders expect it (e.g. reviewers, QAA).
- It can provide the key to progression to the next stage or to graduation.

What underlies good assessment?
Assessment needs to be:
- Valid - it assesses the stated learning outcomes, it does what it says it does.
- Reliable - it can be reproduced by whoever marks the work or whenever it is done.
- Transparent - everyone knows what is assessed, how it is assessed, where it is assessed, especially the students.
- Fair - free of favouritism and without bias.
- Affordable - within the available budget, including staff time.

WHAT ARE THE MAIN TYPES OF ASSESSMENT?

From the above we recognise two distinct reasons for assessing students. The first is that assessment, along with feedback, is essential for learning. The second reason for assessment is to judge or indicate level of performance, knowledge or achievement as required subsequently by students, tutors and other interested groups. In WRL we recognise that the outcomes of activities and the activities themselves are both central to the goals of transferability and employability and hence need to be considered as part of an assessment strategy.

Due to the central importance of assessment, care is needed in selecting approaches to deliver what we all desire. Underlying the selection process is the requirement that the method chosen should be effective for testing the learning outcomes. In other words, assessment needs to be tightly coupled to outcomes. However, there are significant challenges in the tight coupling of some WRL outcomes:

- Outcomes linked to work related contexts or skills are difficult to write clearly and identification of the "level" required especially so.
- Outcome levels for skills should track through modules and stages of a degree programme.
- The assessments can be are complex to design and execute.
- The criteria for judging an outcome depend considerably on the perspective from which it is viewed (employer, student, manager, tutor, evaluator) and on its purpose (summative, formative, ipsative - see below).

Peter Knight (2001) provides an excellent briefing on key concepts of assessment as part the LTSN Generic Centre Assessment Series.

Important assessment opportunities revolve around:

■ *formative assessment*
this occurs when tutors feed back to students useful and non-threatening evaluation and judgement in ways that enable students to improve their learning. It can be called low stakes assessment because the learner is not threatened by it and it is not used directly as the final performance criterion. This facilitates a greater openness and availability to change learning.

■ *summative assessment*
this occurs at the completion of a period of learning and is used to summarise the level of performance reached for a particular outcome. It is important to get summative assessment right. It is high stakes because it carries with it the final assessment for an outcome.

■ *ipsative assessment*
this occurs when performance is evaluated against a student's own previous best performance. It is an evaluation of improvement.

There can be difficulty determining direct evidence for the gaining of skills, as opposed to assessing the outcomes of the application of skills. Direct assessment of skills may be best achieved, therefore, via formative assessment with constructive feedback and a simple grade or no grade at all. The focus can then be on the validity of the assessment and feedback, with lesser constraints imposed by the requirement that this is also absolutely reliable, and maps onto an institutional mark scale. Feedback to the student during non-threatening, low stakes, formative assessment will help reflection on the learning, reflection on progress and, hopefully, reflection on the transferability of the skills. Formative assessment can also be a stepping stone towards summative assessment and hence be valued by the student.

WRL involves learning attributes, which need to be transferable to the future workplace. Devising approaches which enhance learning is demanding. Finding reliable and valid ways to assess whether WRL outcomes have been achieved is even more challenging. Formative assessment has an important role to play here, but invariably summative assessment is demanded to some extent by institutions and external stakeholders.

And that's not all . . .

Just when you thought that creating valid and reliable, transparent, repeatable and fair assessment was challenging enough, along comes the inconvenience of dealing with plagiarism and collusion. Then, there's the struggle to devise and combine various assessments in some universal algorithm to provide a measure of overall performance that can be used for degree classification purposes. In the Main Course, we describe and discuss practical steps which have been taken to address these issues in the assessment of WRL.

Evaluation

A good meal can really stimulate your senses and wellbeing, evaluation can challenge your perceptions and enhance and innovate your teaching. Evaluation provides information with which to document and appraise the value of your teaching to students. Evaluation can be carried out to improve the learning of your current or future students for your personal benefit and development, for your institutional procedural requirements or for other stakeholders. Usually, evaluation is deployed for a combination of these reasons. Evaluation of developments in work related teaching and learning is vital because:

- The curriculum may require change to implement WRL aspects; the impact of this change needs to be assessed.
- WRL can be seen as a broad and nebulous concept, thus evaluation needs to ensure that the clarity in aims and objectives of the educational provision are apparent and relevant to the students.
- The benefits and problems of such an enhanced curriculum might not be immediately apparent to the lecturer.

Consequently, evaluation of WRL components of the curriculum is important, particularly during the early stages of development of material. Evaluation should be an ongoing process during the course, and not just confined to the end of course review. Ongoing evaluation allows teaching to be carried out in an adaptive way to enhance the remaining sessions of the course.

Methods of Evaluation

In general, four approaches to evaluation can be identified:
- Student/graduate evaluation.
- Self evaluation.
- Peer evaluation.
- External stakeholder evaluation.

Student/graduate evaluation

This is the most commonly used technique for evaluation. Feedback from students can be about:
- Teaching and learning processes - e.g. practical work, module structure, assessment procedures.
- Learning environment - e.g. laboratory or computing facilities, handout quality.
- Students' feelings - e.g. ownership of learning, working with others, aims and ambitions.
- Students' learning *per se.*

Evaluation of the success and relevance of WRL needs to concentrate on the students' feelings and perceptions of what they have learnt. Yet, it must also identify any barriers to student learning from the teaching and learning processes and the learning environment.

Once the students graduate and move into the world of work their perception of the value of what they have learnt might well change from when they were students. Consequently, longitudinal evaluation of the graduates can also be useful in informing teaching and learning strategies for WRL. Examples of such approaches are included in the Main Course.

Whatever student evaluation strategy is decided upon, the conclusions from the evaluation should be triangulated with the assessments of those teaching activities. The assessments themselves provide direct information on the degree to which students have achieved the stated learning outcomes but give little information on the wider aspects of the educational provision and how specific aspects could be improved.

Self evaluation

This approach is used constantly by almost all practitioners in an *ad hoc* fashion but is not commonly documented in a systematic fashion. For the teaching of WRL this approach is vitally important for the practitioner, as assessment must be made of all aspects of the teaching and learning environment. Much of the planning which supports the activities involved in WRL can be relatively open-ended and the teaching activities use non-traditional and multidirectional learning styles such as simulations and case studies. Consequently, a rigorous review of all aspects is required so that the aims and objectives are correct and that the optimal learning and teaching strategy is employed. Various systematic forms of self-evaluation can be used, including simple questionnaires, checklists, diaries and teaching logs.

Peer evaluation

Peer evaluation can provide a degree of independence to the evaluation. Peer evaluation can:
- Identify aspects of practitioner's behaviour, which they might not be aware of as they are immersed in their teaching.
- Provide an avenue for the peer evaluators' experience to support or contradict conclusions from self-evaluation.
- Give an alternative perspective on the effects of the teaching.

Peer evaluation can be valuable if used carefully. One approach can be to use an experienced colleague to assist the lead lecturer in the provision of the sessions. After supporting the delivery of the session, this colleague can then provide an evaluation of the session. For peer evaluation in WRL to be a success, it is vital that the peer understands the background and expected learning outcomes of the teaching.

External stakeholder evaluation

The previous forms of evaluation are the standard approaches to evaluation used in many institutions. However, all the techniques are internal to the organisation, involving the institution's lecturers or students. Within WRL it is an advantage for realistic aspects of the potential future workplace to be simulated or accessed. Aspects of this can be drawn from published sources, such as Labour Market Reports, although such elements should have been used instructively in the rationale for the session or course. Academic staff can be poorly placed to directly assess the validity of the WRL in relation to the modern working environment. Consequently, the use of individuals external to the organisation who are closely associated with the workplace is useful.

Conclusions

Evaluation is an important ingredient in all educational provision but it is of paramount importance in WRL as teaching involves more open-ended and complex classroom and workplace scenarios. As a result, teaching can easily lose clarity of objectives and may be carried out by practitioners who are not highly experienced. Some form of evaluation strategy which meets the institutional requirements but also provides information to enhance the learning experience of the students is vital and necessary. Like fibre in your diet, evaluation should not be thought of as an unappetising, indigestible burden imposed by institutions, more a valuable source of nutrients required to enhance students' learning experiences and motivation as well as improving your teaching. In the Main Course, we bring a number of fresh case studies from fellow practitioners to your table. These display aspects of good practice in evaluation of WRL.

Main Course

These Main Courses put the meat on the bones of the four cornerstones of curriculum design for WRL which were introduced in the starters. Each main course is served up with a range of optional accompanying Chef's Special side dishes. These specially selected side dishes are used to enhance the meat of the main course, by giving real life examples of aspects of implemented WRL.

Aims and Objectives

The Starter provided a guide to writing work related Aims and Objectives and suggested that the outcomes will tend to be performative rather than the more traditional declarative. In this section we chew deeper into Aims and Objectives for WRL in order to present a generic approach to understanding development and formulation of Aims and Objectives.

The prime reason for WRL is to improve the employability and functional value of graduates in the workplace. However, authors make clear distinctions between knowledge taught in the University and on professional training courses (Leinhart *et al.,* 1995):

- University knowledge is declarative, abstract and conceptual. It deals with labelling, differentiating, elaborating and justifying.
- Professional knowledge is procedural, specific and pragmatic. It deals with executing, applying and making priorities.

As Biggs (1999) summarises, *"it seems that would-be professionals are trained in universities to label, differentiate and justify, when what they need out in the field is to execute, apply and prioritize!"* In essence, WRL strives to do is provide graduates with some of this professional knowledge. This begs the question, how we can modify our Aims and Objectives and associated learning and teaching strategy to move our modules further into the realms of professional knowledge.

Although Biggs (1999) supplies us with this university-professional differentiation, he also provides us with a hierarchical way of thinking about knowledge types which can directly help us to write coherent and robust Aims and Objectives. He identifies four types of knowledge:

1. Declarative knowledge involves knowing about things and is associated with knowledge-rich declarative objectives.
2. Procedural knowledge is skill-based, involving awareness of correct sequences and actions in appropriate situations. This can be generally associated with key, or transferable, skills such as giving formal presentations but may also cover subject specific skills, such as the use of an electron microscope.
3. Conditional knowledge involves both higher-level declarative knowledge and procedural knowledge. It allows the individuals to assess when, why and under what conditions they should do one thing as opposed to another.
4. Functional knowledge is based on the idea of "performance of understanding". Functional knowledge is at a broad and flexible level, allowing individuals to know what to do (from declarative knowledge), how to do it (procedural) and when to do it (conditional). Functional knowledge should allow individuals to solve, design, plan and perform in a diversity of situations.

These types of knowledge can be linked together to provide a useful conceptual model for the development of knowledge (Exhibit: Main Course 1). In addition the model provides an insight into the level of expectation of learning that your module is designed to achieve and, thus, allows you to pitch your Aims and Objectives appropriately.
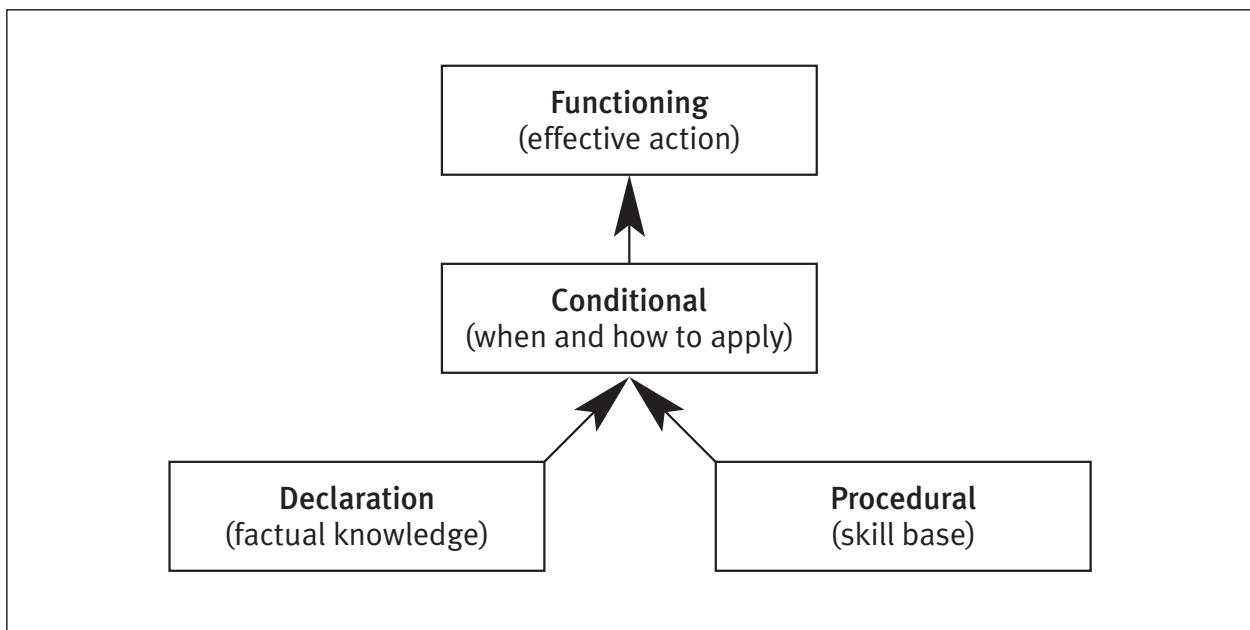
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Exhibit: Main Course 1.

A Conceptual model of the development of effective functioning (Biggs, 1999).

It should be noted that not all modules should have the highest level functional knowledge. Some degree programme could be based around the teaching of declarative knowledge in the early stages (learning about things), to procedural and conditional knowledge in the mid-years (developing skills bases and knowing when to apply those skills) culminating in functional knowledge in the later years. Associated with this trend should be a move from didactic lectures through to structured and controlled exercises, then onto more open and problem-based scenarios which have largely performative Objectives. In addition, it should be clear that the final functional knowledge of graduates should be work related and thus there will be differences between degree disciplines which have different target employment areas.

Much as the differences between declarative, procedural, conditional and functional knowledge are quite clear, a further framework helps to structure them to achieve further clarity in identifying modules' Aims and Objectives. This framework, called SOLO (Structure of the Observed Learning Outcome: Biggs & Collis, 1982; Exhibit: Main Course 2), can also help with the hierarchical tracking of objectives through a multistage degree programme.
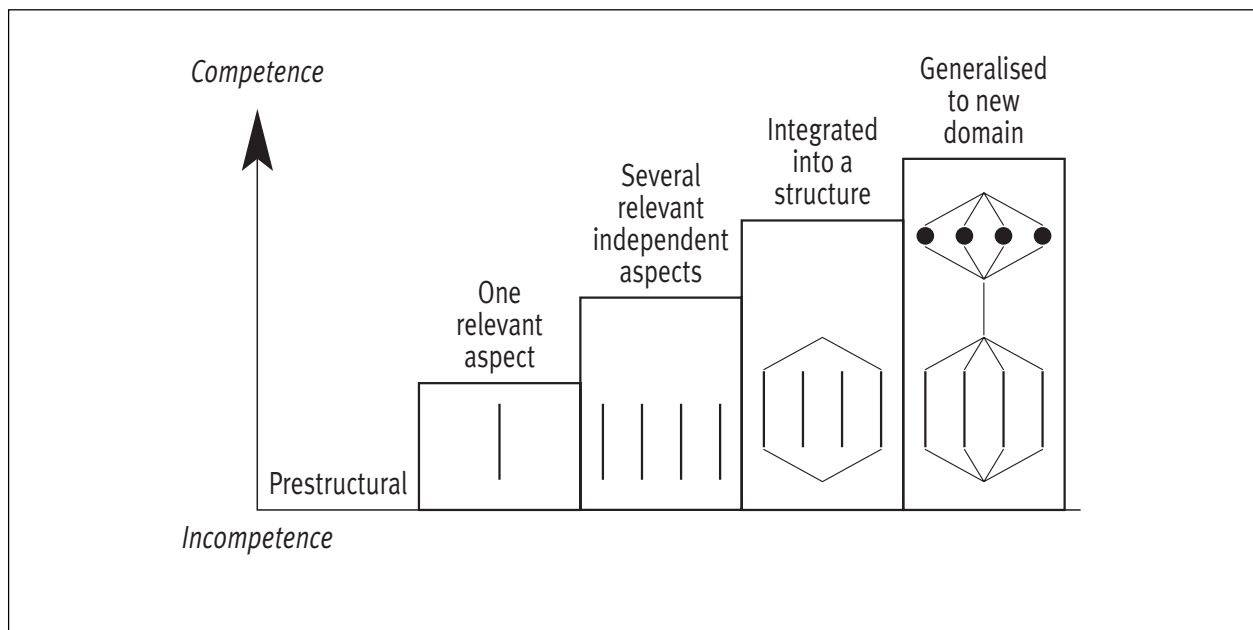
EXHIBIT: MAIN COURSE 2.
Structure of the Observed Learning Outcome (SOLO) framework (Biggs & Collis, 1982).

The diagram presents the levels of knowledge in an individual in which changes are associated with an increase in quantitative terms but also in qualitative terms in that the knowledge becomes integrated into a higher-level structural outcome. The knowledge components are indicated by thick lines. These are joined together by thin lines and, at the final stage, a higher domain of understanding is identified. These levels track onto the knowledge levels previously identified; the thick lines are generally associated with declarative objectives and outcomes, the thin joining lines are associated with procedural and conditional outcomes, and the final stage is related to functional outcomes.

WRL outcomes will be based around the higher levels of the SOLO taxonomy as they are more than solely declarative knowledge gathering. Setting of work related Aims and Objectives can be usefully thought of as top down, by thinking of the ways you want graduates to be able to function in the workplace. After this you track back over the conditional, procedural and declarative stages that are necessary to achieve this workplace functional attribute. In this way the curriculum can be designed around the work related attributes required by the graduate.

As we have seen in the Aims and Objectives Starter and Main Course, the writing and application of Aims and Objectives is not easy. However, with an increased awareness of the types of knowledge which students learn, considerable insights can be made into both Aims and Objectives of modules, and also how these Aims and Objectives track across degree programmes. A number of case studies are presented which show how practitioners have enhanced the WRL of their modules.

Chef's Special: Side Dish

Aims and Objectives 1: *Learning agreements and portfolios*

This case shows how the Aims and Objectives of a placement experience have been crystallised using a learning agreement and portfolio. This has focussed the thoughts of both staff and students on the learning opportunities presented by work experience and a shift away from the traditional emphasis on vocational competence.

Writtle College has a history of vocational HE provision which has featured a twelve-month sandwich placement taken between the first and second year of full-time study. This was not credit rated but its successful completion was a requirement of the final qualification. The work experience aimed to develop students' vocational competence and their employability. Assessment was based on an Employer's Report along with a largely descriptive account of activities undertaken in the workplace. It has recently been recognised that this module did not maximise the opportunities for learning and it has now been developed in a number of ways.

The placement has been validated as a work-based learning module where students receive academic credit. The students now complete a portfolio which embraces a reflective learning log. It requires students to demonstrate target setting and action planning in the context of relevant employability skills. The learning outcomes are agreed with the employer, focusing on personal skills development and ability to solve work-related problems in addition to vocational competence. This approach addresses 'process' in addition to 'product' in order to promote the acquisition of skills, knowledge and understanding which will enhance an individual's employability.

Guidance notes are produced for the module, which outline generic learning outcomes:

Learning Outcomes to be Assessed
Analyse a work-based role or function and identify a series of potential learning opportunities and outcomes resulting from it.
Appreciate the interdisciplinary nature of the workplace and recognise the complexity of the industrial decision making process.
Identify the core business activity and evaluate the subject-specific knowledge and skills which may contribute to the period of employment.
Analyse the core business of the workplace and identify how the individual role or function relates to this.
Identify the new knowledge, understanding and skills resultant from the employment.
Reflect on the learning opportunities presented by the period of employment.
Identify how this experience will impact on the remaining programme.

However, students are expected to 'customise' these learning outcomes to their particular work situation. The emphasis is on 'negotiation' and 'personal objective setting' with their employer. This enables the student to tailor their learning to meet their needs and also the employer's needs. The first section of the portfolio requires the student to produce a personalised version of the module specification identifying how they intend to meet the learning outcomes in the context of their individual function or career aspirations. This must then be approved by their tutor before commencement of the portfolio. Where appropriate, specific assessment criteria can also be negotiated at this point.

For mature and/or part time students it may be more appropriate to replace the general portfolio by a more focussed project agreed by the tutor, the student and the employer. This is already proving to be particularly appropriate for students on Foundation Degree Programmes. Students who have undertaken this module have been enthusiastic about the potential to obtain academic credit from individually negotiated work-based projects. They also found the ability to negotiate their own interpretation of generic learning outcomes to be a novel approach.

This short case study illustrates a generic point about work-based learning. It is key that the learning resources used as part of a work-based activity are well structured; just experiencing the working environment is not enough. The structuring of the resources should provide a framework for the students' learning. They should make it clear to the student what they should be learning and also ensure that the students can articulate what they have learnt from the experience. This is an important aspect when interviews with potential employers take place at a later date.

Chefs Special: Side Dish

Aims and Objectives 2: *Work based learning for academic credit as an alternative to a more traditional, researched, honours project.*

This case outlines how a module has been developed to provide an alternative to research based honours projects. This shifts the responsibility of developing the aims and objectives to the student ensuring that they take ownership of their own learning and articulate it appropriately.

The Work based learning for Academic Credit module has been developed at Liverpool John Moores University and has been running for over 10 years. For it to be a viable alternative to research honours projects it is essential that the module has academic rigour, and that this is transparent and identifiable at all stages.

Consequently:
- The placement organisation must have credibility as a learning environment.
- The tasks in which the student will be engaged must provide the correct level of challenge.
- The tasks to be completed must be identified in advance of the placement and articulated in a learning agreement that is confirmed by the student, the workplace mentor and the university tutor.
- The learning activities must generate material that is assessable.
- Assessment criteria must be clear and provided to the student prior to submission of assessable items.
- The assessment process must be moderated following the procedures normally applied to other modules in the institution.

In addition to this, rigour is achieved through the use of level descriptors. This module uses the NICATS Level 6 descriptor (analogous to Level 3 HE). The placement should enable the student to demonstrate that they have the capability to:
- Critically review, consolidate and extend a systematic and coherent body of knowledge.
- Utilise highly specialised technical, scholastic or basic research skills across an area of study.
- Critically evaluate new information, concepts and evidence from a range of sources.
- Transfer and apply diagnostic and creative skills in a range of situations.
- Accept accountability for determining and achieving personal and/or group outcomes.
- Exercise appropriate judgement in a number of complex planning, design, technical and/or management functions related to products, services, operations or processes including resourcing.

The last two capabilities ensure that the student develops relevant conditional and functional knowledge in a work related context. Research with past cohorts of students undertaking this module aimed to evaluate the relevance of their work based learning experience to their employability. Few, if any, studies of this type have been completed and the outcomes from this will inform the further development of the module.

In addition to these general outcomes, students formulate l**earning agreements** with their tutor and workplace mentor. This agreement is pivotal to the work based learning process. It is the instrument that specifies the tasks to be completed, provides an aide-memoire to which the student, mentor and tutor can refer during the course of the placement and ensures academic rigour. It also provides the student with a structure against which they can complete the items for assessment.

The main structure of the learning agreement should comprise a list of outcomes to be completed as outlined below. These are developed by the **student** and agreed by the employer and tutor. By taking ownership of the outcomes and directing them, the student considers and articulates "what they will get out" of the placement, or alternatively what knowledge and abilities they will develop. However, elements should also be incorporated that encourage the student to link their learning to resources and assessment as this can be valuable. The example below requires the student to reflect on the resources required to achieve the learning tasks ie. "How will I learn?". It also encourages them to link the placement activities to assessment by inviting them to reflect upon "How will I present evidence of my learning?".

Examples of learning outcomes developed by a student within a learning agreement:

LEARNING OUTCOMES *What will I learn?* When I have completed the module I will be able to:	LEARNING RESOURCES AND STRATEGIES *How will I learn?*	EVIDENCE OF LEARNING *How will I demonstrate what I learn?*
1 Identify and describe the working practices in my placement organisation. 2 Demonstrate my understanding of how the organisation achieves its aims with reference to the structure of internal management and be able to identify relevant staff responsibilities. 3 Demonstrate that I understand how economic and environmental factors influence the operation of the organisation. 4 Demonstrate that I have acquired basic skills/knowledge that enable me to carry out a number of designated tasks (outlined below). 5 Demonstrate that I can reflect on and evaluate the learning I have achieved in the context of: • my academic subject knowledge; • my job related skills; • my personal development.		

Learning and Teaching Methods

The Starter emphasised "student-centred learning", focussing on what the student is doing and particularly what and how they are learning as a consequence of the teaching. This is especially important with WRL where we are trying to develop the insight and confidence to integrate skills and knowledge into a form which is relevant in the workplace.

The initial divide between WRL teaching methods can be identified as work based and non-work based learning (Exhibit: Main Course 3). Within work based activities, two distinct strands can be identified: vocational and non-vocational methods. Vocational activities are associated with the specific degree discipline, whereas non vocational activities involve employment not in the specific sector of the degree discipline, for example, working in a bar or supermarket. Underneath these headings lie a number of options which define the teaching methodology more precisely.
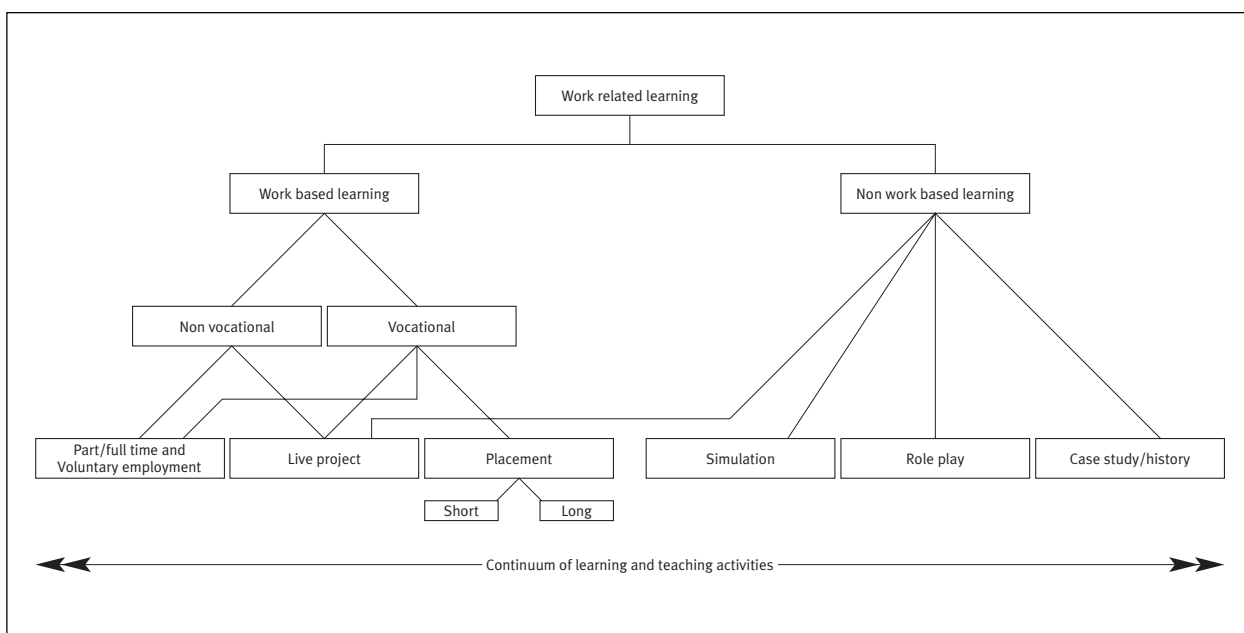
Exhibit: Main Course 3.

The continuum of learning and teaching activities involved in WRL

The learning activities involved in this continuum are described in the table below; this is not an exhaustive list but merely teaching activities which have been found to be commonly used in HE. It should be noted that these activities are not mutually exclusive, for example it would be possible to use role play within the structure of a case study or a live project. Indeed, finding a suitable blend of activities to support WRL is an important challenge for practitioners.

ACTIVITY	DESCRIPTION
Case study	This activity promotes engagement of students with learning resources with a real world context. This can be through the use of cases drawn from the relevant profession and supported by visiting speakers and/or site visits.
Role play	This involves students "acting" the various roles associated with a relevant process, which involves a number of different individuals/institutions. The "acting" can be physical (e.g. a simulated public enquiry) or through written contributions. This approach is particularly valuable in complex and contested situations (e.g. developers and conservationists).
Simulation	This approach utilises "mock" materials which are relevant to the targeted workplace. This approach has the advantage of being flexible to allow the highlighting of specific issues or contexts which are especially relevant to the modules' learning outcomes.
Live projects	This involves the "shadowing" or active contribution to ongoing projects in a relevant workplace. This can be carried out both in the workplace itself, or as an impetus and focus to activities carried out by students back in their HE institution.
Placements	This widely-used approach requires students to experience and to be engaged with an appropriate workplace. The length of the placements can vary from a few days to one year, as with most "sandwich" courses. The design of pre- and post-placement learning resources can be important to structure learning to optimise the benefits to students.
Employment	This involves reflection on the experience of the student in past employment, or employment carried out during the course itself. The employment might not be subject specific (e.g. bar work or supermarket checkouts), however, valuable learning can be gained from such activities.

The case studies at the end of this section provide more detailed insights into these specific teaching methodologies.

MANAGING EXTERNAL INPUTS

A particular issue can arise with work based learning or the use of practitioners to help present simulations, case studies or other campus based, teaching. It is important to recognise the varied pedagogic skills and particular understanding that such outside 'experts' have, and thus to assign appropriate roles to them. Just as herbs and spices interact with different foods to create different flavours, it is essential to fully consider what an external practitioner brings to the table and to deploy them in the most satisfying manner.

The role of external teachers and their teaching style should be in sympathy with the Aims and Objectives of the module and of the individual teaching session. It can be very helpful to brief outside contributors beforehand and provide them with appropriate guidance. Remember that the Module Leader is in overall control of the student learning experience and should use the contributions of colleagues in combinations that result in a coherent learning package for the student.

Using learning to drive teaching through the Kolb Quiche

Much as we are now aware of the diversity of teaching approaches for WRL, it still remains to be seen how we start to structure specific sessions within the overall teaching method. The prime aspect to remember is that we are involved with promoting learning. As a result, we have used a model of learning to try to show how we start designing our specific teaching sessions.

A well quoted and intuitively comfortable model of learning is the Kolb Learning Cycle. Which identifies the main stages in an individual's learning cycle. This cycle moves through four stages: concrete experience - reflective observation - abstract conceptualisation - active experimentation; or put more simply: do - observe - think - plan. A learning experience can start anywhere in the cycle.

Imagine a module on the taxonomy of post-Cambrian siliceous diatoms, in which the students receive 20 lectures cataloguing the different forms and anatomies of post-Cambrian siliceous diatoms on which they answer exam questions on taxonomy and anatomy. The assessment is close to the teaching, the students are largely required to memorise the different groups and orders of diatoms and their distinguishing anatomies. If we imagine the time spent by a student on the different parts of the Kolb Cycle then most of the time involves the concrete experience. As no high outcomes are required by the module, all that successful students have to do is to regurgitate the required information at the required time. Now imagine the Kolb Cycle as a quiche divided into four portions, with the size of each portion related to the time a student needs to spend on that stage of the learning cycle. Using the above diatom example we can draw the Kolb Quiche.
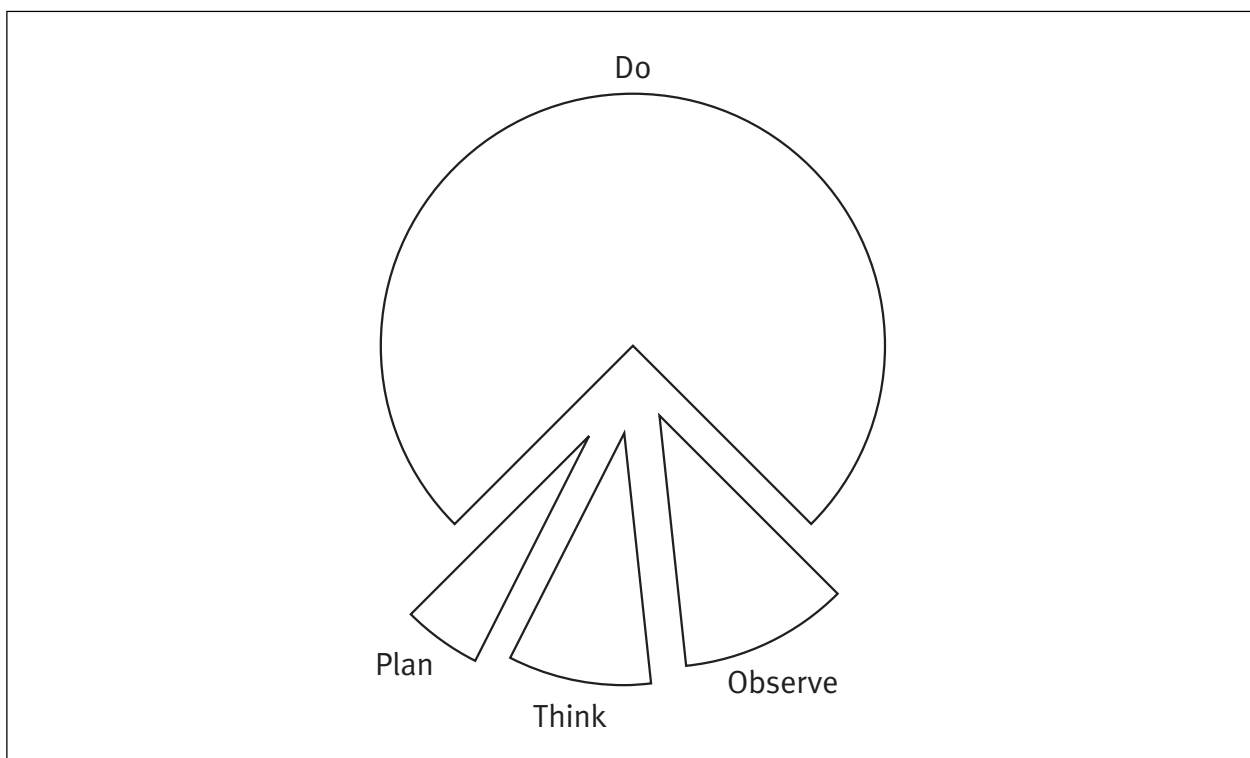

Exhibit: Main Course 4. The Kolb Quiche - I. *The relative portions of each slice of the quiche will vary according to the nature of the Aims and Objectives. In this example most of the time spent actively learning by the student is related to concrete experience.*

Now let us suppose you wish to develop some WRL within this module. One of the main uses of diatom taxonomy in the environmental sector is in the assessment of water quality, and you wish to develop this aspect in a module whilst also including an introduction to the taxonomy of diatoms. You have defined your Aims and Objectives and they are consistent with the degree rationale, and you have also checked that Assessment of these Objectives is feasible. You also have contact with the local water authority and know that you can arrange for a visit from one of the managers. How do you start to structure individual activities?

You know that students will need to know the basic taxonomic classifications of diatoms and also the environments with which the major groups are associated (knowledge base associated with a declarative outcome). However, they also need to carry out observation or exploration and reflect on this, for example through a literature search and reporting on diatom loading levels in polluted areas and formulation of key bio-indicator groups (knowledge and synthesis, associated with a performative outcome). However, you also wish for students to be aware about how statutory bodies, like water authorities, carry out monitoring and analysis to ensure water bodies conform to European standards.

One possibility is to develop a case study in which groups of students are given a set of real water bodies from the local area (encompassing for example, a water supply reservoir, a river with industrial effluent and stagnant recreational water) and also the water quality standards, and, maybe, industrial consent forms. From the case study material the students then try to identify diatom groups which would be useful in the monitoring and suggest an efficient sampling regime. This proposed sampling regime is then orally presented to the water authority manager who gives professional feedback on their work. This feedback provides an indication of the functionality of the proposed diatom sampling. The manager can then talk about how, what and when their authority samples.

From the construction of a Kolb Quiche for this module, it can be seen that the time spent on each learning stage by the student is much more equal than the previous example (Exhibit: Main Course 5). In addition, the taxonomy of diatoms is developed in a work related context. Although the level of knowledge about diatoms in the WRL diatom module would be less than the purely taxonomic model, the learning outcomes are much wider and encompass more aspects which might well be useful in the future employment of the students.
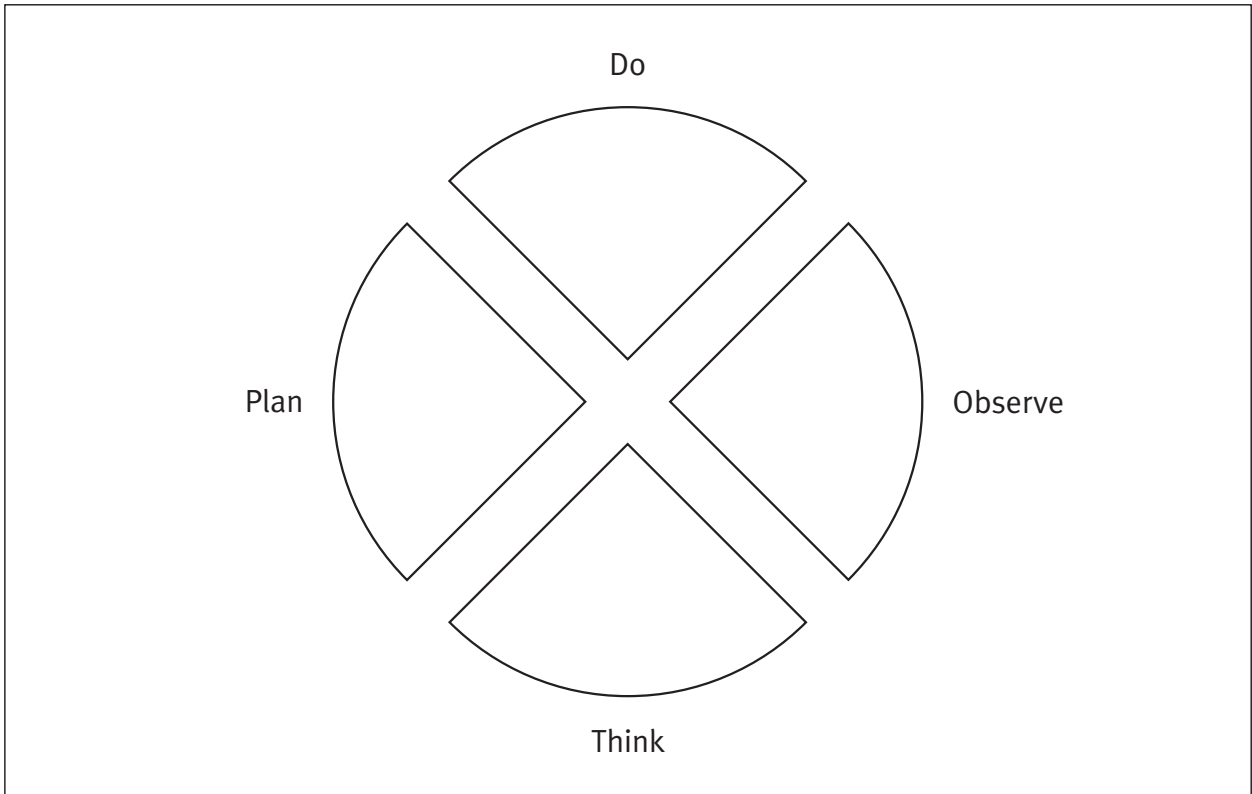
Exhibit Main Course 5. The Kolb Quiche - II. *In this example the time spent actively learning by the student is relatively equal between the four stages of learning.*

It is suggested that the Kolb Quiche is a tool which can help the structuring of activities within a teaching method, and also identify the staged learning outcomes which can be assessed. The conservation example above only involves one circuit around the cycle, however, the Kolb Cycle is progressive and thus this single cycle can be further developed later in the module, or in subsequent modules. The "cycle" is really a helix, resulting in progression.

Chef's Special: Side Dish

Learning and Teaching 1: *Using a mini-conference with students to develop their employability*

This case describes how a module was revised to include the organisation of a mini-conference. By working with external agencies in order to facilitate their research and then by preparing for conference presentation, students experience at first hand the real world pressures and rewards of meeting deadlines and communicating effectively to external practitioners and employers.

The Coastal Zone Environments and Management module has been operating at Edge Hill over the past three years. In this module students undertake group research projects and then disseminate their findings by giving oral presentations and by submitting an individual report. The prompt for this idea arose from the desire to refresh and stimulate students' enthusiasm for the oral presentation as the means of presenting their work and for tutors to assess this work. Built into the newly validated module was a group research project conducted locally using the Sefton Coast on Merseyside as the focus and resource base. Work conducted there necessitated the contact and collaboration with local and regional external bodies such as the National Trust, English Nature, and Sefton Metropolitan Borough Council. One way of fostering links with these organisations or individuals within them was to develop the idea of and co-ordinate an 'end point' to all this activity. Such an end point would allow students to focus their energy and schedule of work for their research project. The end point became the 'mini-conference'.

For many academics and researchers, presentation at conference is seen as an integral part of the dissemination of research findings. That is true also in the world outside Higher Education, in commerce, industry and other professional organisations. This mini-conference provides exciting opportunities for students to engage with postgraduate study and with the world of work firstly through independent research activities and then through the conference experience itself. Key skills such as independent thinking, team working, effective time management, communication and presentation and organisation are integral parts of this innovative approach to learning.

Assessment strategy

The group oral presentations on conference day are assessed by a combination of tutor, peer and external agent assessment, using strict guidelines and criteria. The module assessment also requires the submission of an individual report of the research activity in the format of a journal paper.

Evaluation of the conference over the last three years has shown that it is extremely successful in enhancing student learning, as a means of motivating students and increasing their engagement with the subject area, and in promoting employer links. It is possible to give students an experience of the real world through the conference by meeting professional and coastal workers at a real event rather than the role play situation of the more usual assessed undergraduate oral presentations. The mini-conference could quite easily be used in a wide variety of subject areas regardless of the size of the group since with much larger student cohorts the various organisational requirements (for example, catering or publications) could be delegated to different groups.

In summary, this kind of teaching activity can be described as a 'win/win/win situation' as there are benefits for all three involved parties:

For the students:
- Students experience the 'joys' and 'frustrations' of preparation for and presentation at conferences in the world of employment.
- Students are able to foster personal and academic links with potential employers.
- The confidence and self esteem of students participating in the conference is greatly enhanced encouraging increased levels of enthusiasm and a higher work rate.
- Students experience different ways of producing and disseminating information through conference organisation e.g. flyers, letters and press releases.
- Team-working skills are made stronger by the desire to *"do a good job"*.
- Oral presentations achieve a 'professional gleam' which is important to the students.
- Students obtain an opportunity to speak directly with professionals in a familiar environment rather than the formal setting of the job interview or work placement.
- Participation in the conference raises the 'feel good factor' particularly on completion.
- The conference experience is a positive entry on students' CVs.

For the staff:
- Links with professional external agencies, government and non-government organisations which may help to generate research and research income.
- Development of an innovative teaching and learning activity which enhances student experiences and generates positive outcomes.
- Raises the profile of the module, the degree programme and the institution within the world of work.
- Allows staff to collaborate with professionals and inform external agents about the various aspects of work being done in Higher Education.

For the external agencies:
- Allows organisations to exchange information directly with workers in Higher Education but also between themselves.
- Allows professionals to explore and examine the nature of the particular module and/or degree programmes more closely.
- Fosters closer contact with tutors and the research being conducted in Higher Education.
- Allows organisations to express their own research needs.
- Does not require large-scale inputs of resources and time from organisations or individuals since the visit to the Higher Education institution is on one day.
- No financial costs are incurred, apart from travel to and from the conference.

Chefs Special: Side Dish

Learning and Teaching 2:
Using a simulation activity to develop students' negotiation skills

This case describes how a simulation activity, based on a real planning case study is used to develop students' negotiation skills. Through acting a variety of roles in a realistic negotiation setting, students gain perspective on the responsibility of different organisations in the environment and planning sector, as well as developing and practising their negotiation skills.

At Manchester Metropolitian University, the Department of Environmental and Geographical Sciences run a module called Organisations and the Environment. In this module students undertake a negotiation exercise based on a real planning case study. This activity provides students with an awareness of negotiation as an important tool in work and in everyday life and the opportunity to develop and practice different techniques of negotiation, such as positional bargaining and creative thinking. The students are required to apply these techniques to a real problem relevant to their course. Using a simulation activity such as this can be helpful when working with large class sizes and ensures parity of outcomes for all students.

The activity is based upon a real planning case study where different actors take up different positions regarding a construction project in a rural area. The issue they have to resolve is a proposal to build a new factory for ERF trucks on land near Junction 18 on the M6. The proposal is controversial. The whole of the site is open countryside, although part of it is allocated for employment development and as expansion of an existing industrial estate on the edge of the town of Middlewich. The development would affect a farm and farmhouse and might have an adverse effect on a watercourse. ERF and the District Council want the proposal to go ahead. It would create good quality jobs in a company with an international order book. Granting planning permission would enable another section of the Middlewich bypass to be built; a long term goal of both the District and the County Councils.

The students role play the protracted negotiation over a two week period. In the first session they are given input about negotiation theory and styles. In groups of two or three, they play the role of the interest groups: developer/owner of the land and the industrial estate, ERF, District Council, County Council, residents, English Nature, Environment Agency and a local wildlife group. The aim is to reach a negotiated agreement on the scheme.

The activity is used to demonstrate the use and complexity of negotiation in a work related setting. It is a real case study and the maps and plans were made available to display the proposals and to facilitate discussion of alternative layouts and landscaping. The students are asked to consider creative solutions to resolving the issues rather than to take up positions which they later have to defend.

Communication is essential between the groups, they also learn that they must be prepared before going into a negotiation discussion. A large part of the discussion hinges around the need to extend the industrial estate road which will eventually become the bypass and who will pay for its construction. This is an interesting exploration of the concept of 'planning gain' which is relevant to the rest of the course and is a key feature of many planning/environmental decisions.

By becoming involved in the exercise students learn which organisations are responsible for some of the main functions related to the environment. At the beginning of the second week a new factor is introduced - the farmhouse is listed as being of historic or architectural interest - this encourages the students to 'think on their feet'.

Activities such as the example above aids the ability to cope with large numbers of participants and allow students to face realistic constraints such as changing conditions or imperfect information. The students also gain confidence in being able to apply their knowledge to a situation they may well face in the future. For this reason, it is important that the case materials are up to date so that the issues are timely and appropriate to the student's future employment.

For additional ideas or examples of class based activities there is a wealth of material freely available online (see http://www.geog.leeds.ac.uk/courses/other/casestudies/). This database was established with the aim of promoting the use of case materials in Higher Education and employment and to provide students with simulated work experience. Case materials are designed to meet the needs of students for group working, decision making and the experience of work. They are based as closely as possible on real work situations and issues (in business, government and the voluntary sector). Although the materials are freely available online, it is helpful for those developing them to know where the materials are being used and to gain feedback.

An example of one of the case studies is entitled *An Intrapreneur's Story: Education Officer and Senior Ranger*. This activity asks participants to consider the experience of one young intrapreneur currently working in a 'country park'. It aims to develop understanding that you don't have to be highly experienced, or in a large multi-national organization to innovate. This case is of immediate relevance to participants taking geography, environmental science, landscape management, teaching, resource management and related topics as well as those interested generically in intrapreneurship.

Assessment

The "Starter" outlined why we need to assess, what underpins good assessment and what the main types of assessment are. Now we have the opportunity to look at WRL assessment in more detail. From the outset it is worth repeating Boud (1995) who comments *"Students can, with difficulty, escape from poor teaching, there is no escape from poor assessment"*.

Assessing process or outputs, or both?
Remember assessment has to be valid, it has to assess the stated learning outcomes; basically it has to do what it says it does. Hence assessment cannot be considered in isolation from the WRL curriculum development cycle outlined in the Canapés menu. Setting aims and objectives and identifying learning outcomes are essential steps to be taken before designing the assessment. Once they are set you can start to consider assessment. Summative assessment is the method by which tutors, students and other stakeholders can be assured the learning has taken place whereas formative assessment promotes the learning process; the assessment strategy should include both these aspects.

WRL outcomes are frequently performative which means that they involve the student in some degree of integration, synthesis and application of skills and knowledge. The learning outcome inculcates a process of active learning, synthesis and transformation. This is the outcome you assess (see Aims and Objectives Starter). Confirmation of such synthesis and application means that students have to provide evidence for the successful achievement of the WRL outcome.

However, care should be taken here as we need to be broad in our view of a learning outcome. More traditional methods of assessment, exemplified by written examinations, test outcomes which are declarative where students need to declare or state their knowledge; consequently we are testing the quality of the final knowledge package of the student. However, for a good many functional and performative WRL outcomes, we may be more interested in assessing the process rather than the output quality.

As many WRL activities are more complex, and also open to the vagaries of external factors, then of the process of learning can be as important, if not more important, than the quality of the final output. This distinction between process orientated and outcome-orientated assessment is common to many of the more contemporary approaches to learning and teaching, such as problem based learning (Swanson *et al.* 1991). However, it is important to be clear in your own mind if you are interested in assessing the process or the output. Often a hybrid approach can be used, where aspects of the process and the output can both be assessed.

How can we achieve it?

We have a wide range of methods at our disposal but whichever we adopt we should remember that assessment of WRL, like all assessment, is not an exact science. We should be reviewing, evaluating and improving our assessment approaches on a continual basis. It must, however, be a valid, transparent and reliable assessment of WRL learning outcomes.

Valid assessment must test the stated learning outcomes. An essay on skills tests the knowledge of skills not the WRL outcomes of integration, synthesis and application of skills. Assessment techniques such as portfolios, presentations, posters, reports, learning contracts and practical demonstrations are more appropriate. This Good Practice Guide aims to help you assess WRL but there are numerous generic assessment guides available. The Generic Centre of the LTSN publishes a range including one by Peter Knight (2001) that provides a starter list of 50 methods of assessment and another by David Gray (2001) with a good overview on the assessment of work based learning.

The Importance of Feedback

Without feedback no-one can learn. Feedback on summative assessment is valuable and contributes to learning but it is too late to affect the final grading. The WRL outcomes of integration, synthesis and application of skills should be developed over a period of time with formative, non-threatening, feedback. If formative assessment is incorporated into the production of, or development of, the final summative assessment then the learning will be more secure and the final grading enhanced. It also has the additional benefit of reducing the likelihood of collusion and plagiarism because a history of the development of the assessment and learning is available.

The role and value of employers in assessment

The criteria for judging an outcome depend considerably on the perspective from which it is viewed (employer, student, manager, tutor, evaluator). Experience has shown that many employers or external stakeholders make a valuable contribution to the assessment of WRL. They bring the direct context and requirements of the workplace to assessment. However, they frequently do not use the same standards or performance criteria as tutors based in a college or university. This is often the result of our failure to explain to them the levels and assessment criteria for the outcomes. This is easily overcome by clear guidance and suitable preparation. The increasing importance of integrating work related activity into the curriculum and the direct involvement of employers in supporting learning makes the articulation of assessment criteria essential.

Assessment of work related learning in the workplace

There are numerous benefits which can derive from a period of work placement. However, it is not enough simply to regard work placements as a 'good thing'. Increasingly, placements attract credits and hence they must have outcomes which need to be identified and assessed. Most of these outcomes will be work related outcomes. The use of portfolios and learning contracts are valuable tools in this context.

A portfolio is a collection of student work selected and controlled by the student to fulfil given criteria. It reflects the student's achievement or development and is characterised by a strong vision of content, skills and processes addressed. It is important, however, that students are not just required to present this evidence of what they have done, but to also provide an overarching account of what they have learnt in the process (Gray 2001).

A learning contract defines the objectives and individual programme of learning for a student. It is based on current competencies and the level of competencies planned for achievement. The responsibilities of the student are clearly stated as are the resources required to achieve the outcomes. It is an iterative process and a means of clarifying the targets for professional development. Assessment is based on how successfully the learning outcomes have been achieved, articulated and evidenced. This can lead to further outcomes being defined and agreed.

Assessment of WRL which takes place during a campus based module

Involving off campus activity

The outcomes of WRL can be achieved effectively by integrating off campus activity with a campus based module. Several examples of this activity appear in this Good Practice Guide. One example from the University of Sunderland is centred around a case study with mixed level or 'vertically integrated' student groups from levels 1, 2 and 3. The students worked in mixed level, small research groups looking at various aspects of sustainable development in collaboration with personnel from Sunderland City Council's Local Agenda 21 (LA21), and other local environment and development agencies. They present their findings at a public conference attended by City councillors, external partners and invited members of their local communities, using posters and presentations.

The overall WRL outcome is that students will have developed and demonstrated their research, group working, communication and reflection skills while contributing to a project with a real world orientation. There is a differentiation of specific objectives and learning outcomes between levels. Level 3 students are directed to take a leading role in the project management, level 2 students in data analysis and shaping data collection strategies and level 1 students in field work and basic research.

Each student team is required to: (1) submit a joint report on their particular local council ward; and (2) present their findings at a public conference attended by City councillors, external partners and invited members of their local communities, using posters and presentations. Each student subsequently has to present (3) an individual diary and reflective critique of their role and output in the exercise. All of the three elements are formally assessed on a 25:25:50: ratio. Details can be found in PLANET, the bi-annual publication of the LTSN Subject Centre for Geography, Earth and Environmental Sciences at ***http://www.gees.ac.uk/planet/index.htm***

Involving only on-campus activity

Most assessments will have similarities to off-campus work based assessment, indeed they are assessing similar outcomes. Just as with off campus activities, the value of formative assessment in developing the integration of skills and knowledge cannot be over emphasised. The formative component of assessment can be part of the learning activity or can be a stepping stone to the production of the summative assessment. By using summative assessment via progress reports and feedback the students learn in a non-threatening way and can incorporate this learning in the final assessment.

Conclusions

Assessment of WRL is a balancing act: between formative and summative, between process and output and between external and internal marking. These issues need to be considered closely before any method is selected. Although assessment of WRL is complex, it is like dough in your hands and thus can be moulded to any form.

Chef's Special: Side Dish

Assessment 1:
Using student learning logbooks and independent group discussion

This case shows how a work related experiential case study was implemented through a structured Reflective Learning Log book and an assessment strategy developed.

The Principles and Practices of Integrated Coastal Management (MSc in Tropical Coastal Management, University of Newcastle) module aims to give students insights into the sectoral components of coastal management and the principles of their integration into management plans. However, it did not give students the opportunity to engage in a 'real life' scenario in order to practise the skills required for working in multi-sectoral and multi-disciplinary groups common in their probable work environment. Therefore, an experiential case study based approach to the module structure was developed to redress this. A Reflective Learning Logbook was used to help students relate their experiences from the case study and the practice of sectoral integration to a simulated work environment. The aim of the logbook was to reinforce the awareness of achievement of the learning outcomes from the MSc course and provide an opportunity for them to explore how their attitudes and approaches to coastal management issues had changed during the course.

The logbook was questionnaire-based and asked students to:
- Describe their initial perceptions of the subject area, the needs of the workplace and their individual qualities to meet these needs.
- Consider how the teaching and learning during the module addressed the above and contributed to the demands of the workplace.
- Reflect on how the experiences gained during the module had modified their expectations of the demands of the workplace.

In the first year of implementation the logbook was introduced into the module in three phases:

LOGBOOK PHASE	STUDENT INPUTS
Phase 1 - At the start of the module students were asked to articulate current understanding of ICM and the role of a coastal manager.	1 Write a paragraph that explains your perception of the subject of integrated coastal management. 2 In the light of your perception of integrated coastal management, summarise key roles of the coastal manager and the balance of skills that you think are important for a professional coastal manager to have.
Phase 2 - Over the course of the module students were asked to clarify new learning and how it relates to both other learning areas and current understanding of ICM.	3 As a coastal manager for tropical areas, what do you think are your strengths and weaknesses in fulfilling the role of a professional coastal manager? For identified components of the module students should write a Statement of Relevance that outlines: (i) The relevance of the content to both (a) yourself and (b) the workplace you hope to move to after this course. (ii) How the content has modified your understanding of coastal management.
Phase 3 - At the end of the module students were asked to consider how their understanding of ICM had been modified.	1 Write a paragraph that explains your perception of the subject of integrated coastal management. How has this changed over the module? 2 Have your thoughts on your own strengths and weaknesses in fulfilling the role of a professional coastal manager changed over the module?

At the end of the module a workshop was held by an independent evaluator (from the Quality Standards Unit of the institution), who had not been involved previously with the MSc programme. The purpose of the workshop was to reinforce the learning outcomes of the module and evaluate the contribution that the logbook had made to the students' WRL and to consider an appropriate mechanism to introduce an assessed form of the logbook to the full MSc course in subsequent years. The logbook was found to contribute positively to the learning experience of the module for the students who commented that the logbook had helped them to rationalise

and organise their thoughts and perceptions of their understanding of the demands that the workplace would place upon them and the contribution the MSc programme made to them achieving their career goals. Some examples of comments made by the students are given below:

"My perception of ICM has changed over the module as I've gained a greater understanding of the role of ICM with respect to other processes, like policy and overall governance."

"I have begun to review my slightly conservationist views and I really see the pro-economy aspect. I think my perception has changed, probably broadened (with a less narrow view of the aim of ICM)."

"I have learned that ICM is also about managing people who are managing the coastal zone and how one must reach a compromise to keep all stakeholders happy even at the slight cost of the environment."

In the light of feedback from the students, it was decided to introduce the logbook across the complete taught component of the MSc programme. Phase 1 was introduced at the start of the course, students were asked to complete Phase 2 against identified blocks of teaching within modules that related to sector/discipline inputs to the course, and Phase 3 was completed at the end of the taught component of the course and before the examinations.

The logbook was subject to both formative and summative assessment. Formative assessment is important in order to provide feedback to students individually on very personal reflections of their studies and learning. Students submitted their logbook entries by e-mail to the module leader who added observations relating to (i) their compliance to the Statement of Relevance (SOR) format, and (ii) the relationship of individual SORs to their perceptions of ICM. Students were also offered individual one-to-one meetings at any time during the year to discuss their logbook.

Summative assessment took two forms. (i) The logbook was subject to in-course assessment primarily to ensure that students gave their logbook a similar priority to that of other in-course assessed work that was taking place concurrently. This assessment also served the purpose of demonstrating to the students that there was 'value' attached to their personal reflections on the course work and its bearing on their learning. The scale of the assessment was designed to reflect the compliance of the student to the principles of the logbook rather than a subjective analysis of the 'worth' of their personal reflections. The grading of the logbook, therefore, was according to the following criteria:

  a) Logbook not handed-in or incomplete - *D*
  b) Logbook only describes the content of each subject area - *C*
  c) You have shown an honest attempt to identify connections between subject area elements - *B*
  d) You have attempted to comment on relevance of content to the process' of ICM and your understanding of ICM - *A*

(ii) A further form of assessment was provided in the final module examination where one question was specifically targeted at the logbook which the students were allowed to bring into the examination. In the academic year 2002/2003, all students bar one chose to answer this question which was "Using your logbook for reference, discuss the roles of different sciences to integrated coastal management".

Chef's special: Side Dish

Assessment 2:

Diversifying assessment to develop field-based geography skills

This case study shows how diversifying assessment strategies of a fieldwork component of a module led to the use of a Virtual Learning Environment. This in turn led to increasing learning through formative and summative feedback to the students.

The Drylands module has been running at the University of Durham for eight years. The primary aim of the module was to focus specific fieldwork activities within a substantive theoretical geomorphology framework. The module consists of a lecture and seminar series in the first term which introduces subject-specific information and briefs students for a field trip which takes place during the Christmas vacation. The module content is about environmental processes in arid and semi-arid locations and the fieldtrip, which is currently to Gran Canaria, introduces students to process studies in such environments. The field trip itself starts with orientation and technique training and then students undertake a three-day field group project. After the field trip students are able to undertake some additional laboratory and data analysis before presenting their results at a module conference. Since its introduction the module has always produced very high evaluation scores. Although primarily designed as a means of making fieldwork delivery more efficient and focussed it became apparent to us that many of the skills acquired by the students are relevant to the work place.

The group project is the pinnacle of the module and is given some prominence in assessment. Originally the marks awarded for the course were divided into three components: one third for the group project; one third for an individual write up based on the project and one third for the examination. An individual component is an important requirement for institutional reasons but an individual write up based on the project did not seem to fulfil all of our course objectives. Student evaluation also noted some problems of workload associated with an end-of-module write up.

The description of the module indicates that one of the key objectives of the module is not just to expose students to work-related skills but to encourage them to reflect on the value of these skills. Evaluation comments from previous years suggested that students felt they would benefit from greater preparation for the field trip. The two issues of heavy end-of-module load and better fieldwork preparation can both be tackled through an assessment procedure that provides early opportunities for reflection. This module was modified to encompass these changes. The end of module assignment has been replaced by four "tasks" that are distributed throughout the year.

The new assessment strategy requires students to provide an extended executive summary and a short proposal for further research. Both tasks have word limits of 300 words (compared to the previous 2500 word assignment). This directly links to a comment from former students that the degree had not paid enough attention to writing concise reports. Students are therefore briefed on the importance of being able to write clearly and succinctly. The executive summary is designed to be written like an abstract for a paper or presentation. Two further assessment tasks are associated with the field work.

An important aspect of introducing this more complex suite of tasks is the development of the University's Virtual Learning Environment. All of the tasks are submitted on-line using the "digital drop box" of the VLE software. The lecturer is able to view these comments online and provide feedback electronically. Later in the module once the students have conducted the group project,

the group membership can be established in the VLE and group feedback and consultation done effectively online. The advantages of the VLE were considered to be: effective at organising the storage of assignments and provide more effective and timely evaluation for individuals and groups and the software could be extended to include discussion groups and chat rooms.

The four assignment tasks were:
- Task 1 asks students to comment on their initial impressions of arid environments. This assignment is set after the very first lecture and students have about 10 days to complete it. It asks for comment based upon some reading around the introductory lecture. Students are asked to write no more than 300 words reflecting on three issues. The first of these is whether their reading has altered pre-conceptions of Drylands - in most cases it does substantially. They are encouraged to write about impressions.
- Task 2 follows four weeks into term and requires students to comment on a recent article about the subject. Again it is part précis and part reflection. Both of these initial tasks are focussed on the substantive content of the module rather than on the work-related skills. However, the encouragement of reflection is important for the later tasks which relate to work-related skills.
- Task 3 is completed between the two briefing sessions for the field trip. It is designed to tackle the issue of student preparation for the field trip which had been commented upon in previous evaluations. This task is an on-line quiz-survey. Several questions are about field safety and therefore complement the risk assessment briefings. It also asks students to propose preliminary projects.
- Task 4 has three parts and is undertaken after the projects have been presented. The components are the executive summary and the proposal for further work (as noted above). It also includes an additional evaluation questionnaire. The official evaluation collected by the Department contains a standard set of questions. The additional evaluation is useful for consulting students about changing attitudes to group work and skill acquisition.

The evaluations gathered from Task 4 show clearly that students are aware of the value of a variety of group working skills acquired during the fieldwork. In addition, the diversified assessment tasks have enabled them to reflect more clearly upon the acquisition of WRL attributes during the field work component of the module.

Evaluation

In the Starter section we introduced four types of evaluation; student/graduate evaluation, self-evaluation, peer evaluation and external stakeholder evaluation. However, this still leaves the fundamental question: how do we do it?

One thing we do know is that:
"The quality control of sausages should not proceed along the same lines as the evaluation of higher education" (Veld, 1991).

As much as the above statement is correct, it still leaves us hungry for an answer. Evaluation in HE should never be seen as a repetitive and ritualised process, as it might be in a sausage factory. Evaluation in education requires feedback from a number of different sources, not just students, but lecturers, external examiners, employers etc. We will concentrate on two areas of evaluation: student/graduate evaluation and external stakeholder evaluation. The reasons for this are that the techniques for self and peer assessment are well documented and largely internal to the institution. However, both student/graduate evaluation and external stakeholder evaluation can involve external components to the institution and can thus be used to inform WRL directly and realistically.

Student/graduate evaluation

The approach to student evaluation can be quantitative or qualitative. Quantitative approaches have the advantage that they generate numerical data which can be used to form summary statistical graphs and tables. However, they depend heavily on the questions asked and they offer no explanation for why scores are high or low and students can experience *"questionnaire fatigue"* if too many are required.

Qualitative evaluations can be more effective in determining the value of the teaching to the students. WRL can have a wider and more varied effect upon a student compared to more traditional knowledge components. These effects can be in attitude and behaviour as well as understanding and in thinking more about the context of the workplace. Consequently, a more open-ended qualitative approach to student evaluation may be more informative to the practitioner than a purely quantitative approach.

Qualitative evaluation can be achieved through a number of approaches. The simplest form can be through questionnaires with a number of open questions. These can be used on a one to one basis through a semi-structured interview using techniques such as card sorting or alternatively, the practitioner can carry out a structured discussion using a set of prepared questions to groups of students. Various techniques can be used such as rounds (ensures involvement of all students) and pyramids (can provide a coherent and consensus group summary).

A third approach is the use of learning diaries/logs/journals by the students which detail not only the student's activities, but also their perceptions and reflections on what the teacher has taught and what they have learnt. This approach, particularly in combination with structured interviews or discussions, can be very informative for evaluating WRL. A case study is presented which shows how a Reflective Learning Log Book and a workshop led by an independent facilitator has been used to evaluate a work related case study (Case: Evaluation-1).

The experiences of graduates in the workplace would be expected to change the perceptions and reflections they might have held as students. Consequently, longitudinal graduate studies can be particularly informative about the value of WRL. This information can then be fed back into the curriculum - a number of cases are presented in which the teaching and learning strategy has been informed through longitudinal graduate evaluation (Case: Evaluation-2).

External stakeholder evaluation

Within the context of work related learning it might be an issue that the practitioner heading the module might not have relevant and/or up-to-date experience of the work place. This lack of clarity of the requirements and demands of the modern day workplace can mean that teaching and learning is not aligned correctly with the workplace. Consequently, the use of external stakeholders in teaching and evaluation provides an input of realism about the workplace. An example of using information from potential employers to enhance work related aspects of a curriculum is presented:

Chef's Special - Side Dish:

Evaluation 1: *Stakeholder Involvement*

This case describes the development of a module using employer input to identify the necessary learning outcomes.

A new BSc (hons) degree entitled "Environmental Science" was developed at Newcastle University to replace two existing environmentally oriented programmes. It was designed to satisfy the appropriate Benchmarks Statements and equip students for the employment market. It was decided to develop "employability learning outcomes" through campus-based learning (and fieldwork) with no formal work-based learning integrated into the programme. This was because of doubt that the necessary work placements each year could be guaranteed for all students.

It was therefore essential to ensure that all the necessary learning outcomes were developed by checking against employers' expectations. The programme was initially designed using labour market information and a draft curriculum (with explicit statement of learning outcomes and a matrix mapping these onto specific modules) was discussed with selected employers operating in the "environmental sector". Local employers were contacted and either a telephone discussion or visit followed. It proved especially helpful to contact alumni, as they were particularly willing to help and had the benefit of knowing much about what a "Newcastle degree" was likely to involve. Feedback indicated a need to ensure that students were aware of "environmental management systems" and writing for various audiences, including commercial documents when tendering for jobs and summary documents of both a technical and non-technical form.

In the light of this a new module, entitled "Environmental Science Practice" was developed specifically to address these needs as they could not readily be developed elsewhere within the programme. This module is compulsory. In order to give this learning a context, and further enhance the students' knowledge of employer expectations, they also had to produce their own "labour market information report". The learning outcomes for the module were:
- Knowledge of environmental science professions, and in particular:
  - environmental management systems
  - sustainability and Agenda 21
  - environmental legislation
  - environmental ethics
- Advanced literature search skills (including use of Endnote) and an ability to appraise the quality of information sources critically
- Ability to write professional documents in appropriate formats for a variety of purposes (tenders and technical reports)
- Ability to make oral presentations using a variety of visual aids.

This module thus became a key component of the strategy to encourage students to identify what a practising environmental scientist might do. It also provided a context for other, technical learning occurring in other modules.

Conclusions

Evaluation is not just there to tame the institutional conscience and responsibility; its real value is as a guide leading you in the direction of stepwise improvements in your teaching. The case has been made that information from people who are directly interacting with the workplace can prove extremely valuable for the evaluation of WRL. However, it remains your job to mould such information from the workplace, and other evaluation sources, to optimise the WRL, and future employability and career progression, of your students.

Chef's Special - Side Dish:

Evaluation 2: *Longitudinal evaluation of graduates*

This case shows how a questionnaire filled in by past students has helped to inform the work related components of an MSc curriculum.

The University of Newcastle has run an MSc programme in Tropical Coastal Management since 1987. The programme was devised specifically to provide an overview of tropical coastal zone management, particularly in developing countries, for students who wish to follow careers in the aid and environmental consultancy sectors. About 65% of graduates have secured jobs in these sectors, with the remaining 35% going into education and research. In light of the increasingly competitive and project based workplace, the success of the MSc programme with respect to the teaching of required employment skills has been evaluated. The results of this survey were used to modify the teaching and learning strategy.

Of the 93 past students contacted, 25 (27%) replied. 10 of these respondents worked for Government agencies whilst the remaining 15 were all employed by consultancy companies. Over 75% of these returns indicated that the current type of employment of the graduate was the same as their first post-course employment.

Scrutiny of the returns revealed that all groups shared many common observations on the role of the MSc in employability. However, there were some areas of comment that were specific to their employment sector (see below).

Post-course employment	Perceptions of employability: comments
Both Government and Consultant	• Wide subject provision. • Wide skill set. • Rationalisation of role of science in management. • Widened perspective.
Government	• Applicability of skills outside of Coastal Management.
Consultant	• Access to professionals. • High-pressure course mimicking the work environment. • Teamwork. • A good foundation/start to a professional career. • Expanded professional capacity.

The questionnaire asked the past students to comment specifically what was missing from the course that would have been useful in their workplace. The returns were remarkably consistent with virtually all commenting on a lack of provision for:

- The practice of coastal management - most felt that, although the course had covered well and comprehensively the theoretical aspects of coastal management, they had not had the opportunity to put the theory into practice.
- Coverage on issues of governance and social and economic sciences.

The results from this evaluation led to a major review of the one of the core coastal management modules. This module now incorporates case studies where students work in groups to produce outline management plans with inputs on social and economic sciences in a management setting. Further work is being carried out to provide a "live" case study and interaction with local stakeholder groups using an estuarine area in the NE of England.

## Chef's Special: Side Dish

Evaluation 3: *Using an employer survey*

This case shows how information from a survey of potential employers has helped to enhance the relevance of WRL aspects of the curricula.

This enhancement concerns the Research Methods and Data Analysis module, which is part of three MSc courses (Environmental Management, Environment, Health & Safety and Health Development and Environment) based at the University of Sunderland.

Data analysis courses have a reputation for being boring, irrelevant and difficult. In recognition of the trauma invoked in many students by this subject, a project was undertaken to attempt to improve the learning experience of students on this module. One part of the enhancement involved an attempt to invoke interest and motivation in the students by involving local organisations in the provision and presentation of *"live"* data to be used in the module. This was achieved through involvement with local organisations that came and brought their data to the module, presenting the context of the data and explaining why they needed the data to be analysed. The students' data analysis work during the module focused on analysing this data.

However, in addition to this an evaluation of the modules was made in light of the skills which a range of potential employers valued. A postal questionnaire survey of employers was designed to gauge the relative importance of potential module elements, and then to use this information to further enhance the module.

Employer Survey Results
relative importance of research methods and data analysis skills
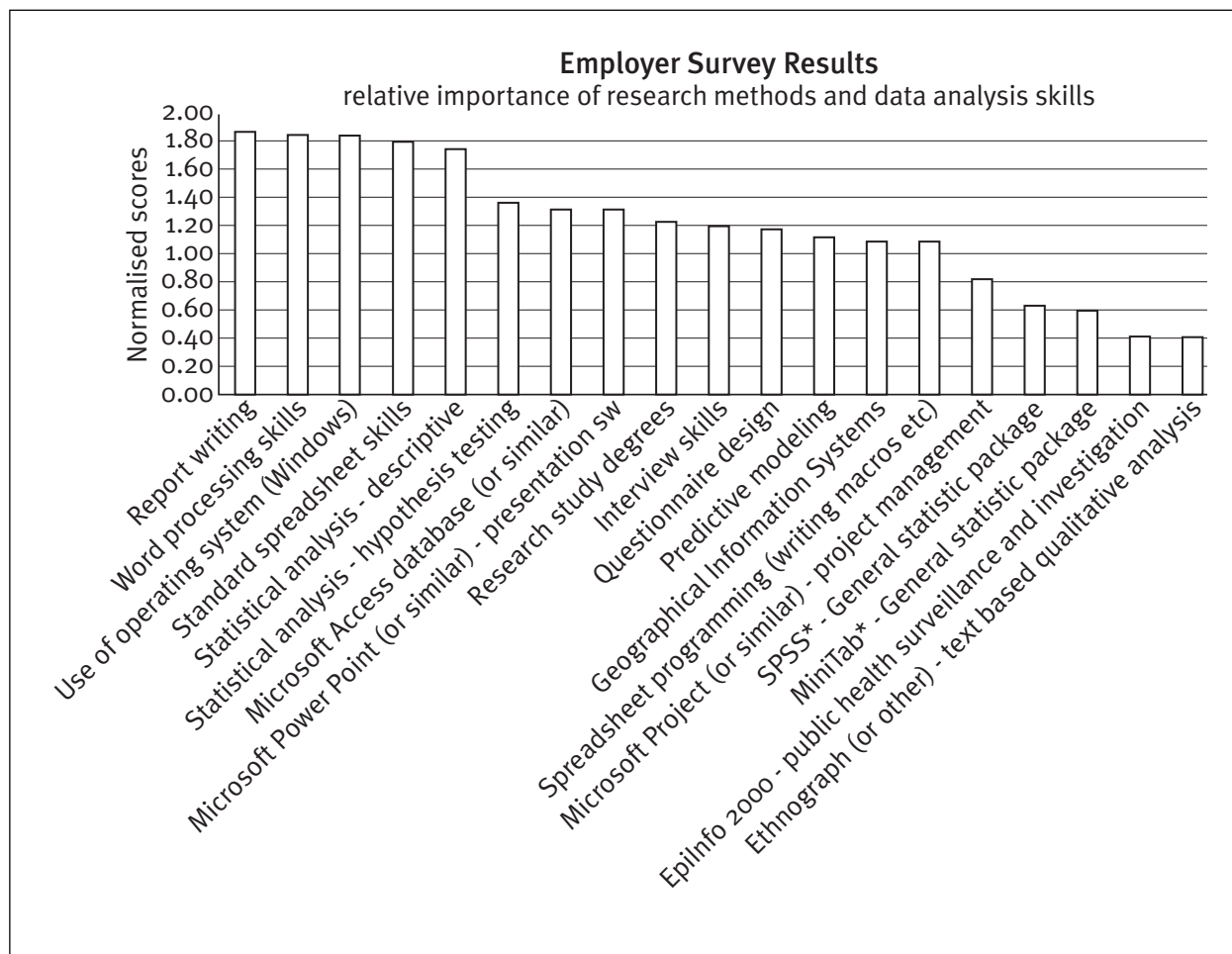
From the results of this survey it was found that a number of work skills not specifically addressed in the module were highly valued by employers. In response to the results of the employer survey a number of changes were made to the module:

- Introduction of practical sessions on advanced use of Microsoft Word and Excel.
- Provision of an optional Windows Operating System consolidation tutorial.
- Further emphasis on the importance to employers of report writing skills during the report writing session of the module.

In the future, there are plans to:

- Place more emphasis upon developing report writing skills during the module (which is the first module taken by the MSc students) and integrating this skill development with subsequent modules.
- Place more emphasis upon developing skills in what could be called overall competence in the application of statistical methods - knowing the strengths and weaknesses / limitations of the various analysis techniques; i.e. what method should be applied where, when and why.
- Introduce a practical session on the use of Microsoft Access database software.

Chef's Special: Side Dish

Evaluation 4: *Towards entrepreneurship and employability*

This case study examines how a module was developed in response to both internal and external pressures.

Environmental Science students at the University of Ulster increasingly opt to undertake a placement year with a relevant employer. The QAA Code of Practice for Placement Learning states that, *"Institutions should ensure that students are provided with appropriate guidance and support in preparation for placement."* In response to this, a module entitled Enterprise and Employability has been developed. The aims of this module are to provide students with a range of environmentally orientated business and management skills and practices in order that they can integrate more successfully into a particular company or set up their own business. This module enables the School of Biological and Environmental Sciences to fulfil the QAA brief for placements and as such is compulsory for all placement students.

Additionally, the module was also developed to meet an institutional agenda. The University of Ulster's vision and strategy document for 2000-2010 states that, *"it expects to contribute to the economic, social and cultural advancement of Northern Ireland as a region within a national and international context."* The University, recognising that economic development in Northern Ireland can be supported by growth in innovation-led, entrepreneurial and knowledge-based companies, put in place plans for all undergraduate and postgraduate courses to include an element of education for entrepreneurship. Course teams were asked to identify how they were going to incorporate entrepreneurship within their curriculum. This would then be reviewed when courses were re-validated. Moreover, following staff involvement with the Geography, Environmental and Earth Sciences learning and teaching support network (GEES LTSN) to examine careers and employability, it became apparent that the courses' current career development activities could be embedded more firmly and effectively within the curricula.

In response to all these issues and agendas the 10 credit module, Enterprise and Employability was developed. There was certain resistance to the proposed module with staff concerned that it was of questionable relevance and would replace time that could be devoted to more traditional subject orientated modules. However, after reassurances that the learning outcomes of the module would be achieved using subject-based examples it was agreed to introduce the module during 2001-2002.

As teaching entrepreneurship was new to academic staff within the school, faculty based co-ordinators of academic enterprise were appointed. These staff were trained by the Northern Ireland Centre for Entrepreneurship and were able to advise and in some cases teach elements of the course. Staff within the School of Biological and Environmental and Biological Sciences provided subject based examples, case studies and project support. Experience from skills courses has demonstrated that student learning is optimised when courses are fully embedded within the subject rather than appearing to be 'bolted-on'.

In its first year of running the module recruited thirty-three students. Of these, only a third were required to take the module with the remainder opting for the module as one of their choices. This represents 67% of the environmental students who had this choice and 12% of geography students. The low uptake by geography students reflects the higher volume of module choice open to them.

Those who opted to take the module gave some of the following reasons:
- To get a break from more subject orientated and content rich modules
  "Looked interesting and didn't want to do chemistry."
- To study a module with business bias
  "I've never studied business before, I thought it would be a new experience."
- To identify and clarify their opportunities for careers and further training
  "I decided on this module because I wanted to know about the employment prospects associated with environmental science and what opportunities lay ahead with my degree."
- To receive training in CVs, interview techniques etc all of which were new to them and perceived to be important
  "To help me with job applications, CVs, interviews etc, because that stuff is all completely new to me."

Therefore, despite the resistance to the new module from academic staff, the module was very popular as an option, particularly with environmental science students. This was also reflected in student performance, with nearly 70% of students achieving marks of 60% or above.

In conclusion, the School of Environmental and Biological Sciences at the University of Ulster considers that the module has met both internal and external requirements for placement preparation and career development in a manner that has enhanced rather than detracted from the students acquisition of subject knowledge and skills.

Dessert

You may well be full from our WRL feast so far, but I am sure that you can just squeeze in our most luscious and high calorie offering! It is commonly said that "the proof is in the pudding", and in this dessert section we offer you two case studies which address many of the aspects we have already discussed. Rather than looking at isolated aspects of curriculum design, these case studies show how the four cornerstones of curriculum design can be integrated to provide a coherent package of WRL within a module.

Dessert 1: *Putting marketing into action*

Module: *Work Related Marketing Project*
Duration: *300 hours study*
Level: *Final year undergraduate: B.Sc. Food Marketing / B.Sc. Food Marketing & Management.*
Institution: *School of Agriculture, Food and Rural Development, University of Newcastle upon Tyne.*
Module leader: *Janet Ward*

This module is about putting marketing into action. The students, who will be in their third year, have not had experience of trying to use the knowledge which they have gained to date in a professional scenario. This module provides students with the opportunity to implement their previously developed knowledge in marketing, and also to develop new skills and abilities related to the professional marketing environment.

Context

In this module, groups of students assume the role of a team of professional marketers employed in a variety of organisations including marketing consultancy, food retailer, drinks manufacturer and a farm co-operative. Each group is commissioned to develop a new food/drink product and/or a service concept. The new concept may involve:

1   innovative changes to one or more elements of an existing product or service, or,
2   the development of a 'new to the world' concept which is innovative in every respect.

Examples of these new products/services developed by the students have included a Jamaican restaurant in Newcastle, a breakfast drink and the launch of Biltong (air dried meat) in the UK. The module was sponsored by International Cuisine Ltd. who provided external inputs, gave a lecture about new product development and marketing of chilled ready meals and attended the final presentation.

This role playing exercise simulates the process by which commercial companies in the food and drink sector develop and research the market for new products. However, rather than focus solely on the product itself, the module design provides a structure to the research process and ensures that students experience the sequential stages of such a process, prior to the product launch.

Aims and Objectives

Aims
- To offer students the opportunity to develop work related and research skills as team members in a marketing project involving role play.
- To allow students to understand how the discrete modules they have studied up that point link together in a 'real life' project.
- To develop the students' ability to think and act like a professional marketer.

Objectives
By the end of this module students will be able to:
- Evaluate the advantages and disadvantages of different marketing research techniques in a 'real life' situation.
- Objectively assess research information whether secondary or primary data.
- Understand the professionalism that is expected in a working environment.
- Assess their own strengths and weaknesses as team players.
- Critically evaluate presentations.
- Assess their own WRL during the project.

By the end of this module student will have developed work related skills:
- In written communication by preparing interim reports and a final report in a business format.
- In oral communication by preparing two interim presentations & one final presentation in their chosen roles.
- By learning to work effectively as a team, understanding their roles within the team and the importance of leadership & delegation.
- In time management by planning the project, submitting agendas for supervisory meetings, running and minuting their own meetings and achieving deadlines for reports and presentations.
- By interacting in a professional manner with outside organisations and individuals during the project.

The students will have further developed their key skills in:
- Numeracy by analysis of primary research data.
- Adaptability by responding to changes in both the external and internal environment during the course of the project.
- Computer literacy by preparing reports in different formats, presentations, analysing data, using project management software and preparing appropriate charts and diagrams.
- Initiative and problem solving by having to 'think on their feet' and resolve problems throughout the duration of the project.

WRL comments: It is noticeable that there are quite a number of Objectives, however, it is worth noting that this is a 30 credit (300 study hours) final year undergraduate module. The WRL Objectives are clearly stated and laid out and their validity can be confirmed against the SMART criteria (Specific, Meaningful, Appropriate, Realistic and Testable). The required level of the outcomes suggests that a 'professional' approach will be required to achieve a successful mark, and this ties into the stated Aims of the module. Clearly, with such a number of Objectives, both WRL and others, it is vital to ensure that the assessment is secure. Consequently, just from looking at the Aims, it is clear that a fairly complex assessment strategy is required.

Teaching and Learning methods

This marketing module is scheduled for 300 hours study. These 300 hours are divided into 200 hours desk research, analysis and writing, 72 hours primary research, 32 taught hours and nominally 6 hours, but up to a maximum of 16 hours, of supervision (per group).

The taught timetable involves a number of usually 2 hours sessions, as follows:

Session	Plenary Session	Workshop Session
1	Introduction to module	Brainstorming
2	Student lecture on outputs form Brainstorming	Development of new product
3	External lecture	Team allocation
4	Project Management - Microsoft Project - 1	
5	Team building	
6	Assessment Criteria	
7	Practise presentation	
8	The Research Process	
9	Presentation - 1	
10	Qualitative Research	Microsoft project - 2
11	Quantitative Research	
12	Practise Presentation - 2	
13	Marketing guest lecturer	
14	Marketing Communications	Presentation - 2
15	Marketing Planning	
16	Final presentation (to external professional marketer and both supervisors)	
17	Submission of WRL assessment	

The last time the module was run, the External Lectures (sessions 3 & 13) were carried out by International Cuisine Ltd, and a one day team building exercise was run by the Tyne & Wear Fire Brigade, following competitive bidding.

It was stated in a previous section (see Main Course: Learning and Teaching Methods) that working in groups (be it with peers, or with external professionals) is a core component of WRL as it permits wider and more open-ended problems to be addressed. In this context, groups can be particularly effective at combining talents and providing innovative solutions to unfamiliar problems, especially in cases where there is no well established approach/procedure. This module provides an example in which the wider skill set and knowledge of the group has a distinct advantage over that of the individual. The group process can lead to a spirit of cooperation, coordination and commonly understood procedures. If this is present within a group of students, then their performance can be highly motivated and enhanced through mutual support.

It was made clear to the students that there were two separate issues involved with working in groups:
- The task - involving solving problems to achieve the requirement of the remit.
- The process - the mechanisms by which the groups operate as a single unit although they consist of a diversity of individuals with differences in knowledge, experience and character.

The module used a group size of five or six students. This enabled the achievement of the required outputs within the cumulative study times of the students for this module, but also meant groups were large enough that they had to achieve a level of internal group organisation to progress successfully. Groups were selected by the module leader to be mixed ability; the students were made aware of this. This ensured that individuals worked with people that they had not worked with before, as a number of students had been on a placement year, and might well have different values and attitudes.

Each group was allocated a supervisor, who was be responsible for monitoring the performance of individuals and the group as a whole, as well as offering advice (as opposed to instructing groups what to do) on all aspects of the project. The time allocated to a group's interaction with the supervisor was limited to a maximum of 12 hours.

In addition to time with the supervisor, the groups also had access to lecturers expert in marketing research methods and in IT. Access for each group was up to a maximum of two hours for each of these specialist areas.

It was required that students had to follow a structured approach to the interactions with the supervisors and specialist experts. Groups had to organise meetings in advance, and in addition:
- Specify how long the meeting would be expected to take.
- Provide an agenda prior to the meeting; this could be done by e-mail.
- Take minutes of the meeting and record them in the group work diary.

In addition to meetings with the supervisor or experts, all group meetings were required to be documented in the work diary in the following manner:
- The setting of a time limit and the preparation of an agenda for group meetings.
- The recording of minutes of the meetings in the group work diary. These were expected to indicate the time spent, any actions agreed and work allocated to specific individuals.

Groups were required to have contact with outside companies or individuals as part of the marketing research. However, all contact with outside bodies had to be discussed and agreed with supervisors and all letters were seen by the supervisor prior to mailing. This was done to ensure that groups did not cause annoyance or irritation to outside bodies, but also to make sure that the contacts students had were carried out in a manner and style appropriate to the professional standards in the sector.

WRL comments: Clearly the marketing project involved in this module is directed towards the hypothetical development of a new food-related product or service. Thus, it is inherently work related for the marketing students who take the module. However, attainment of the project goal could be achieved using a variety of different learning and teaching strategies, many of which might not encompass such a number of WRL outcomes. A number of features have been used in this module to enhance the WRL:

- The emphasis is on process rather than task. This is because the relevance of the emergent learning is not the achievement of the task, but the development of the skills that enable the task to be achieved. The value of this is that the awareness of the skills developed in this module is made apparent to the students, allowing them to employ such skills flexibly in future workplaces.

- The enforced group membership means that new relationships must be developed to ensure effective group functioning. This mimics the cross-functional approach used to develop specific project teams used in many organisations, including the marketing sector.

- The use of a limited input from external speakers brings a certain 'real life' feel to the module. If these external inputs were not present, students might not be so convinced that the scenario was as real as it was suggested. This was further supported by the sponsorship of the module by International Cuisine Ltd.

- The interaction between the groups of students and the supervisors/experts is tightly controlled in the manner of a marketing agency. The pre- and post-organisation surrounding the meetings both ensures the students are clear about the content of the meeting, but also provide an audit trail of the project which is documented in the group diary. Such project-based audit trails are a common approach to ensuring efficiency and accountability in project management. In addition, the students develop an awareness of the "value" of their limited supervision time, and requires them to view interactions in a commercial sense where time is limited or, "time is money".

Assessment

As stated previously, a relatively complex assessment strategy is required to ensure that the Objectives of the module can be securely assessed. The assessment involves a number of different pieces of work, both written and oral presentations. The following table identifies their proportional weighting:

Assessed Item	Description	Value (% of module total)	Submission/ presentation time
Concept	Initial product/service concept (1,000 words maximum).	5	November
Presentation 1	Covering the concept, and secondary research justifying it.	5	November
Presentation 2	Covering planned research strategy, progress to date and future plans.	10	February
Interim report	Research strategy, progress and plans (3,000 words maximum).	10	February
Final report	Full report of project in commercial format (14,000 words maximum).	45	April
Presentation 3	The pitching of the concept to invited external marketer.	15	May
Work related learning	Articulation and reflection on WRL achieved during the module.	10	May

Marks were awarded according to the criteria of: clarity, logical structure, coherence, content, use of information sources and professionalism, with marks being allocated to each category for each individual assessment. This helped make clear to both students and supervisors how marks were to be allocated. These detailed sheets were provided during taught Session 6. The external marker was also given a sheet in the final assessment. Whilst the external marker's views were noted, only the supervisor's marks were actually used in the assessment.

In all the assessments both supervisors marked individually first, with the marks being subsequently averaged before the peer group assessment was applied.

The above assessment scheme was carried out for each group. This means that there would be the possibility for poor/unmotivated students to 'freeload' on the more motivated/able students. Although complaints from poor students are rarely heard(!), good students can complain that their marks are dragged down by others in the groups. To defend against this possibility, and to try to direct credit towards hard working and successful individuals, a process of individual mediation of group marks was carried out.

The overall group mark was mediated to individual marks through two mechanisms:

1 Peer-review within each group regarding individuals' relative contribution to the group performance. All members of each group were required to review their own, and all other contributions from group members. The group mark was then weighted by the mean individual mark. If all individuals are weighted identically, then they all receive the group mark.

2 Module leader's discretion. Under exceptional circumstances, the module leader may adjust an individual's mark by ±10%. This involves taking into account:

   • Individuals' contributions to the group's work, both written and oral.
   • Attendance at plenary meetings.
   • Participation in and performance at presentations.
   • Supervisors' written record of student participation in supervisory meetings.
   • Students' written record, in the form of a work diary, of group dynamics.

These individual mediation processes were explained to the students, and examples of the peer-review weighting methodology were worked through in a taught session with printed examples provided.

WRL comments: The assessment burden might seem quite high, both for the lecturers and the module leader. However, this is a 30 credit module and represents 25% of the final year of the degree programme. In terms of the lecturer's burden, maintaining the group work to the end of the project has a big impact upon the number of scripts to mark, though they are longer than an individual script might be expected to be. Thus, the group work itself can help reduce the assessment burden, although this means that mediation of marks for individual performance must be taken into account.

It is valuable to track back to the WRL Objectives to determine the degree of coupling between them and the various assessments. Most of the Objectives are tightly coupled to the assessment. For example, the production of reports in professional business formats and evidence for time management (Gantt charts and meeting agendas and minutes) are clear indicators of the level of achievement of the Objectives. Other Objectives are less directly assessed through evidence of achievement in particular assessments. For example, direct evidence of working effectively as a team and understanding roles is not collected and fed directly into assessment. However, to succeed in the development, planning and marketing of the concept, all of which are covered in other assessments, the ability to function effectively as a team is required. This outcome is not explicitly addressed, but informed by the achievement of the performative outcomes.

Although attempts to tightly couple Objectives to assessment should be made, in some circumstances such a direct link cannot be achieved practically. For some WRL Objectives, implicit assessment through indirect performative evidence may be necessary. If this is the case, however, the teaching and learning strategy should be designed so that if the WRL outcome is not successfully achieved, then the performative outcome which can be assessed is significantly affected.

Evaluation

The module was assessed through a standard module questionnaire where the highest possible score is five. The main findings were:
- Overall the quality of the module was high (4.6).
- It was interesting (4.9)
- It extended existing knowledge (4.7)
- It developed research and transferable skills (4.6)

Common points which were raised in written comments were:
- Didn't like plenary sessions being timetabled only in the first semester of a two semester module.
- It would have been good to have selected teams using the Belbin test for personal characteristics to choose teams, rather than subsequently.
- The report could have had a higher maximum word count.

However, in light of the generality of the standard module questionnaire and also the significant changes which had been made to the module, a further evaluation was carried out. The main findings of this further evaluation were:
- The practise presentation sessions where the groups evaluated each other's performance were seen as a very useful learning experience.
- The feedback sessions themselves were viewed as beneficial, although the feedback forms were not so highly valued.
- The development of skills (e.g. research, planning, communication etc) was considered very good.
- The majority of students felt that the module had met, or exceeded, their expectations.

WRL comments: It appeared from the evaluation process that the students rated the learning experience as good. It is interesting that the students generally thought that the module met or exceeded their expectations. Quite what their expectations were is not clear, however, the simulated professionalism involved in this project, certainly did not lead to a decrease in motivation or involvement.

Although this module has only started running recently in its present form, it would be valuable to carry out a longitudinal evaluation of the early cohorts, to determine the long term value of this module in the workplace. Certainly, the input from a graduate, working as a Brand Manager at Villa Soft Drinks Ltd, as an external speaker, proved to be very supportive to existing students.

Personal reflection

You have to believe in work-related learning to make it work! As a new member of the department, I discovered a general belief among fellow academics that group work could not be academic. This feeling materialised in a range of different ways. A student representative at a Board of Studies, for example, raised the concern that, *"more able students may be handicapped by working in mixed ability groups"*. When the four groups achieved two firsts and two upper seconds and the External Examiner commented on *"the high quality of the project reports"*, a member of staff queried "'how can there only be four marks for 22 students?"' In overcoming one obstacle, another can appear.

I was fortunate in that I had previous teaching experience as well as extensive HE practitioner experience. This meant I could anticipate and answer criticisms from my academic colleagues with confidence. My experience meant that I knew that this approach was vital whether students would be entering the highly competitive world of marketing or becoming a researcher. I personally have reservations about putting final year students into live company situations as I feel it is difficult to provide equality of experience. This project provides an ideal balance between helping the student to understand how apparently disparate modules actually link together in real life and the developing of new skills they will need in a working environment.

Dessert 2: *Bidding for urban regeneration*

Module: *Policy Implementation and Appraisal*

Duration: *200 hours study*

Level: *Taught postgraduate: MA in Professional Housing Studies/Urban Regeneration & Local Economic Development /Town and Regional Planning*

Institution: *Faculty of Health and Environment, Leeds Metropolitan University*

Module leader: *Jane Kettle*

This postgraduate module involves the development of practical skills in the implementation and appraisal of policy for urban regeneration. The students engage with the process of policy implementation which simulates the approach used by professionals in the real world. Case studies are used to develop this knowledge base and provide students with practical experience.

Context

Policy implementation and appraisal of policy is crucial in the professions associated with the Built Environment. However, the nature of effective evaluation is widely contested. The module *"Policy Implementation and Appraisal"* (PIA) examines the implementation of regeneration, local economic development, housing and planning policies. It emphasises the achievement of practical effectiveness, based on a sound grasp of the conceptual material as a basis for action programmes and of techniques for monitoring and evaluating programmes. The module examines how professionals can translate policies into action and then evaluate their success, including issues of needs identification, funding, partnership, co-ordination and synergy, and managing progress, monitoring and evaluation.

The focus of this module is the achievement of practical effectiveness, based on a sound grasp of the conceptual and material basis for action programmes, including monitoring and evaluation. The PIA module moves from the factual content which forms the basis of the framework for policy implementation to developing practical experience in this area. Visiting speakers, who are engaged in policy implementation and evaluation, are utilised and this is coupled to a project assignment which is based around a real world example using institutionalised evaluation guidelines.

This case study involves all the types of learning associated with the factual content and skill bases (such as evaluation procedures). It then develops the students' experience by using outside speakers to talk about the practical reality; this allows students to gain some conditional insight into how policy implementation works in the real world. Finally, students are required to carry out a simulated real example. This involves the factual knowledge and skill base, builds upon the conditional knowledge gained from external speakers and demands a 'professional' output which demonstrates functional and work related skill in the students.

Aims and Objectives

Aims:

1 To develop a critical awareness of the political, material and organisational context for policy implementation.
2 To critically evaluate a range of approaches to programme monitoring and evaluation, including the application of social, economic and environmental measures.
3 To investigate the mechanisms available for generating resources for policy implementation.

Objectives:

Upon completion of this module students should be able to:

1 Critically understand the roles of key agencies and partners, their operations and the opportunities that they provide.
2 Critically appraise and develop strategies and programme implementation using examples from relevant professional arenas.
3 Appreciate the potential to develop programme funding bids with partners.
4 Recognise and apply qualitative and quantitative measures of need, effectiveness and progress.

WRL comments: The Aims and Objectives appear to be really quite SMART (Specific, Meaningful, Appropriate, Realistic and Testable). The Objectives are directed in a hierarchical way building up factual knowledge through declarative based outcomes (Objective 1 and, in part, Objective 2), to more performative outcomes associated with conditional and functional knowledge. The Objectives fit well into the SOLO taxonomy, delivering a higher level of understanding through the development of linkages between different components.

Teaching and Learning methods

The PIA module represents 200 hours of learning only a minority of which are timetabled for formal contact. The scheduled sessions will take the form of informal lectures, seminars and group work, with visiting speakers and practitioners contributing where appropriate. The workshop and seminars are used to underpin knowledge and understanding. The framework timetable is shown below.

Session (2 hours)	Topic (session type)
1	Module Introduction/Assignment Introduced (Lecture).
2	Evaluation and appraisal in local and regional programmes (Lecture).
3	Resourcing policy programmes (Lecture). Project appraisal in practice A (Seminar + group working on case study).
4	Project appraisal in practice B (Groups work on case study - feedback on groups' conclusions from visiting practitioner).
5	Technical issues in evaluation (Lecture).
6	Local case studies of programme funding (Seminar from local programmes).
7	Joining up the stakeholders (Lecture, with examples of stakeholder involvement).
8	Case studies of programme evaluation - group presentations (Group presentations of case studies, feedback from lecturers).

Experience of the operation of the policy implementation concepts and institutional mechanisms in practice will be gained from:

1 Input from individual speakers engaged in policy implementation and evaluation.
2 A project appraisal case study exercise performed in groups.
3 An individual project evaluation case study assignment.

Open learning packs were provided to complement taught sessions and to provide comparative case study material in addition to personal experiences. These learning packs included detailed descriptions of the Integrated Development Plans for Yorkshire and Humberside Objective 2 Programme Priority 4 (Capturing the Employment Benefits of Diversity).

WRL comments: Although the contact hours are quite low (under 10%) in this module, it does provide a coherent structure to the development of professional competency in policy implementation in the Built Environment. The private study involved in this module is coherently structured through the use of supportive case study material and appraisal forms.

The timetable of the module tracks onto the Kolb cycle. The initial lectures provide the concrete experience which is then reflected on by the students. Their abstract conceptualisation is then promoted through the group work. Subsequently, they are required to make presentations to the visiting practitioner on which they obtain feedback. This concrete experience, with additional supporting lectures, is then built upon by the requirements for the assessment which requires students to reflect, conceptualise and then carry out an individual evaluation project appraisal. Overall, the inherent structure to the module requires students to move twice around the Kolb cycle to achieve a professional level outcome.

ASSESSMENT

The assessment for this module comprises a critical evaluation of a policy making/policy appraisal/implementation process. It is in 3 parts:

1 Executive summary of case study findings (up to 1000 words). This is compulsory but is not marked. It is used to provide the lecturer with feedback on how the individuals are achieving the task and also to share individual student's findings and understanding with the rest of the group.
2 Plenary presentation (20% of the module assessment).
3 A case study report of around 3,500 words in report form, which represents 80% of the module assessment.

The assessment criteria for the plenary presentation report were:

ASSESSMENT CRITERIA: PLENARY PRESENTATION *(20% module)*	
Criteria	Weighting (%)
Assessment of roles of agencies and partners. Critical commentary of management, evaluation and monitoring.	50
Engagement with and synthesis of supplementary material	50

The assessment criteria for the case study report were:

Assessment criteria: case study report *(80% module)*	
Criteria	Weighting (%)
Contextual framework: relating practical examples to appropriate theoretical models and literature.	30
Explanation and assessment of resource and partnership implications.	40
Evaluation and critical assessment of practice.	30

These assessment criteria track onto Objectives 2-4.

WRL comments: The coupling between Objectives and assessment criteria can be clearly identified. This is a key point for all WRL Objectives, that they are clearly coupled to secure assessment. The use of an early stage formative assessment - a short summary of case study findings - provides a useful tool by which the lecturer can evaluate the effectiveness of the module to date, but also provides a forum in which this information can be shared and discussed. It is concluded that, within the confines of the module, a student who successfully completes the module should be professionally competent to implement and appraise an integrated development policy.

Evaluation

The students' evaluation revealed that the PIA module had been interesting and challenging, and that the presence of the evaluator and his commentary were especially useful. It was also felt that the case study assignment was a good method to get to grips with the issues of policy implementation evaluation and appraisal. It provided a useful introduction to the language used by policy practitioners, idea, techniques and vocabulary of evaluation.

Improvements in delivery which were considered were:
• Changing the composition of the groups to provide more discussion around common criteria.
• More contextual material on the origins and nature of integrated development policy verbally in the first session, or through distributed materials / web site.

WRL commentary: A Masters Advisory Forum was held after completion of the module which included students, employers and policy makers. It was generally agreed that this module would develop relevant skills required by professional practitioners. There were, however, some comments from students that the content and case example materials used in this module were of little relevance to them (see discussion in Personal Reflection section below). This is an area of concern as it does raise issues of inter-professional engagement and transferability. Although the learning carried out in this module is specific to the policy implementation in the built environment, it is also of relevance to students of allied disciplines e.g. rural planning. However, it might be that the generic nature of the policy implementation process was not made apparent to the students from satellite courses.

Personal reflection

On reflection, the key issue regarding this module was associated with the perception of relevance of the material to the workplace of students from certain MA programmes. We presumed that a module that focused on the achievement of practical effectiveness, was based on a sound grasp of the conceptual and material basis for action programmes and used techniques for monitoring and evaluating programmes, would provide students with a clear and explicit learning pathway. Given that the students undertaking the module are drawn from the professions of planning, housing, regeneration and local economic development, we mistakenly believed that there would be an understanding of the links both between professions and between theory and practice. This was not the case. Although students were all in employment, the level of responsibilities and knowledge that they brought with them to the module was variable. Some found the concepts difficult to grasp when presented with an assessment brief for an independently carried out but work related assignment. Others, especially the planners, had difficulty thinking outside the box. This is an excerpt from a collective email sent to the module leader from the planning students:

"Following Wednesday's introductory lecture, the MA Town Planners have expressed a concern about the apparent lack of planning content in the above module. There was a general expectation that the module would be focussed on why and how the government/local planning authorities devise, implement and evaluate their planning policies, such as on housing, retail, etc. It would appear, however, that the module is overwhelmingly aimed at the MA Regeneration and Economic Development students. Despite our previous comments, we are disappointed that we have yet again been lumped together with various other courses. This was a major problem in the first semester. We feel that this arrangement is purely a cost saving measure by LMU rather than being driven by academic reasons. Not only are we frustrated at the size of the class but also the lack of focus on planning from our point of view is quite worrying. Since we have only 2 hours of teaching per fortnight, it would not require many additional resources from LMU to provide a planning policy implementation module aimed at planning students to justify our course fees"

As academics we are all fortunate that we have substantial practitioner experience as well as being closely engaged with the education elements of the professional bodies and were able to defend our approach robustly. We, as an academic department, think it is a good idea for all professionals to 'think outside their boxes'. This is a Masters course and part of the critical thinking required to succeed involves leaving the safety of your disciplinary boundaries and seeing the wider picture. Planners have traditionally done this, despite some narrowing tendencies and our courses all require this perspective to be developed. This may get in the way of detailed disciplinary content during contact sessions, but no masters course nowadays attempts to deliver detailed professional content face to face, given that only a minority of allocated study time is taken up with taught sessions.

The previous cohort's evaluation of the full module, carried out after the assessment had taken place, revealed that the appraisal workshops had indeed been interesting and challenging, and it was felt that a case study assignment was a good way to get to grips with the issues of evaluation and appraisal. It provided a useful introduction to practitioners of the language, ideas, techniques and vocabulary of evaluation and this was especially the case for those who had not yet been exposed to this practice.

Our overall feeling is that when students are already working they can be resistant to developing more generic knowledge and understanding (and this is by no means confined to planners, they just happen to be the example here) it is important to devise ways of stressing the value and importance of this type of learning. We will continue to reinforce this and support our students as much as possible to engage with the process.

Coffee and Mints

This final selection identifies and discusses some ongoing issues in the learning and teaching of WRL. These issues are wider than the module delivery level, which is the focus of the rest of the menu. They give you a chance to digest and reflect upon the previous courses, and to think forward as to how you might use WRL in your institution in the future.

Progression

Learning outcomes and associated assessments must be hierarchical in the expected level of student achievement and thus they must track through degree programmes. This requires an overview of all the modules of a degree programme.

This guide has concentrated on planning and implementing individual modules. However, a set of modules must link together to form a coherent and sequential trajectory for the development of knowledge, key skills and WRL. This aspect is important in WRL, partly because WRL Objectives and Assessments need to be very clearly articulated, but also partly because WRL is based on previously developed knowledge and skills. Knowledge and skill bases need to have been developed at a suitable level in prior modules, to allow the conditional and functional nature of performative WRL outcomes to be achieved.

It can be helpful to refer to Bloom's taxonomy of cognitive development (Bloom, 1979). This provides a ready made list of cognitive aspects and associated verbs and suggests a framework for articulating academic level:

- Knowledge - outline, state, define, list.
- Comprehension - review, describe, explain, interpret.
- Application - demonstrate, act a role, illustrate, employ.
- Analysis - investigate, appraise, criticise, differentiate.
- Synthesis - compose, assemble, organise, prepare.
- Evaluation - judge, compare, revise, assess.

In a WRL context, progression might also be reflected in greater independence of support and advice and improving competence (from novice to expert).

Example of progression

Level One (Knowledge)
The student will be able to describe the concept of negotiation as an important tool in work and in everyday life.

Level Two (Application)
The student will be able to demonstrate their understanding of aspects of negotiation through role play activities.

Level Three (Evaluation)
The student will be able to apply different techniques of negotiation to a real problem relevant to their course and compare their relative effectiveness.

Although developing clear and unambiguous learning outcomes can be tricky, it does help make the task of planning assessment much easier in the long run.

Strategic learners

Do students really come to University to learn or to get a degree? It has always been assumed that a considerable amount of learning is required to get a degree. However, students are becoming increasingly adept at maximising their degree classification whilst minimising their learning.

It has undoubtedly been noticed that students do not devour all the relevant books and references available on the shelves of the University library. Although some students occasionally gorge themselves, many just pick and nibble, but all make a choice about what to learn. As part of enhancing learning, it is useful to reflect on what strategy students are following in the way that they choose to engage, or not, with available learning resources.

In many instances the dominant strategy followed by students in engaging with learning is that they feel that it can lead to successful completion of the module; and that means it is all about marks. In modern day HE institutions it seems that *"mark chasing"* by students is an epidemic. A more cynical view of this is that students eat to live rather than living to eat; they see learning as an unfortunate and unpleasant side effect of gaining marks!

This vicious cycle of assessment-driven learning is in part a reflection of the changing culture of students, but is also associated with the pressure to ensure that all outcomes are securely assessed. This ever burgeoning assessment load is increasingly becoming a problem for practitioners. In addition to this, secure assessment of the higher level WRL outcomes can be perceived as adding to this burden. However, a closer look at WRL outcomes can mean that assessment does not necessarily have to be burdensome; in fact they can actually help lighten this load.

It has been noted before that many WRL Objectives are functional in nature. This means that they are at the top of the outcome hierarchy, and formulated from past experiences of declarative, procedural and conditional outcomes. If students are made aware that the Objectives and assessments, and thus marks, are associated with the WRL outcomes, but that to achieve these successfully they need to have developed the declarative, procedural and conditional aspects, then strategic learners will engage with the lower level outcomes. Students will then view lower level outcomes as stepping stones to obtaining good marks at the higher level assessed Objective. Clearly, this needs to be carefully articulated to students and also built into the curriculum design, such that lower level outcomes are a prerequisite to the achievement of higher level Objectives.

It would be possible to develop or modify a module in this coherent way. However, it would be important that formative and/or ipsative assessment is used to ensure that students are achieving certain levels at set stages which will enable them to achieve the higher level WRL Objectives. This can be achieved through the use of formative and ipsative assessment, which can be considerably less of a time burden when compared to summative assessment for the involved practitioners. The final formal summative assessment is then associated with the higher level WRL performative Objectives, in which it could be said that the *"proof is in the pudding"*.

Number and Diversity of students

The increase in number and diversity of students is straining the University system. Traditional approaches lead to increasing burden on practitioners and support staff. A more innovative approach is needed in the learning and teaching environment to meet this challenge.

It cannot escape people's notice that the HE sector is undergoing great change. This is especially the case with regard to the number and diversity of students. Student numbers are growing, and government policy is for this trend to continue. In addition, through various initiatives, including widening participation, universities are becoming available to a wider group of individuals from more diverse class and cultural backgrounds. Clearly, universities will have to keep responding actively to this expanding role.

The increase in student numbers has led many academics to feeling overwhelmed. This is reflected in many ways, from the frantic academic sweating over the photocopier trying to print out 150 copies of a lecture handout, to the multiple repeats of practical classes each week as laboratory facilities cannot support whole-class group sizes. It can sometimes feel that you, as a highly trained and experienced gourmet chef, are reduced to little more than a fast food operative as an overbearing workload prevents you from using more than a small section of your skill set, a demoralising experience.

Clearly, technical advances such as intranet teaching aids and interactive CD-ROMs can help these situations. However, changes in learning and teaching will have to be made if these trends are to continue and teaching standards are to be maintained.

WRL can be a way in which some of these pressures within the university system can be alleviated. Firstly, students these days tend to see a university education not as value in itself but as a stepping stone to 'better' job prospects, probably partly to do with trends in modern culture but, maybe also a reflection of more students from disadvantaged backgrounds who have few family resources to support them after university. Secondly, a lot of WRL involves the use of group work. As long as this is well facilitated by the lecturer, much of the learning can be done in the group itself, without high levels of lecturer input. If group based WRL is used, rather than work based placements, then the problems of finding large numbers of new placements for increasing intake numbers can be alleviated. Thirdly, it has been discussed previously (Desserts: Strategic Learners) that WRL may provide an effective avenue for reducing assessment loads.

Consequently, WRL can both help provide the widening student body with the type of education which is increasingly required, but also help lighten some of the load on the lecturers. However, a cultural willingness to change, and numerous support mechanisms will be needed in many institutions to allow lecturers to upgrade their skill sets to allow them to become effective and interactive educators in a high student number, WRL environment.

Accessible Curricula

Traditional approaches to curriculum design and implementation have implicit barriers to certain people with a disability. HE institutions are legally responsible, and also maybe morally responsible to respond. This means that barrier free teaching must be developed.

Accessible Curricula refers to a way of designing and delivering course materials that is barrier free. That is the materials and delivery are accessible to anyone with a disability, so they receive the same learning experience as their contemporaries. One benefit of this approach is that by making your course accessible for students with disabilities you are making it more user friendly for all students.

Many students will identify at the admissions stage on the UCAS form; the most common disability recorded here is dyslexia. You will be able to liaise with these students easily and discover what their specific requirements are. Remember that the way the condition affects an individual is specific to that person, so ask what they need rather than assume you know.

Some students make the choice not to say anything about their disability, their reasons can be varied and may include a fear or dislike of being stigmatised due to their disability or they may not see their condition as giving rise to learning difficulties.

You can help yourself here by providing students with informal and confidential ways of alerting you to any condition they have which may affect their ability to learn and need appropriate support. There are a number of reasons why making the changes and moving to an accessible curricula are important:

- It is good practice.
- Recent legislation makes it a legal requirement.
- It is morally right to provide equality of opportunity to all.
- Your institution will be committed to widening access and enhancing teaching and learning for all.

If you have barrier free material it will enable all students to access the learning. Students have different learning styles - find out about these then vary the ways you use to present teaching and learning, that way you are likely to cover the learning styles of all your students. Some students may need a more flexible approach to learning which moves away from traditional methods of delivery - try to use a variety of ways of delivering learning to include all the students. Finally some students may think they are not very good at learning - be aware of this and introduce new ways of learning to all students.

The literature and a variety of websites identify practical tips for barrier free teaching strategies, learning materials in both small and large groups. However, it is also important to remember to:

- Look for feedback.
- Keep improving.

After all one day it may be you who has problems hearing or reading small text . . .

Teaching Comes Last

As educators it is easy to get fixated on teaching activities. However, teaching is only the final implementation of a considerable amount of prior design and planning of the curriculum. It is the planning stage, not just the teaching stage, through which educational quality has the potential to be enhanced.

It does seem undeniable that teachers teach, lecturers lecture and cooks cook! Much as the role of lecturer is involved in the academic triad of teaching, research and administration, some proportion of a lecturer's time will be spent involved with teaching students. However, it has been stressed in this guide that teaching is in fact the last thing to think about. Utilisation of the curriculum design model for WRL has suggested that we need to ensure the validity of the module rationale within the degree programme. This is followed by the writing of SMART Aims and Objectives which must be iterated against possible assessments so that they can encompass all the Objectives in a valid and secure way. Only then should we start to think about the teaching activities which could achieve the Objectives.

If we think about a cook in a restaurant, their job does not solely involve cooking. Cooks need to ensure that the recipes consistently work, that suitable produce is available to allow the dish to be made, to ensure that chopping and other preparation has been carried out in a n appropriate manner and the necessary resources are available in the kitchen to make and present the dish to the customer. Only after these aspects have been planned and organised can the cook reach for the skillet and turn the grill on. The same is true of teaching, in that teaching can only take place if there is robustness in the design of the curriculum planned beforehand. Teaching is the structured implementation of this organisation.

Consequently, due to the complexity of WRL outcomes and assessment, these aspects need to be well structured before consideration of the actual teaching is made. For a cook it can be said that as long as the customer is happy with the meal, eats it and pays for it, then the cook's dish has been successful. Such feedback in WRL modules is, however, much more complex, which is why the evaluation strategy needs to reflect this complexity.

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Dine Out on
Work Related Learning

Jeremy Hills, Emma Barron, Paul Freeman, Mike Adey, Gordon Robertson and Robin Murphy