

# The Supervised Work Session: The Workplace in the Lecture Room

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***Abstract:** Most students who undertake MSc programmes of study do so to enhance their careers and prospects of employment. Most employers are interested in students who can show evidence of well-developed Key / Transferable skills such as a willingness to learn, and abilities in team work, oral and written communication, self-management and problem solving. Rapidly increasing student numbers, but without matching increases in resources, make it harder for Universities to satisfy both students and employers.*

*At the University of Portsmouth, UK, within the Department of Information Systems, we have been running a unique method of learning and assessment, called the Supervised Work Session, that meets these demands by presenting a significant problem to be solved collaboratively by the students, working in small groups, within the tight timescale of one day. This provides a reasonable facsimile of a working environment yet with the support, guidance and advice of the tutor.*

*The educational theory supporting Supervised Work Sessions is reviewed, examples of student feedback are cited and discussed and the issues arising from this method of working such as demands on resourcing and future developments are considered.*

*Reference is made to several examples of recent Supervised Work Sessions, and fuller details of some sessions are given in the Appendix.*

*Keywords: Postgraduate; Groupwork; Key skills*

## **Background: The Masters Programme in Information Systems at the University of Portsmouth**

The majority of taught Masters programmes in the UK consist of an intensive course containing, on average, twelve months of teaching and learning, which may be continuous, or spread over a number of academic years. Programmes usually encompass two semesters of teaching, followed by a substantial project. Masters programmes may build on previous experience, such as a first degree or suitable alternative qualification in the appropriate field, or may offer students a complete change of direction, as in the programmes often referred to as 'Conversion' courses.

The Department of Information Systems, at the University of Portsmouth, has been running an Information Technology conversion course since 1983, originally as a Postgraduate

Diploma, and since 1987 as an MSc. Over the years the MSc has been developed and extended, and now consists of a series of programmes that currently includes a number of distinct titles, including Information Systems, Digital Media, Internet Systems Development and Electronic Commerce with Marketing.

Students are admitted to the programme with a wide variety of previous experience. For the general Information Systems programme the aim of the original course was conversion from a diverse first degree experience without formal information technology (IT) qualifications. Now, for the specialist programmes, students are expected to have appropriate IT qualifications. Students considering these MSc programmes therefore have acquired their interest and experience in a variety of ways; some will have a formal computing background whilst others will have had limited exposure to information technology.

A Masters programme used to be regarded as a first step towards further research and a PhD, but the majority of Masters students now view such a course as a vital addition to their CV and an important part of their Continuing Professional Development.

### **Masters programmes - what employers want**

As well as expertise in the area of their degree, employers are interested in students who can show evidence of well-developed Key / Transferable skills such as a willingness to learn, and abilities in team work, oral and written communication, self-management and problem solving. (Harvey & Green, 1994). A simple classification resulted from work by Manniken and Hobrough (2000) who investigated the European perspective of graduate skills and employment, and identified the main categories as; *doing, willing, adapting, working with others* and *learning*. These are shown in more detail in Table 1.

|                            | <b>Category</b>                         | <b>Example</b>   |
|----------------------------|---|--|
| <i>Doing</i>               | Productive and technical qualifications | Professional skills, knowledge and competencies necessary in actual work practice.   |
| <i>Willing</i>             | Motivational                            | Motivation to work, aspiration, loyalty  |
| <i>Adapting</i>            | Adaptive                                | Adaptation to the requirements of discipline, working hours etc; agreement to follow the rules.  |
| <i>Working with others</i> | Socio-cultural                          | Ability to combine one's own skills or the skills of different people, and to use them as a source of learning; communication and working in teams – social competence         |
| <i>Learning</i>            | Innovation                              | Role breaking, abstract thinking, systems thinking; ability to analyse, transform and develop one's own work; continuing learning skills and the development of own expertise. |

Table 1. Desirable Key Skills

### **The Challenge for the teacher**

In any one group of Masters students, the age range may be from 20-60+ years. On a conversion programme, the only reliable assumption about existing student knowledge is that

it is unlikely to be in the subject being studied, but will almost certainly encompass a very wide range of experience. Careful planning by course designers and managers will ensure that the correct building blocks of understanding and knowledge are assembled so that a student has the necessary tools to carry out a project which is generally the culmination of their work. However, students often lack the necessary experience to see how their individual study units will integrate, especially as teaching is usually fast-paced and intensive. Assessments are the tool by which student progress is measured, and studying for examinations, or preparing coursework may narrow, rather than widen, the student's focus.

Thus, here is the challenge - how do we enable students to extend their knowledge and understanding, gain a holistic view of their learning, develop their key skills AND provide a method of assessing their progress?

One method of assessment which we use for postgraduate students in the Department of Information Systems at the University of Portsmouth, UK, is the Supervised Work Session. This is described in some detail later, but firstly we should consider the theoretical basis for our work.

## **What is learning?**

There are almost as many definitions of learning as there are writers about learning. The problem is that it is only possible to observe the *consequences* of learning; the actual *process* can only be inferred.

A process may be a course of action, a method of operation or a series of changes which lead to a product. If learning is considered as an internal process, it leads to speculation about the actual learning experience itself. Kolb (1984, p 32) states that: "Learning is *the* major process of human adaptation" and Bruner (1966, p 72) describes: "...the process that makes possible the establishment of knowledge". Whether such knowledge, which is personal to the learner, is in fact true or correct, is another matter.

If the focus on learning is deliberately widened to encompass aspects such as motivation, activities, and experiences, which are believed to help learning, then learning can be considered as a functional process. Kolb (1984) does this when he defines learning as: "...the process whereby knowledge is created through the transformation of experience." (p 38) and places the emphasis on the repeated transformation process of learning rather than on content or outcomes. His work on experience as the source of learning and development has led to the development of his experiential learning theory, which he describes as: "...a holistic integrative perspective on learning that combines experience, perception, cognition and behaviour." (p 21).

Kolb's model of experiential learning identifies four modes of the learning process, namely, concrete experience, reflective observation, abstract conceptualisation and active experimentation. These are briefly explained in Table 2.

Table 3 gives an overview of different learning environments which Kolb classifies as affectively complex, perceptually complex, symbolically complex and behaviourally complex. Affectively complex learning environments are where the emphasis is on experiencing and practical involvement. Perceptually complex learning environments are concerned primarily with understanding and exploration. Symbolically complex learning environments involve a

search for a best solution, as measured against some external criteria (such as a correct solution or expert opinion) not within the control of the student. Behaviourally complex learning environments encourage the learner to search for a feasible, more pragmatic solution rather than a best solution. Table 2 provides an overview of these learning environments.

| <b>Mode</b>                | <b>Focus</b>  | <b>Emphasis</b>  |
|----------------------------|---|--|
| Concrete experience        | Involvement in experience                           | Feeling as opposed to thinking                               |
| Reflective observation     | Understanding the meaning of ideas and situations   | Understanding as opposed to practical application            |
| Abstract conceptualisation | Using logic, ideas, concepts                        | Thinking as opposed to feeling                               |
| Active experimentation     | Actively influencing people and changing situations | Practical application as opposed to reflective understanding |

Table 2. Overview of Kolb's Learning Modes

| <b>Environment</b>    | <b>Emphasis</b>                                    | <b>Activity</b>   |
|-----------------------|--|---|
| Affectively complex   | Practical involvement in discussion, reflection    | Expression of feelings, values, opinions<br>Discussions with peers or teacher       |
| Perceptually complex  | Understanding of processes                         | View topic from different perspectives<br>Research, collect and collate information |
| Symbolically complex  | Solving a theoretical problem with a best solution | Recall rules, concepts, relationships<br>Use methodologies                          |
| Behaviourally complex | Applying knowledge to a practical problem          | Manage own time, make own decisions and choices                                     |

Table 3. Overview of Kolb's Learning Environments

### **The Supervised Work Session (SWS)**

A Supervised Work Session is a method of assessment used within the Masters programme of the Department of Information Systems that has proved valuable in a variety of situations. Students are presented with a significant problem to solve, usually collaboratively in groups of three or four, over the course of one day, with final submissions due in by the end of the day. This has the benefit of providing a reasonable facsimile of a working environment yet with the support of the tutor, who is available to give guidance and advice as needed.

The major distinguishing feature is that a Supervised Work Session is a form of both assessment **AND** learning that gives students responsibility over their own approach to solving a problem and how they wish to divide the activities. The tutor is normally present

throughout the work session to help with minor problems, to provide general advice and hints, and on rare occasions to intervene in disputes within groups. A SWS may be carried out in small groups or individually, or it may be divided into parts that vary in group size. Group SWS work usually incorporates an element to be carried out individually. The selection of the groups varies - for example, they may be self selected, randomly selected, or the lecturer may choose the groups in advance. Whichever method is used, it has been found to be most beneficial if students are allowed to discuss the various advantages and disadvantages of the different methods of group selection, and to recommend the method they would prefer. This gives them ownership of the solution, and when arrangements do not run as smoothly as they expect, they also learn from reflecting on their earlier conclusions.

There are normally no restrictions about how much students consult text books, lecture notes or other reference materials. Students are allowed to talk to any member of the class (even those in other work groups) to share ideas and compare approaches. The lecturer, and those colleagues helping to manage and run the SWS, is also regarded as an acceptable resource to be consulted as needed. The amount and nature of advice given is at the discretion of the lecturer. Copying (of written material or program code, for example) between groups or individuals that are working on their own is not, however, permitted. In some circumstances, students may be directed to share material, usually via the mechanism of a photocopy of the work (which is produced by the lecturer), if the task requires this degree of collaboration.

The supervised work session (SWS) may be situated in a lecture room or a computer laboratory. However, students are free to move to another room, visit the library or even work in the coffee shop if they feel it beneficial at some point during the session.

| <b>Category</b>            | <b>Example from SWS</b>  |
|----------------------------|--|
| <i>Doing</i>               | The whole emphasis of the SWS is on the real-time synthesis of theoretical and practical work to solve a significant problem.  |
| <i>Willing</i>             | Students know that as much as 50% of their final mark / grade depends on successful completion of the SWS. Therefore the motivation to work well is high.  |
| <i>Adapting</i>            | The time allocated to the SWS is short - 7 hours - and students find that they regularly need to revise their initial plans to cope with the unexpected (eg tasks taking longer than planned, or emerging new ideas suggesting a change of direction).   |
| <i>Working with others</i> | The tasks within the SWS are designed to be too big for a single student to do in the time available. They require a certain amount of parallel working - sub-tasks need to be defined and allocated and regular sharing of ideas and results is essential if the SWS is to be completed within the allotted timespan. |
| <i>Learning</i>            | The intense interaction between students as they analyse the SWS problem(s), discuss alternative solutions and plan and achieve their final submission results in a concentrated learning experience.  |

Table 4. Key Skills and the Supervised Work Session

In general, students are not expected to do any significant preparation for the SWS, other than to ensure that they have reviewed materials from previous lectures and tutorials or seminars and have them available for reference if needed. However, this is not binding, and as numbers have grown, variations have been developed. One such variation is described later, and given in detail in Appendix 1, Example 3, together with examples of other SWSs.

It should be remembered that a SWS is not wholly devoted to assessment, but carries a significant component of learning. The SWS is generally the point in the unit where

theoretical and practical work can be brought together to solve a significant problem. This synthesis is crucial.

If we compare the activities just described with the theoretical aspects given earlier, we can see, in Table 4, how the SWS supports the development of Key Skills described earlier in Table 1.

Kolb's model of experiential learning shown in Table 2 is explicitly mirrored in the cycle of learning that takes place during the SWS as the various modes of learning are revisited. This is shown in more detail in Table 5.

| <b>Mode</b>                | <b>Focus</b>  | <b>SWS</b>   |
|----------------------------|---|--|
| Concrete experience        | Involvement in experience                           | The SWS is a practical session; all students in all groups must participate fully, trying out ideas and communicating results.   |
| Reflective observation     | Understanding the meaning of ideas and situations   | The first stages of the SWS involve thinking about and understanding the problem(s), identifying the relevant strengths of the team members and planning the day. Later, regular sharing of results and further ideas is essential. Many SWS finish with a written individual reflection on the day, and what has been learned. (SWS also encourage the tutor to reflect hard on what has or has not been achieved.) |
| Abstract conceptualisation | Using logic, ideas, concepts                        | A brainstorming session is usually the way students generate and share ideas about how the SWS problem(s) should be solved. A large amount of planning on paper or wallboards takes place and abstract plans are continually revisited and amended during the day.   |
| Active experimentation     | Actively influencing people and changing situations | The essentially practical nature of the SWS demands that ideas are implemented and tested, modified in the light of experience, reviewed and revisited.  |

Table 5. Kolb's Learning Modes and the Supervised Work Session

| <b>Environment</b>    | <b>Emphasis</b>                                    | <b>Activity</b>   |
|-----------------------|--|---|
| Affectively complex   | Practical involvement in discussion, reflection    | The SWS works well when students freely express their feelings, ideas, opinions AND listen to those of others.  |
| Perceptually complex  | Understanding of processes                         | The SWS task(s) require that students view the topic from different perspectives and research, collect and collate information.   |
| Symbolically complex  | Solving a theoretical problem with a best solution | The SWS builds on previous lectures and tutorials so students must recall rules, concepts, relationships, use appropriate methodologies. They also learn to identify the best solution that can be found within the constraints of the SWS and to accept compromises. |
| Behaviourally complex | Applying knowledge to a practical problem          | Time management is usually the biggest problem for students during the SWS, and excellent theoretical solutions may be impossible to implement due to practical constraints. Students learn how to make the best of their skills within the limitations imposed.      |

Table 6. Kolb's Learning Environments and the Supervised Work Session.

If we now reconsider Kolb's learning environments in the context of the SWS, we can see how the individual student will move through all the stages Kolb describes, and will experience the "holistic integrative perspective on learning that combines experience, perception, cognition and behaviour" quoted earlier.

## **The Supervised Work Session and assessment**

The specific aims and desired learning outcomes of the several postgraduate programmes vary in detail from programme to programme. However, generically, these aims are to develop reflective academic skills, and intellectual, analytical and problem-solving skills, and to provide technical knowledge and skills associated with the design and management of various kinds of information systems.

Where the SWS forms part of the assessment of a student, as it does in 18 of the 28 units currently offered within our postgraduate programmes, there is always another assessment component. This is usually a formal unseen, timed examination, at the end of the semester, but variations may occur. For example, in an essentially practically based unit, such as Website Design, students are required to submit an individual portfolio of work done during the semester, as well as participate in the SWS. Other units of a more academic nature, such as Modern Alternative Systems Methodologies, have no SWS; the assessments are based round research and production of reports and papers.

The students follow different pathways through the units available, with different patterns of core units depending on the particular programme being followed, but all students will experience Supervised Work Sessions at some time within their programme. In addition, all students attend common sessions where general aspects of learning are examined. This includes sessions on, for example, reflective thinking, working in groups, peer assessment, and assessment technique, all of which support the work done in a SWS.

For some units, such as Human Computer Interaction, (HCIN) the SWS takes place relatively early, in the seventh or eight week of the semester. In fact, HCIN is usually the first SWS that students encounter, and we recognise that students are learning as much about how to manage an SWS as about how to improve their HCI skills. The SWS is thus used formatively, in that students learn from the experience and have opportunities to apply the knowledge and skills that they have gained to subsequent SWSs as well as within HCIN. In other units, such as those involving complex programming skills, it is more appropriate for the SWS to take place closer to the end of the semester, thus allowing longer time for students to assimilate and practice what they have learned. In this case, the SWS is more summative than formative in style.

The most common format for our written examinations, which last for two hours and are open-book, is for students to be given one or more compulsory questions and a choice of other questions. These questions naturally focus on different learning outcomes as stated within the individual unit descriptions. The strength of the SWS as a method of assessment lies in the way it can encompass all the learning outcomes of a particular unit, from the theoretical to the practical.

Since every SWS is different, the assessment procedures will also differ. However, typically they involve a group submission of a substantive piece of work - often a paper-based analysis and design, with perhaps some beginnings of implementation of solution(s), all of which are

assessed by the tutor against criteria already published to students. Students are given extensive feedback on their work, and generic feedback from previous SWS assessments is freely available. Where peer assessment is involved, clear guidelines are published, discussed and practised if relevant. However, students are often required to draw up their own evaluation criteria as part of the SWS activities, and an important feature of their learning is their reflection and assessment of their own work. Comprehensive guidelines about what is expected are also given in the SWS handouts or previous tutorial sessions as to what constitutes a 'good' piece of work - usually, we place more emphasis on the 'why?' than the 'what?' of the answer. The SWS examples given in the Appendix are synopses only - briefs given to students are much more extensive.

## **Costs and benefits**

Initially, planning and designing a SWS can seem daunting, and it is certainly time-consuming. It is necessary to balance on the fine edge of what students can reasonably achieve within the time allowed (around 7 hours), with the (assumed) knowledge that they should now possess, and with the resources that can be made available. The task(s) must stretch them by building on what they already know, and with a degree of open-ended work that would allow the more able student to attain more. The provision of adequate staff support and resources for a full day is also demanding on infrastructure.

Time spent assessing the work done by the student compares favourably with marking coursework or examinations. It is important to remember that the learning that has been achieved by students is far more important than any artefact that may have been produced during the SWS. Careful structuring of tasks can lead students through some complex thinking, but it may be only the final result that needs to be marked in detail, since other learning objectives may have been achieved in arriving at the final conclusion. Learning from their experiences by evaluating their own or other students' work, and reflecting on what they have achieved, develops high level skills that will enable students to progress faster as they build on what they know.

Key skills are clearly enhanced by this kind of work. A willingness to speak and to listen, to compromise and co-operate, are necessary for successful functioning of a group. Successful time management is the key to success in these exercises and students quickly become aware of this and develop a more acute sense of what is possible, compared with what may be desirable.

Students themselves rarely show wholehearted enjoyment during SWS sessions, though many of them enjoy the challenge of solving a fairly complex problem. The most frequent complaint is lack of time (a useful reminder of real life!), but they usually acknowledge that this is because they spent too long on trivia at the start, when the whole day lay ahead. They rarely consider the tasks impossible to do (which would be a failure on the part of the lecturer, in producing a poorly designed SWS). They frequently observe that if they could repeat the day, they would tackle the problem differently as "...now we know how to do it!" This would suggest that the session had achieved its major objective - learning by doing.

## **Student feedback**

Students rarely see the real importance of Supervised Work Sessions until they are themselves in employment. Equally, it has sometimes proved difficult to convince sceptical colleagues

from other departments of the value of these sessions in view of the high resourcing needed., involving tutors, rooms and, where relevant, equipment for a full day. We receive much anecdotal evidence, including verbal accounts of job interviews with observations such as "We had to work as a group and complete a task - just like a mini-SWS" and "Interviews hold no terrors after doing SWS work - they ask you to do the same things." Informal conversations with previous students, when they are describing their new jobs, frequently include phrases such as "It's like a Supervised Work session - every day!"

In September 2001, we decided to look at SWS feedback more closely. Past MSc students now in employment were emailed, on a very informal basis, asking for feedback on Supervised Work Sessions. The questions asked were:

1. Are Supervised Work sessions a good idea? YES / NO
2. Why? (in not more than 50 words)

Of the 17 responses, 15 were in favour, 1 was against, 1 was undecided. A full transcript of responses is given in Table 4 below, so that readers may better appreciate the 'flavour' of the student response. One comment particularly worth emphasising is, "The world really does seem to work like this". A brief analysis shows that within the responses, there are nine comments about how SWSs enhance groupwork or teamwork and nine references to how realistic the SWS experiences were. Comments also single out the learning aspects and how SWSs help to integrate knowledge and skills. Full details are given in Appendix 2.

## **Conclusions**

Employers expect graduates to bring a wide range of generic key skills to their place of work, as well as the subject-specific knowledge and skills pertaining to their degree. Theories of learning emphasise the need for students to actively engage with their learning, and to experience and reflect on their experience, if they are to develop a secure establishment of their knowledge. We believe that the Supervised Work Session provides a well-established and well-developed means by which students may encounter and benefit from experiential learning, develop their key skills and be better prepared to achieve success in the workplace.

However, issues of resourcing and future development do need consideration.

### **a) Resourcing.**

Supervised Work Sessions are resource-hungry, being demanding of both human and physical resources. They need careful preparation if they are to work successfully, and this is best done by discussion within the group of tutors who are to supervise the SWS. A minimum student:tutor ratio during the SWS day is needed if students are to receive adequate support; we work on a ratio of 15:1 where possible, though this may fluctuate during the day.

Finding rooms of sufficient capacity that are available for a full day is also demanding, especially if there is a need for specialised room such as computer labs. In a recent SWS for 150 students, eleven labs were used, with SWS tasks scheduled to fit in round other classes - a demanding logistical exercise for the lecturer in charge of the SWS.

### **b) Future developments.**

Our original Supervised Work Sessions were conceived and designed when student

numbers were lower and it was rare to have more than twenty students in a session. Now, the numbers may be as high as 150 in some subjects, and managing the assessments without reducing the value that students derive from successful completion of SWSs is more difficult.

One approach is to rearrange the timescale for tasks, so that directed preparation is done before the SWS, and materials produced by the student are then used within the SWS. This is not intended to increase the actual time spent by students on the SWS work, but the in-class time needed can then be reduced to a half-day, and twice as many students can be accommodated within the timetabled session. An illustration of this approach is given in the Appendix in Example 3: Information Systems Analysis and Design.

Another development is the increasing emphasis we are placing on evaluation and reflection. All the examples shown in the Appendix do this. In addition, students may be asked to comment on, and in some cases, use each others solutions, (as in Example 1) and this is proving to be far more 'real world' than any examples which we may produce.

Dealing with these issues is clearly a challenge, but the benefits that students derive from Supervised Work sessions are clear, and the satisfaction that comes from enabling students to succeed is immense.

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## ***Appendix 1: Examples of Supervised Work Sessions***

*Please note that these are synopses only: the briefs given to students are much more extensive.*

### **Example 1 Human Computer Interaction (Semester 1)**

Target population: Students following the conversion Masters course in Information Systems (Core unit: 84 students in 2001)

Timing: Usually during the seventh or eighth week of the semester.

Location: class-room based, though labs are available for research on Internet.

#### ***Scenario***

You and your team have been asked to develop a *Virtual Learning Environment* (VLE) for a college of further education. The VLE will provide a unified web-based interface to a variety of learning resources for a particular unit. Your job in this coursework is to develop a design for the interface. You have to construct a paper-based prototype of the VLE interface that another group can use to evaluate the design. You can use any subject as an example to populate your prototype system.

#### ***The SWS Tasks***

##### **Task A. Research and analysis**

Working in your groups, analyse and research the problem. You may use the text books and notes you have brought to the session and / or the World Wide Web (via the computers in lab MM2) for research.

##### **Task B. Producing a prototype**

Still working in groups and using your analysis, design your prototype on the paper provided. Your prototype should demonstrate the *breadth* of what you are proposing with a few features illustrated in depth. The resulting paper screenshots should be self explanatory, and contain sufficient detail for another group to evaluate your design from them. The paper screen shots will be displayed as a poster and you may include usage instructions. Remember to number pages so that they can be reviewed in the correct sequence by the evaluators. Adapt the enclosed evaluation plan to suit your prototype and produce an evaluation document including evaluator instructions.

##### **Task C. Evaluating another group's prototype**

(a) As Outside Evaluators

Using the evaluator instructions produced by the other group, walk-through the prototype and complete any tasks requested by the designers. Use this experience to produce an evaluation overview of the other group's design.

(b) As Designers

Using the comments and measurements you have recorded from the evaluators of your prototype, write a short report about the issues raised and how you would deal with them. This may be in bullet points or essay style.

**Task D Individual Reflective Report** (this should be done alone, without any discussion between yourselves and any other students)

Prepare an individual report reflecting on your work, the SWS task, and what you have learned from an HCI perspective.

## **Example 2: Engineering Educational Applications (Semester 2)**

Target population: Students following any of the programmes described earlier; conversion students will be expected to have successfully completed their assessments from Semester 1. (Optional Unit, 24 students in 2000)

Timing: Usually during the seventh or eighth week of the semester.

Location: based in Computer Labs

### **Part One** (group)

Using a word processor, create an evaluation checklist of questions / points which can be used to comprehensively evaluate a CAL package for learning effectiveness.

Provide a printed copy of the checklist to be copied (by the tutor for your use in Part Two).

### **Part Two** (group)

Use your checklist to evaluate *at least three packages* from those made available to you.

### **Part Three** (group)

Prepare a report on the quality of your evaluation checklist, using specific examples from your completed checklists to deal with such issues as the suitability of your evaluation points, good software which scored badly, the limitations of using such checklists for evaluating learning design etc. If appropriate, revise or amend your original checklist.

### **Part Four** (individual)

Choose ONE of the packages you have evaluated and write a report describing how you could improve this product by redesigning it or extending it. You should consider any necessary improvements to the interface, mode and style of interaction, content and structure etc. You may find it useful to draw on notes from your course materials concerning instructional design and learning cycles for CAL development and other theoretical aspects, as well as the use of multimedia and other practical issues.

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## **Example 3: Information Systems Analysis and Design**

Target population: Students following the conversion Masters course in Information Systems and the MA in Marketing and eCommerce (Core unit: 150 students in 2001)

Timing: Usually during the eleventh week of the semester.

Location: class-room based.

NB: For this SWS, part time students worked for a full day on the complete SWS. Full time students did preparation in advance and were split into two groups, each of whom worked for one half-day in the classroom.

### **Tasks**

The tasks you have been set are in two parts. For full time students, Part A tasks are to be completed BEFORE the SWS, Part B tasks are to be completed during the SWS and will be given out on the day.

#### **Part A**

(Students are issued with a Case Study on a Company called Flotation Limited.)

You are required to produce part of an analysis and design for an eCommerce system for Flotation Ltd as described in the attached list of tasks and case-study information. Your documentation must use UML notation.

For each member of your group, you must bring a complete photocopied set of your answers to Part A.

## Part B

At the start of the SWS you will be placed in evaluation groups. You must describe your work on Flotation Ltd to others in your evaluation group and then rank each others work in order of merit.

Returning to your working group, review your work on Flotation Ltd. Decide how you could improve your work and provide a critique giving details of strengths and weaknesses and possible improvements.

Working individually, reflect on your contribution to the group and what you have learnt while working on the case study.

## Appendix 2

Table 7: Student Responses to SWS Survey

| <i>Are SWSs a good idea and why?</i> |  |
|--------------------------------------|--|
| Yes                                  | My perspective as an 'oldie' may differ from the younger element. However<br>1) they are fun!<br>2) they bring out team working - a useful exposure to real life as it is<br>3) they encourage self realisation and the ability to recognise one strengths / weaknesses /dependencies on others<br>4) they demonstrate and act out real life IT job scenarios (if prepared properly)<br>I believe a majority of younger students would likely prefer solo 'examinations'. That's what they have been doing, largely, all their scholastic careers - so they are comfortable with it. But if the course is (also) to prepare graduates for industry/business, then those who succeed via SWS will have had some experience of working with others to a common good. |
| Yes                                  | Good opportunity for intensive learning, and realistic pressure.   |
| Yes                                  | Because it is a day exam. It consists of every bit of everything - the practical , the groupwork the time constraint, the individual performance and the report writing.   |
| Yes                                  | Looking back (and I must stress that it is looking BACK) I do think SWSs are a good idea. I was annoyed with them during the MSc because I felt that it was unfair to have my grade dependent on someone else's performance.<br>However, in group discussions the MSc was always criticised for not clarifying the relevance of the material covered AND not showing how the various components (units) fitted together. i.e. how project management affected HCI etc.<br>The SWSs are very good at tying all of the material together. Showing how various techniques or technologies fit together to form a discipline. However, at the time, they do not appear as such.  |
| Yes                                  | Because there is a proper job (which is relevant to the course) to do and a finite time in which to do it. It is much better controlled than going away and doing a piece of coursework. It combines learning with assessment very well.<br>The downside is that it's a bit hit and miss according to the group you have to work with. If you can get the group dynamics right it's an excellent mode of assessment.   |
| Yes                                  | There are many poor souls there who are going to kill me for this: Yes, SWS are a good idea. They may not be hell on earth, but they are hell in the classroom!<br>Why they are worth while: The world really does seem to work like this. I do project based work where a number of different people representing different interests (eg client, suppliers, colleagues etc) with different backgrounds and skills and who don't know each other have to work together to produce a solution to a tight timetable with unclear requirements/goals. The time scale may be different to SWSs (days or weeks as opposed to hours), although the "by-lunchtime" deadline makes unwelcome and frequent appearances!  |
| No / Yes                             | I never really thought they were a good indication of the individual, and in many cases, weak (I remember some who were just plain lazy) students got through assessments on the back of another's hard work.  |

| <i>Are SWSs a good idea and why?</i> |   |
|--------------------------------------|---|
|                                      | SWSs give a good insight in to working life, however, I think given the typical MSc student (on my course at least) they already have that.   |
| Yes                                  | <ol style="list-style-type: none"> <li>1) Getting people working as a team under a certain amount of pressure.</li> <li>2) Applying the knowledge of the taught Module to a problem to increase the persons understanding of the concepts involved.</li> <li>3) Discussion/communication of ideas amongst the group and again increased understanding of the techniques involved and overall understanding of the concepts.</li> <li>4) A good feeling of achievement and relief at the end and overall group bonding down the pub afterwards and further discussions and deliberations of the problems encountered.</li> </ol> |
| Yes                                  | I do think that they are a good idea. They do help to replicate what you are expected to do in the work place. If anything that could be made a bit more realistic, perhaps they could be run more like projects and over a longer period of time   |
| Yes                                  | Yes I think they were invaluable because they helped us to think in alternative ways (with many heads) and gave us a good understanding of teamwork (something that I think all employers want). It also helped to enhance the social learning & feedback aspects of the course. The only SWS I found unhelpful was one where we were given a large individual task with no warning.  |
| Yes                                  | The SWS method was useful because it created an atmosphere where people some of whom didn't know each other, had to work together and that's exactly what has happened in all the projects I have been involved in since I've been working.   |
| Yes                                  | Get used to working in a team under pressured conditions. Learn from each other - find out the areas that other people have knowledge in and so can ask them questions about this area later. Are able to tell employers that you have worked on practical projects rather than just sat exams. Talk to people on the course than you probably never would otherwise.   |
| Yes                                  | They provided experience of working in a "real" project and to often extreme pressure (especially when things went wrong). Most importantly though, they force you to work as part of a team, and this proved excellent preparation for working successfully with others as mistakes can be made and learnt from.   |
| Yes                                  | Simulates the way I work now, small groups to achieve tasks to time   |
| Yes                                  | They are probably the best part of the MSc. The situation is excellent preparation for "real" work and also forces you to learn things quick and get up to speed in order to participate. Far better than an exam with more focus on personal interaction and the group dynamic.  |
| Yes                                  | I think they gave you a real understanding of work situations and conflict resolution. I would definitely keep them as part of the course. In fact I would say they were the most useful bit.   |
| No                                   | Are they supposed to replicate real working conditions? I have yet to be put in a position where I have been asked to perform a task to a strict deadline as a member of a group where there is no clear leadership or guidance and where none of us are really clear on what we are supposed to be doing (not that the questions were not clearly formulated, merely the fact that hardly anyone had a real grasp of the subject matter)   |