

# **EMBEDDING LEARNING TECHNOLOGIES**

## **Handbook for Participants**

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# 1 Introduction

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The Embedding Learning Technologies course seeks to support staff in the process of embedding communications and information technologies (C&IT) into learning and teaching. It is designed both for new staff and for staff with a broad range of experience in using learning technologies (who may be able to gain credit for their previous work).

You may already be using C&IT to help your students learn more effectively and be looking for a professional award that recognises your achievements. Perhaps you are hoping to find like-minded academics at the University of Plymouth and beyond who can share your experience and help you generate new ideas. You may feel you need to update your skills to deal with the new challenges of teaching in higher education, or you may want to specialise in a particularly exciting area of curriculum development. Whatever your goals, the ELT course is designed to offer you relevant opportunities and support.

The course will help you to make informed choices based on an understanding of how students learn. You will explore how a range of technologies can be applied in an educational context, plan and implement changes to a current course or module, evaluate the effectiveness of the technology in context, and reflect on your own practice as a professional teacher in higher education.

Completion of the course is expected to take nine to eighteen months. During this time you will have gathered a portfolio of evidence which you can use to build towards a continuing professional development qualification, for example membership of the Institute for Learning and Teaching or application for a Teaching Fellowship. You will have written a full case study or evaluation report on how the use of learning technologies has impacted on your students' learning experience, and you will be encouraged to explore opportunities for publishing this work or otherwise disseminating it to the academic community.

The ELT course carries 30 Masters-level credits or one module in the Integrated Masters Programme of the School of Graduate Studies in Arts and Education. You can use this module towards a Diploma of Education (four modules) or a Masters of Education (a Diploma plus a dissertation). The course is also recognised by the national EFFECTS consortium (see Appendix A: about the EFFECTS project) and is expected to be adopted by one of the professional bodies in HE to provide a recognised award.

Embedding Learning Technologies is an action learning programme which takes place around a specific project, planned and carried out by you. Some examples of projects to embed C&IT include:

- integrating a computer based learning package into a programme of lectures or seminars;
- introducing open learning activities supported by online resources;
- designing computer assisted assessment activities;
- using video conferencing to facilitate seminars between campuses;
- introducing online seminars and discussion activities using computer conferencing (e.g. FirstClass);
- using the world wide web to publish an archive of student work;
- designing a problem based learning package to supplement tutorials;
- creating a virtual field course or laboratory;
- using email to encourage collaboration and peer support among students at different sites.

You will certainly develop ideas of your own: the technology is evolving all the time, and so are the ways in which it can help students learn more effectively.

## 2 Background and Philosophy

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In 1997 the National Committee of Inquiry into Higher Education (the Dearing Committee) reported that:

*'the innovative exploitation of communications and information technology holds out much promise for improving the quality, flexibility and effectiveness of higher education'.*

In order to ensure that universities live up to this promise, the Committee recommended that:

*'all institutions should, over the medium term, review the changing role of staff as a result of communications and information technology, and ensure that staff and students receive appropriate training and support to enable them to realise its full potential'.*

As an outcome of this same Report, the new Institute for Learning and Teaching will ask academic staff to undertake regular programmes of professional development, such as ELT.

In addition to these external factors, there is an increasing body of evidence that C&IT – appropriately embedded into a programme of student learning – can extend access and enhance the quality of learning for students. Technology advances on an almost daily basis, but educational pioneers are needed to apply these new tools and techniques effectively in a learning context. The Embedding Learning Technologies programme aims to recognise and rewards those pioneers for the work they do, and provide a supportive framework for their development. It will also cascade the work of innovators to a wider body of staff, helping to ensure that the use of C&IT is underpinned by sound educational principles and properly evaluated research.

Because innovation demands more than dedicated individuals, the course team will also use the experience of participants to identify institutional constraints and will work at all levels to overcome them.

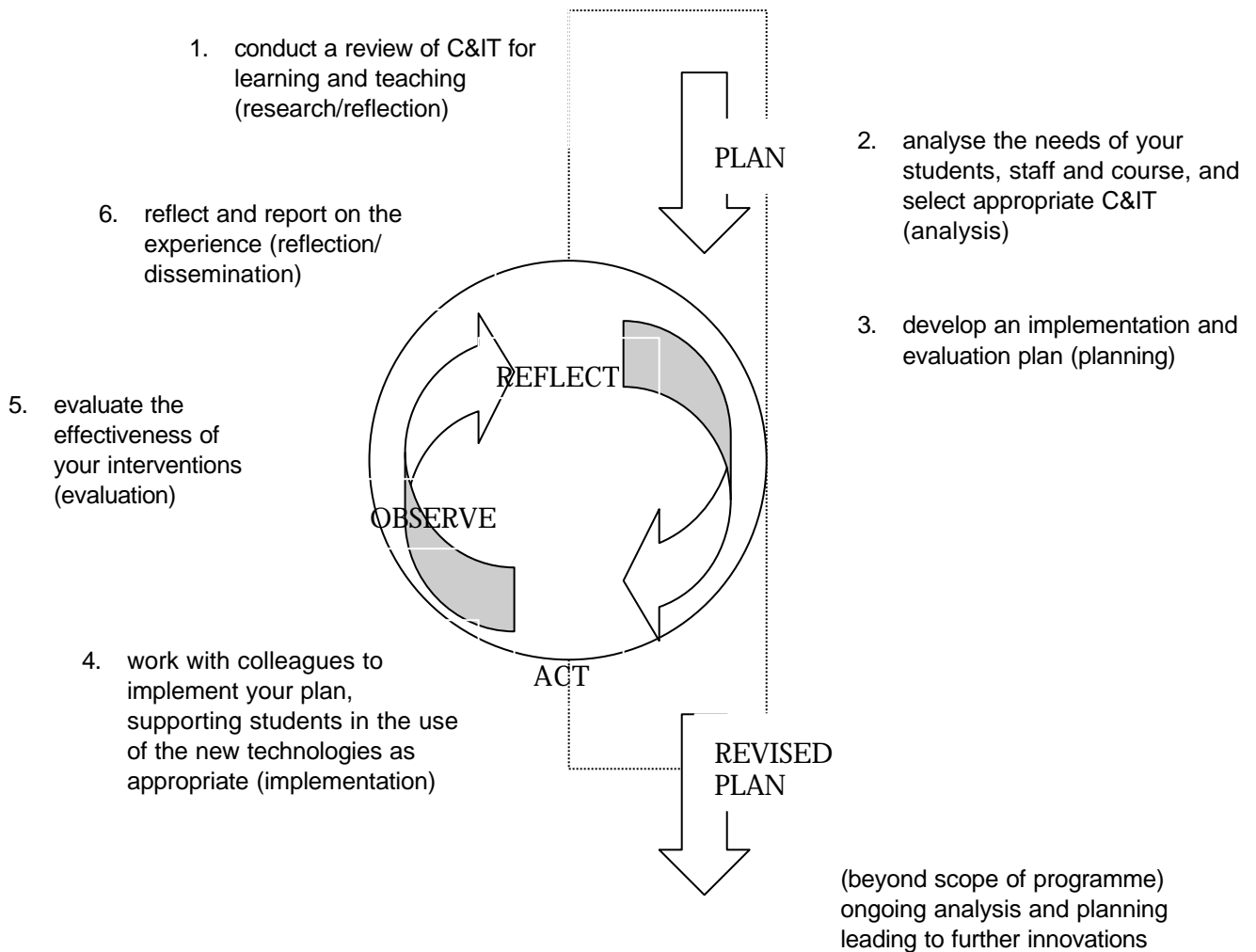
### 2.1 Action Learning

As a busy academic you probably cannot afford to take time off to learn new skills and approaches to teaching. Nor would this necessarily help you to apply your learning in ways which are relevant to your everyday practice. Embedding Learning Technologies takes an **action learning** approach, defined as:

*'a continuous process of learning and reflection, supported by colleagues, with an intention of getting things done. Through action learning individuals learn with and from each other by working on real problems and reflecting on their experiences.'*  
Beatty & McGill (1995)

You will undertake the action learning process by carrying out a genuinely innovative project which will produce tangible benefits not only for you and your students but for your department, institution, and academic colleagues. This is why we ask that you should report your findings to others – perhaps through publication of a case study in an academic journal or by producing a 'how-to' guide for staff in your departmental team. Because we are part of a national consortium, you will also be able to share your experience and outcomes with academics throughout the UK, who will be facing similar 'real problems' in their own professional lives. In this way you will be contributing to a valuable research and development programme focused on academic practice and on finding new ways of 'getting things done'.

An action learning cycle is shown on the next page, with the course mapping onto it (based on McTaggart *et al* (1982), Copyright Deakin University Press)



This action learning cycle maps directly onto the learning outcomes for the course (note the additional outcome 7 which requires reflection about your own skills and learning needs throughout the action learning cycle).

*Participants successfully completing this module will:*

1. *be aware of relevant research and practice in learning technology and be able to critically review and contextualise this literature;*
2. *be able to analyse the opportunities and constraints in using C&IT in a range of learning situations;*
3. *be able to plan or design ...*
4. *... and implement a curriculum development strategy for integrating appropriate C&IT;*
5. *be able to apply a range of evaluation methodologies appropriately;*
6. *be confident in publishing and disseminating their work to a relevant academic community;*
7. *be accustomed to reflect critically on their own practice and be able to review, plan and undertake appropriate actions related to their own continuing professional development*

(From the University of Plymouth module descriptor for ELT – MEd/ED501)

## 3 Aims of the programme

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You should by now have some idea of how the Embedding Learning Technologies course could help you achieve your aims for professional development, and for using C&IT to support student learning. This section describes the general aims of the programme, not all of which will necessarily apply to your situation. If you are unclear about anything in this section, please contact the course team who will be happy to talk to you about your own learning aims.

### 3.1 Who is the programme aimed at?

This course is for you if you are:

- A graduate of the LTHE programme looking to gain a further academic or professional qualification, and/or to pursue an interest in C&IT by scaling up project work for module 503.
- A more experienced lecturer wanting to build a professional development portfolio who sees learning technology as an exciting area of specialism.
- A member of academic staff with experience of embedding C&IT who is looking for professional recognition and ongoing support. (You may wish to apply for AP(E)L in recognition of work you have already undertaken to meet the learning outcomes. Please contact the course team if you would like to discuss this option.)
- Someone who works to move things forward in your own department, looking to enhance your expertise, work with like-minded colleagues, and find new ways of promoting change.
- A learning professional (perhaps a member of library, technical or developmental staff) looking for new skills, a new area of specialism, and/or to gain a professional and educational qualification.

You will probably be a full-time member of staff at the University of Plymouth, but the course will be equally relevant if you are employed part-time or if you work at a partner college or another institution of HE. Please contact the course team if you would like to discuss your personal situation.

### 3.2 Learning objectives

The objectives of the programme are:

- To help participants acquire new skills to meet the changing needs of learners in higher education.
- To develop reflective practitioners with their own professional values and goals.
- To foster a research-based approach to curriculum development with reference to critical and theoretical frameworks.
- To empower participants to act as change agents in their own local context.
- To embed communication and information technologies effectively into a wide range of modules.
- To evaluate and disseminate the outcomes of these interventions.

### 3.3 Learning outcomes

Once you have completed the course you will have:

1. conducted a **review** of C&IT in learning and teaching and shown an understanding of the underlying educational processes;
2. **analysed** opportunities and constraints in using C&IT and selected C&IT appropriate to the learning situation;
3. **designed** learning resources or **planned** learning activities, integrating appropriate C&IT;
4. **implemented** a developed strategy;
5. **evaluated** the impact of the interventions;

6. **disseminated** the findings of the evaluation;

7. reviewed, planned and undertaken appropriate actions related to your own **continuing professional development**.

See Appendix B for the complete learning outcomes and sample evidence.

### 3.4 Professional attributes and skills

On completing the module, you should be able to demonstrate the following professional attributes and skills:

- evaluate alternative approaches and technologies in a range of learning contexts;
- engage with relevant research, best practice and critical communities;
- design, plan and take forward a curriculum development project;
- work effectively with colleagues to identify and overcome difficulties;
- motivate and support others in the development process;
- evaluate progress against stated objectives;
- critique organisational context and work appropriately to promote change;
- communicate your findings and conclusions to a relevant professional audience;
- assess and plan your own professional development needs;
- reflect critically on your own practice, seek feedback and adapt appropriately.

### 3.5 Professional values

The outcomes for the course are focused on the implementation of C&IT and the practical skills you will need to achieve this. However, these skills are underpinned by the same professional values that inform good practice for everyone involved in the learning process. You will be expected to show that you have been guided by these professional values:

- commitment to scholarship in teaching, both generally and in the discipline;
- respect for individual learners and for their development and empowerment;
- commitment to collegiality and effective teamwork;
- commitment to ensuring equality of educational opportunity;
- commitment to continued reflection and consequent improvements to practice.

Early on in the programme you will be asked to complete a Personal Statement explaining your own values, goals and motivation for working to embed C&IT. This will allow you to evaluate the outcomes of your work in relation to your own personal objectives in undertaking it.

## 4 Programme Outline

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### 4.1 Teaching and learning

The ELT course will encourage you to take a student-centred approach to the embedding of learning technologies and the teaching and learning strategies adopted by the course team will model this approach. The programme is based around your own development work, supported by tutorials, online materials and a number of workshops. Workshop sessions will be highly participative with an emphasis on valuing your own experience and responding to the issues you wish to raise. The directed study tasks will relate closely to the learning outcomes and will be designed to help you take forward your curriculum development project.

Workshop sessions will be led by the course team but we aim to include a range of expert speakers, some of whom may come from other institutions. If there is sufficient demand sessions will be repeated on sites other than Plymouth, but in any case materials will be available online to give you flexible access to study. These online materials will be integrated with face-to-face sessions through use of FirstClass, a computer conferencing system, which will help you keep in touch with the rest of the course participants and tutors (see 4.5 Flexible and distance learning).

### 4.2 Programme format

The programme has four stages: preparation, implementation, evaluation and reporting/portfolio building.

#### 4.2.1 Preparation

Once you have registered on the course you will identify the module or teaching activity which will be the subject of your curriculum development project. You will be guided through the writing of an outline project proposal including a start date for implementation (usually the start of teaching). You will also be allocated a course tutor who will meet with you regularly to discuss your progress.

A series of workshops will take place during the summer to introduce some of the critical concepts and frameworks you will need. These will provide plenty of opportunity to discuss your own concerns in relation to your implementation project. For summer 2000 the dates of these workshops are:

*Wednesday 6 September 9:30-12:30  
Plymouth, Babbage 319  
The changing context of student learning*

*Wednesday 13 September 9:30-12:30  
Plymouth, Babbage 319  
Researching and developing your practice*

*Wednesday 20 September 9:30-12:30  
Plymouth, Babbage 319  
Introduction to Embedding Learning Technologies*

Directed study tasks will guide you from your outline project proposal to a concrete implementation plan and evaluation strategy. You will also be asked to complete a Personal Statement of your goals and values which will inform your actions during the implementation phase and will form the basis for evaluation and reflection on your evidence. You will select a personal mentor from your own department or service area.

This period may also involve you in preparing course materials, rewriting and revalidating modules, discussing your proposal with colleagues and piloting the technologies you intend to use with students.

## 4.2.2 Implementation

Once you have begun implementing your project, the focus of support will shift to tutorials and an online learning set. The learning sets will provide opportunities to discuss issues arising from your project work with course tutors and with other participants. You will also have access to online resources from the ELT web site to support your work.

## 4.2.3 Evaluation

During or after the delivery of your restructured module, you will undertake an evaluation of the outcomes for student learning. You will select an appropriate method, collect and analyse data, and draw conclusions about the impact that your use of learning technology has had.

## 4.2.4 Reporting/portfolio building

The final stage of ELT involves you in writing a report or disseminating your findings to colleagues in some other form. This is designed to make your work useful to a wider community of academic practitioners. You will also receive guidance on building a portfolio of evidence which you can use for professional accreditation, though note that you will have been collecting evidence for your portfolio throughout the programme. The format of your final report/portfolio will depend on your own aims and how you choose to be assessed within the Integrated Masters Programme (see Assessment for more details). You will continue to be supported by regular meetings with your course tutor and other participants.

## 4.2.5 Other development opportunities

Throughout the programme, in response to the needs identified by participants, we will run workshops to cover specific techniques and applications of learning technology. Our aim is to make these workshops will be open to all staff of the University, and they will also offer opportunities for you to present your own work to other staff. You will also be encouraged to attend relevant workshops in the current staff development programme and, where appropriate, events offered outside the University.

# 4.3 Learning activities

## 4.3.1 Directed study tasks

The structured activities are intended to help you build evidence for your portfolio. However, other kinds of evidence are entirely acceptable and will help to show that you are approaching your development project in an original and creative way. Examples of the kinds of evidence you can submit are included with each of the learning outcomes below.

## 4.3.2 Learning Plan

Your Learning Plan will help you structure your work around the evidence you need to meet each of the learning outcomes. You will decide, in collaboration with your course tutor:

- what you want to learn and achieve through the ELT course;
- what evidence you will provide to meet each of the learning outcomes;
- what support and resources you will need to meet each outcome successfully and so to embed C&IT effectively into your teaching. This will include any CPD requirements that you may need.

This Learning Plan will be revisited and renegotiated regularly during the course. It allows you to meet the course requirements in a way which suits your learning needs, and it can also be used as evidence towards Outcome 7: *Reviewed, planned and undertaken appropriate actions to meet your own continuing professional development needs.*

## 4.3.3 Learning Log

The module encourages a **reflective practitioner** approach through action learning. This involves learning from daily experience by observing, reflecting, and generalising about the situations and problems encountered, and

developing insight which can then inform your professional practice. Keeping a log of incidents can help inform your own practice and that of others. A Learning Log offers a formal approach to reflection which you may find helpful in conjunction with the Learning Plan. Alternative approaches and aids to reflection are equally acceptable if these work better for you.

#### 4.3.4 Portfolio

The Portfolio is a means of gathering together evidence of your work and your achievement both of the programme's aims and your own personal objectives. It should demonstrate reflection, selection, organisation, progression and what is unique about the work you have undertaken. You may choose to keep this evidence online or in paper format.

You have a lot of choice over your portfolio evidence and the format your portfolio takes. For example, if your aim is to write a very comprehensive final report – perhaps for publication in a learning and teaching journal – this will contain most of the evidence you need and your portfolio will simply map this report onto the learning outcomes. Some suggestions for suitable evidence are given below under the outcome descriptions but please note these are for guidance only. You are encouraged to devise your own alternatives in whatever format and medium you prefer.

### 4.4 Support for participants

The emphasis in this course is on peer support and mentoring, which will help to embed lasting networks of support in the departments and faculties of the University. You will be supported by the following people.

#### 4.4.1 Your course tutor

She or he will be available for one-to-one meetings throughout the programme. Your course tutor will receive and comment on your evidence, provide guidance on project development, and suggest appropriate research sources and references. Your course tutor may be:

**Helen Beetham**, the EFFECTS Development Officer who is directly supporting and developing the course. She has experience of the application of C&IT for teaching and learning and previously worked for the Computers in Teaching Initiative (CTI) editing the journal *Active Learning*. Contact ext 2346 or email [hbeetham@plymouth.ac.uk](mailto:hbeetham@plymouth.ac.uk)

**Paul Bailey**, who managed the University Technology Supported Learning initiative. He has experience in supporting innovation, particularly where this involves communications and information technology. Contact ext: 2346 or email: [P.Bailey-1@plymouth.ac.uk](mailto:P.Bailey-1@plymouth.ac.uk)

**Other members** of the Educational Development team with relevant experience; possibly members of Computer Services staff with specific technical expertise if this is your most pressing requirement.

#### 4.4.2 Your learning set

Colleagues undertaking the ELT programme will be an important source of support and will help you negotiate your own personal objectives. As a group you might identify training needs, organise demonstrations of any learning technologies that are not already provided for you, or share development opportunities outside the University. You might also wish to establish a support team for your particular implementation project which could consist of yourself, technical support staff and your mentor or tutor. The group would support you in the embedding of C&IT into your course and to assist you in day-to-day management of the project.

Other course participants will have a wide range of experience in learning and teaching, and some may be considerably expert in the use of learning technologies. Your learning set may:

review workshops and activities;

- discuss problems arising from current work;
- share ideas arising from current reading or from other professional development activities.
- present work for comment;
- support one another in building portfolios and in writing reports;

- share ideas for publication and dissemination opportunities.

These sessions will be facilitated by members of the course team and will be held online using the First Class computer conferencing system, unless participants are able to meet face to face at a regular time and location.

#### **4.4.3 A mentor**

We encourage you to find a mentor who can act as a sounding board to help you plan and guide your work during the year. Ideally she or he will be someone from your own department or team, with experience in teaching innovation. Your mentor should be someone you trust, someone who knows the situation you work in fairly well and who you are happy to talk to about any difficulties that arise. She or he should be interested in what you are doing, supportive and willing to set aside time to advise you.

### **4.5 Flexible and distance delivery**

The module is designed to help you achieve the learning outcomes by whatever route is most suitable to your own aims, interests, prior commitments and developmental needs. This structure is designed to develop independent reflective practitioners who can plan and progress their own CPD. You will be able to access all the course materials through the world wide web and to discuss issues with your tutor and course group using a computer conferencing system.

The following materials and support will be available online.

#### **4.5.1 Workshop materials**

Powerpoint or html presentations, workshop handouts in pdf format, directed study tasks in Word format to download and complete, references and hyperlinks.

#### **4.5.2 Course documentation**

Whether you want to build an electronic portfolio or simply avoid large amounts of paperwork, all documentation (like this handbook) will be available online in pdf format. Interactive documents such as the Learning Plan, Personal Statement and Learning Log will be available as text (Word 6.0/95) to allow you to build your own digital record of progress.

#### **4.5.3 Discussion groups**

The University's FirstClass system will be used to run a special learning set for the work of ELT. You will be able to submit directed study tasks and other portfolio evidence for discussion by the group, to debate issues arising from a workshop, or to discuss concerns you may have with your project work. This means you do not need to attend face-to-face sessions to benefit from the support of tutors and other course participants.

#### **4.5.4 Access to course tutors**

Course tutors will be available by email and private FirstClass conference if travel to a meetings might present a problem.

## 4.6 Resources

In addition to the resources of the School of Education at Exmouth, you will have access to the extensive resources room of Educational Development Service. This houses a collection of educational books, videos and journals which you can consult or borrow, and several files of resources relevant to the ELT programme. Many items on the reading list have been entered on the *LIBERTAS* library management system so copies can be identified from the library online catalogue available from any networked computer. You will also have access to an online archive of workshop materials and related resources, and in time to a shared online library produced by the consortium members of the EFFECTS project.

## 5 Assessment

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The assessment for this module is by **portfolio**, which must include a **report or case study**.

### 5.1 Portfolio

Using your learning agreement as a guide, you will work towards production of evidence to meet each of the seven learning outcomes. The directed study tasks will enable you to build this evidence as you work (see Appendix B for a list of tasks), but you are encouraged to collect evidence which is relevant to your own objectives and project area (see Appendix A for suggestions under each of the learning outcomes). Your portfolio evidence must include an evaluation report or case study (Outcome 6) which is discussed in more detail below. You must include a mapping document and reflection to explain how the evidence meets each of the outcomes and values. Assessment criteria for all elements of the portfolio are given in Appendix C.

### 5.2 Evaluation report/case study

An Evaluation Report should provide an analysis of the evaluation data you have collected and a summary of your findings. It will also offer conclusions on the educational effectiveness of your interventions and place your findings in context. A Case Study should provide a summary of your objectives, actions and evaluation findings. The exact format of your report or case study will depend on which of the five Integrated Masters Programme assessment tasks you choose to undertake (see below).

Your evaluation report/case study will probably form a substantial part of your portfolio, though there is a template which allows you to build a case study much more quickly (the equivalent of around 2 sides of A4), based on the directed study tasks. Your report may take a number of different forms (see below) but to meet the requirements of the course it should be disseminated in a way which is relevant and useful to your colleagues, whether through a published report, conference presentation or online case study. (There will be opportunities to publish case studies online and via relevant conferences, through our association with the national EFFECTS project).

### 5.3 The five IMP assessment tasks

Taken together, your portfolio evidence and report must meet the assessment criteria for one of the five PGDip Assessment Tasks (see below). You do not have to submit your report separately: it is assessed as an integral part of your portfolio and of your project work. Unless you have specific reasons for choosing alternative tasks (for example to complete the full range of tasks needed for a PGDip) we suggest that you submit the ELT module for Assessment Tasks 3 or 4. It is not necessary to decide at the start of the course which task you intend to carry out, but it may help you to focus on an appropriate format for your report, and appropriate evidence for your portfolio.

The five Assessment Tasks are:

#### 1. Critical review of a body of knowledge

Your final report (Outcome 6) will build on the analysis and review undertaken to meet Outcome 1, which will be quite substantial. Your implementation project and portfolio evidence will provide examples for reference.

#### 2. Data collection and analysis

Your final report (Outcome 6) will develop from the evaluation work you undertook to meet Outcome 5, describing the methodology and placing your findings in context.

#### 3. Developing practice through a project

Your final report (Outcome 6) will take the form of a case study, describing the implementation process (Outcomes 2, 3 and 4) with an analysis of how the project outcomes illustrate new possibilities for practice.

#### 4. Reflecting on practice

Your final report (Outcome 6) will build on your Personal Statement and your reflections on the evidence you present for the other outcomes.

## **5. Making an argument**

Your final report (Outcome 6) will use the findings of the evaluation study (Outcome 5) to extend the analysis and review undertaken to meet Outcome 1.

### **5.4 Reflective documentation**

Reflection is another essential part of the action learning process. The problems you work through and the things you discover in the course of embedding C&IT will be valuable not only for your own professional development but to others in your department and subject area. You will be asked to record and reflect on what happens, ideally through completing a Learning Log which fit closely with your Learning Plan. However, other kinds of reflective documentation could take the form of a diary, reports of meetings with your tutor and key people, reflections on critical incidents in your teaching sessions and so on.

## 6 Suggested Reading

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### 6.1 Key reading

- Conole G and Oliver M (1997) *A Pedagogical Framework for Embedding C&IT into the Curriculum*, ALT-J 6 (2).
- Laurillard D (1993) *Rethinking University Teaching: a framework for the effective use of educational technology*, Routledge
- Maier P, Barnett L, Warren A, Brunner D (2000) *Integrating Technology in Teaching and Learning*, London, Kogan Page
- McKernan J (1996) *Curriculum Action Research* (second edition), London, Kogan Page
- Stoner G (ed) (1996) *Implementing Learning Technology*, Edinburgh, Learning Technology Dissemination Initiative. Updated version available online at <http://ccat.sas.upenn.edu/jod/teachdemo/teachdemo.html>

### 6.2 Selected other texts

- Boyle T (1997), *Design for Multimedia Learning*, Prentice Hall
- Bradbeer J (1996) *Evaluation of Curriculum Development within Higher Education*.
- Brahler C. J et al, (1999) Developing on-line learning materials for higher education: an overview of current issues, *Educational Technology and Society*, 2(2), pp 42-54.
- Daniels J (1998) *Mega-universities and Knowledge Media* (second edition), London, Kogan Page
- Davidson K (1995) *Education in the Internet: Linking theory to Reality*, Ontario Institute for Studies in Education. Updated version available at <http://www.oise.on.ca/~k davidson/cons.html>
- Davis BG (1994) Computers and Multimedia, in *Tools for Teaching*, 334-341, San Francisco, Jossey-Bass
- Forsyth I (1996) *Teaching and Learning Materials and the Internet*, London, Kogan Page
- Fraeters H, Reynolds S, Vanbuel M, (1997), *Learning about Videoconferencing*, Leuven, Leuven University Press
- Goodyear P, et al (2000), *Effective networked learning in higher education: notes and guidelines*, Centre for Studies in Advanced Learning Technology, Lancaster University
- Hall W, Park Woolf B and White S (1999) Interactive systems for learning and teaching, in Furht B (ed) *Handbook of Internet and Multimedia Systems and Applications*, University of Southampton
- Harel I and Papert S (1996), Software Design as a Learning Environment, *Interactive Learning Environments*, 1(1), pp. 1-32.
- Harvey J (ed) (1998), *Evaluation Cookbook*, LTDI
- Hazemi R et al (1998) *The Digital University: Reinventing the Academy*, Springer Verlag
- Jensen R and Sandlin P (1997) *Electronic Teaching and Learning: Trends in Adapting to Hypertext, Hypermedia, and Networks in Higher Education*, Trinity University. Available online at <http://www.trinity.edu/~rjensen/245cont.htm>.
- Jones, R and Wright C (1999), Online Guided Learning, *Educational Technology and Society*, 2(3), pp 115-118.
- King A and Honeybone A (1997) Needs before means: the dialectics of learning and technology, *ALT-J* 4(2)
- Marton F, Hounsell D and Entwistle N (eds) (1997) *The Experience of Learning* (second edition), Edinburgh, Scottish Academic Press
- McClintock R (1995), *Power and Pedagogy: Transforming Education through Information Technology*. Available online at <http://www.ilt.columbia.edu/academic/texts/mcclintock/pp/title.html>
- McConnell D, (1994), *Implementing Computer Supported Cooperative Learning*, London, Kogan Page
- McCormack C and Jones D (1998) *Building a Web-Based Education System*

McLuhan M (1964) *Understanding media: the extensions of man*, New York, McGraw Hill

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## Appendix A: about the EFFECTS project

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### Background

The EFFECTS project came about in response to the demand for professional development opportunities to support staff through the process of integrating new technologies into their work with students. A successful bid to the Teaching and Learning Technology Programme (TLTP) led to the launch of the project in autumn 1998. It will run for three years, in which time it aims to embed the use of C&IT into at least 70 modules across five higher education institutions in the UK. The member institutions are the University of Plymouth (lead site), the University of North London, Oxford Brookes University, the University of Southampton and UMIST.

The aim of TLTP in its third phase is to enhance student learning through the development of new courses and curricula in which digital technologies form an integral part of the learning environment. EFFECTS looks specifically at the needs of staff as they undertake this kind of curriculum development. Because our focus is on student learning, institutional programmes within the EFFECTS framework emphasise pedagogical and developmental issues rather than staff competence in the use of specific applications (though naturally they include opportunities for staff to develop their technical awareness and skills). From the outset, the five members of EFFECTS have been free to develop their own programmes to suit the needs of their staff. What the EFFECTS framework provides is a number of generic learning outcomes, along with opportunities to share expertise among the course team and participants at the member institutions.

### Aims:

The EFFECTS project will:

- embed C&IT into the teaching of a wide range of disciplines in a cost effective manner
- transfer the EFFECTS models of integrating C&IT into five other institutions
- develop a nationally accredited scheme of professional development for staff embedding C&IT
- develop local support frameworks which, with the EFFECTS Professional Development Network, will ensure that:
  - there are effective mechanisms for the dissemination of results of this project
  - there are clear long term cost effective mechanisms for supporting the majority of staff to integrate
  - C&IT into their teaching as an integral part of their professional role

### Objectives:

- Establish an EFFECTS Professional Development Network supported by appropriate C&IT, to encourage the collaboration of staff between participating institutions.
- Share expertise and agree a common methodology and framework for EFFECTS.
- Embed C&IT into the mainstream teaching of 70 modules in the five consortium institutions, supported by institutional professional development programmes.
- Evaluate the success of this integration process and the application of C&IT in these 70 modules.
- Initiate and support similar frameworks in at least five partner institutions.
- Seek accreditation at a national level for a professional development programme in embedding C&IT in the curriculum. This will involve close collaboration with the appropriate national bodies and organisations, including ALT, SEDA, UCoSDA and ILT.
- Work in synergy with the proposed TLTP MELT project concerned with professional development of senior management on the use and applications of C&IT.
- Undertake evaluation of the overarching EFFECTS project, to identify key outcomes and derive strategies for the effective integration of C&IT.

- Disseminate the findings from the 70 transformed modules through subject CTI centres and professional bodies.
- Disseminate the professional development frameworks and methodologies devised and used in the EFFECTS project through the EFFECTS network and associated professional organisations

**Outputs:**

- 70 case studies outlining the integration of C&IT into the project modules
- 70 fully detailed evaluation reports, demonstrating educational and cost effectiveness
- an overarching evaluation report for the EFFECTS project
- tried and tested professional development frameworks and methodologies
- an EFFECTS Professional Development Network for staff using C&IT in teaching
- nationally recognised accreditation for staff who have completed the professional development programmes.

**Outcomes:**

The EFFECTS project will lead to a shift in Higher Education staff culture, reinforcing the professional aspects of the role of the university teacher and valuing those involved in C&IT supported teaching, through a nationally recognised qualification. Hence it will lead to a significant increase in the embedding of C&IT in a range of subject areas, spearheaded by the 70 modules targeted during the project.

Staff completing the professional development programmes will provide:

- an informed group of staff who can act as agents for further integration and development, within both institutions and disciplines
- a self-sustaining support network in the consortium institutions.

## Appendix B: the generic learning outcomes and sample evidence

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Outcome 1: Conducted a review of C&IT in learning and teaching and shown an understanding of the underlying educational processes

***This will include evidence that you have:*** Undertaken research into one or more learning technologies and demonstrated an awareness of their potential use in a range of learning situations

This might involve you in:

- conducting a review of the relevant educational and/or discipline literature
- conducting a review of web sites and online materials
- attending a relevant conference, workshop or other event
- reviewing the use of a specific learning technology (e.g. CAL packages in Biology)
- reviewing technologies which could aid students with special needs
- reviewing technologies to enable flexible access and/or independent learning
- observing someone who is already using learning technologies
- identifying how C&IT impacts upon the experience of learners in a particular setting

You might evidence this outcome with:

- an annotated bibliography of relevant literature and/or online resources
- a report on the potential impact of learning technologies on student learning in your department/faculty/support service
- a review paper with recommendations to the appropriate committee of your department, course or institution
- notes/emails/audio clips from an interview with an expert user of learning technologies
- a set of web pages summarising good practice in use of a particular technology
- observation notes from your investigations
- notes and follow up activities from a relevant staff development event

Outcome 2: Analysed opportunities and constraints in using C&IT and selected C&IT appropriate to the learning situation

***This will include evidence that you have:*** Analysed the learning needs of students and identified appropriate technologies on the basis of educational principles, resource availability and constraints, taking into account discipline-related and local factors

This might involve you in:

- conducting a student needs analysis
- conducting a critical review of a current course to identify strengths and weaknesses
- carrying out an access audit and considering ways of widening access through the use of C&IT
- analysing the learning implications of C&IT policies and provision in your institution
- conducting an audit of C&IT available to your course, programme or department
- evaluating strengths and weaknesses of various applications or resources for use in a specific context
- consulting with appropriate people in the institution (e.g. technical staff) or external bodies (e.g. a CTI Centre) on your choice of learning technology
- running a short pilot with a small group to gauge the suitability of a particular technology
- undertaking a survey of other institutions to establish what is being used effectively in similar context

You might evidence this outcome by:

- a written student needs analysis or audit
- an audio tape of a discussion with a member of your faculty support team
- a report and recommendations to an appropriate committee
- a module outline with suggestions for technology-based improvements
- notes from a discussion with current students and/or staff
- a list of technologies with pros and cons, and conclusions on their suitability
- a flow diagram of the process that someone in your position could follow in order to make a decision
- copies of email communications which demonstrate external advice you have taken

Outcome 3: Designed a learning resource, programme or activity to integrate appropriate C&IT

***This will include evidence that you have:*** *Planned a strategy for (re)structuring a course to integrate appropriate C&IT and/or designed a computer-based learning resource or activity, taking into account pedagogic principles. The strategy or design should include an evaluation plan (see Outcome 5)*

This might involve you in:

- producing a timed plan for development, implementation and evaluation
- analysing the costs in terms of resources, staffing, materials etc.
- making contingency plans to accommodate potential problems
- consulting with appropriate technical and support staff within the institution
- negotiating levels of support and/or bidding for additional resources
- piloting the resources you want to use
- producing and testing a prototype
- planning a staff development workshop for teaching and professional staff working with you
- acting as consultant to a member of academic staff and producing a strategy to help them integrate C&IT effectively

You might evidence this outcome by:

- a project plan including a Gantt chart and resource allocation chart
- minutes of a consultation/briefing meeting to organise different aspects of implementation
- a cost analysis for the project, or a comparative cost analysis showing how a restructured module compares with existing delivery methods
- timetable of computer based learning or assessment activities to be undertaken by students
- formal documentation of course outcomes and assessment strategy
- a session plan for a staff development workshop or student learning activity
- an outline design specification for a computer-based resource
- a reflective diary of your decision-making process in the planning and design stage

Outcome 4: Implemented a developed strategy

***This will include evidence that you have:*** *Demonstrated basic project management and/or team work skills in implementing your strategy. Piloted a course using technology-supported learning. Enabled students to use the learning technologies effectively and supported the learning process as appropriate (eg for academic staff delivered the course and assessed students.)*

This might involve you in:

- delivering and assessing a restructured course
- supporting and facilitating the delivery of a course
- delivering a computer-based learning activity or resource
- moderating online discussions or video conferences
- supporting students in using computer-assisted resources or carrying out computer-based activities
- training students (and staff) in the use of a new technology

- monitoring progress against the project plan and taking measures to ensure completion
- adapting your project plan and/or design in response to new circumstances
- working effectively with other team members to overcome difficulties
- performing support and administrative tasks

You might evidence this outcome by:

- a witness statement from colleague(s) working with you on the project
- a support/training session plan with reflections on its effectiveness
- a project management report
- an observation (with feedback and reflection) of a session involving the use of C&IT
- a video of a session using new technologies with comments and reflections
- sample text from a computer based discussion, web site or interactive CAL application
- extracts from a diary or log, showing your reflections and decisions during implementation

#### Outcome 5: Evaluated impact of the interventions

***This will include evidence that you have:*** Evaluated the impact of the use of learning technology on students and staff. Maintained an awareness of other, related development work and contextualised your findings.

This might involve you in:

- choosing a suitable evaluation method
- documenting and reflecting on the development process
- designing evaluation forms and collecting data from students
- collecting and analysing data from a computer based tracking/logging system
- arranging observations/interviews (self, peer or external evaluator)
- conducting observations of students as they carry out course activities
- organising focus groups and facilitating discussion
- monitoring mailbase lists to find out what others are doing
- reviewing relevant educational/technology literature and relating your own work to current developments
- giving constructive feedback to colleagues

You might evidence this outcome by:

- an evaluation report
- an extract from your diary with notes of your own observations
- a summary of student feedback with your reflective comments
- a video of student interviews or notes from a discussion
- email messages showing how you have discussed developments and acted on the feedback of others
- an evaluation checklist for use in teaching observations or the evaluation of materials
- email messages showing how you have given constructive feedback to others

#### Outcome 6: Disseminated the findings of the evaluation

***This will include evidence that you have:*** Disseminated your experience and findings to colleagues in your department, institution or more widely. Acted as an advocate for the effective use of learning technologies, or contributed to the development of understanding, practice or policy.

This might involve you in:

- including students in the action learning process, keeping them informed about project aims, progress and findings
- writing a case study or article and submitting it for publication
- summarising evaluation data and making it available for public viewing on the web
- giving a lunchtime seminar to your department or institution

- presenting a conference paper or leading a workshop session
- writing a list of 'do's and 'don't's for colleagues implementing similar technology in the future
- sharing your experience via email discussion lists or visits to other departments/institutions
- acting as a consultant or mentor for others

You might evidence this outcome by:

- a PowerPoint presentation from a workshop with feedback and your own reflections
- a conference paper/extract and your reflections
- a case study published on a web site or in a journal
- an evaluation study printed or online
- a consultation paper in which you passed on your experience to a colleague intending to carry out similar developments
- emails from a discussion list or inter-institutional consultation visit
- a witness statement from a colleague for whom you have acted as consultant or mentor

Outcome 7: Reviewed, planned and undertaken appropriate actions related to your own continuing professional development

***This will include evidence that you have:*** Reviewed your needs in relation to embedding C&IT and made an appropriate CPD action plan to meet your individual requirements. Taken appropriate CPD opportunities, reflected on progress and made use of feedback from others.

This might involve you in:

- identifying your training needs using a SWOT analysis and action plan
- arranging appropriate support or attending staff development events
- obtaining relevant software and learning how to use it
- arranging for a demonstration of equipment
- discussing your plans and progress with a learning set
- arranging for someone with relevant expertise to come and talk to you (your department, your learning set)
- organising a discussion list/user group to share experiences
- attending workshops/conferences
- seeking relevant support from colleagues, your tutor and mentor

You might evidence this outcome by:

- records of attendance at workshops with reflections on your learning experience
- a statement from someone who has supported your learning
- notes from a user group meeting or meeting with a mentor
- a set of how-to notes developed from a demonstration/training session you attended
- sample emails from a user group discussion
- pages from your learning log showing continued reflection on your actions and outcomes
- a continuing professional development plan
- written feedback from a colleague/mentor and notes on how you acted on this

## Appendix C: (online) sessions and study tasks

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- 1 **Introduction to learning technologies:** overview of currently available technologies, examples from practice. **Directed study task:** project proposal
- 2 **Learning technologies in context:** national and institutional policy frameworks, philosophies of higher education, the SEDA professional values. **Directed study task:** personal statement
- 3 **Models of student learning:** educational theories and frameworks, research on student learning with C&IT, exemplars and resources. **Directed study task:** annotated bibliography
- 4 **Review of available technologies:** introduction to digital resources, networked communications systems and computer-based tools in education; benefits and constraints. **Directed study tasks:** student needs analysis, SWOT analysis
- 5 **Design of learning programmes:** models of curriculum development, learning objectives and outcomes, the role of assessment. **Directed study task:** revised course/module outline
- 6 **Design of learning resources:** the design and development process, HCI issues, design for active/interactive learning, tools for resource evaluation in relation to learning outcomes. **Directed study task:** outline design for technology based resource OR resource evaluation
- 7 **Widening access through C&IT:** open and distance learning, facilitating independent learning, equal access to learning, designing for equality of access. **Directed study task:** accessibility audit
- 8 **Action research:** features of action research, the action research cycle, identifying objectives. **Directed study task:** Gantt chart or implementation plan.
- 9 **Evaluation:** strategies for data collection, introduction to data analysis, evaluation against objectives. **Directed study task:** evaluation tool(s).
- 10 **Reflecting on practice:** the idea of reflective practice, evaluating evidence, assessment criteria, building a portfolio. **Directed study task:** mapping document
- 11 **Reporting and publication:** examples of good practice, structuring different kinds of report, submission to relevant journals, bibliographies and references. **Directed study task:** report outline OR abstract

Note that only the first session and project proposal are requirements of the course. The remaining sessions and directed study tasks are designed to help you build evidence for your portfolio and to structure your approach to embedding learning technologies. Other forms of evidence and approach are entirely acceptable, providing they are negotiated with your tutor through your learning agreement.

### Additional workshops

Depending on demand from participants, topics might include:

1. Using the Web for learning and teaching
2. Web authoring (tools and techniques)
3. Using email and computer conferencing for groupwork
4. Videoconferencing and broadcast technologies
5. Online learning environments
6. Computer assisted assessment

## Appendix D: assessment criteria

For the Embedding Learning Technology module, **formative** feedback will be given on the construction of portfolios. We would not expect participants to fail on the basis of these portfolio assessment criteria.

| Portfolio criteria   | Pass   | Good Pass   |
|--|--|---|
| 1. Select materials appropriately to provide evidence that you have achieved each of the specified learning outcomes and underpinning values.                              | Evidence is appropriate to learning outcomes.<br>Evidence of selection of materials.   | Inclusion of novel materials not directly generated from directed study tasks.  |
| 2. Organise your portfolio in a clear and appropriate manner, with contents list, mapping document and rationale as to why each item has been included.                    | Sections easily identifiable using e.g. page numbers or colour.<br>Gives rationale to introduce evidence.<br>Evidence mapped onto learning outcomes.   | Portfolio attractively presented and very easy to navigate.<br>Novel presentation.<br>Rationale for inclusion demonstrates appropriate reflection.  |
| 3. Independently evaluate alternative approaches and accurately report on your own work.   | Shows awareness of variety of approaches to embedding learning technologies.<br>Independently evaluates alternative technologies and approaches to teaching and learning.<br>Reports accurately on own work. | Independent background reading used to help evaluate alternatives.<br>Use of additional sources.<br>Depth and range of exploration.   |
| 4. Demonstrate how you have developed new understanding and skills, or built on established ones.  | Evidence of gaining new understanding and skills.<br>Comments on process of development.<br>Willingness to try new tools and techniques.   | Used feedback from other sources to aid development.<br>Revisits evidence after feedback.<br>Makes significant leap in development.   |
| 5. Demonstrate that you are able to use a range of skills, techniques and media and that you are confident and competent in a variety of situations.                       | Evidence provided from a range of learning activities and situations e.g. lectures, one-to-one, seminar work.<br>Evidence of using a range of technologies as a learner.                                     | Confident with a wide variety of teaching situations and technologies.<br>Uses feedback from others to define strengths and weakness in range of skills.<br>Evidence of introducing technology to others (colleagues, students) as a teacher/facilitator. |
| 6. Reflect on your intentions and actions and on the effects of your actions in order to continue to develop your understanding and practice and inform your own learning. | Aware of context and able to transfer learning to new situation.<br>Reflection on action.<br>Can conceptualise the learning process.   | Shows understanding of own learning process.<br>Engages in reflective dialogue with self and others.  |

For the Embedding Learning Technology module ME/ED501, this is a **summative** assessment. If a particular outcome has not been adequately met, participants will not pass. Feedback will be given to help the course member to meet the outcomes. An award of 'good pass' is not made: however, tutors may use the suggestions in this column to guide their feedback.

| Learning Outcomes  | Relevant Directed Study Tasks  | Pass   | Good Pass  |
|--|--|--|--|
| <p>Outcome 1: Conducted a review of C&amp;IT in learning and teaching and shown an understanding of the underlying educational processes</p> <p><b><i>This will include evidence that you have:</i></b> <i>Conducted a review of appropriate learning technologies and their applications and demonstrated an awareness of their use in a range of learning situations</i></p>   | <p>Annotated bibliography</p> <p>Student needs analysis</p>  | <p>Reviewed the use of at least one technology in learning and teaching with reference to appropriate literature.</p> <p>Participated in and reflected on use of C&amp;IT for L&amp;T as a learner, e.g. using FirstClass, Video Conferencing.</p> <p>Commented on the educational processes involved in the use of learning technologies.</p> | <p>Reviewed the use of several technologies with analysis and discussion; reference to a range of sources.</p> <p>Participated in and reflected on use of C&amp;IT for L&amp;T as a teacher e.g. introducing students to FirstClass, studying how best to approach online tutoring.</p> <p>Shown evidence of critical understanding and analysis of educational processes in relation to the use of learning technologies.</p> |
| <p>Outcome 2: Analysed opportunities and constraints in using C&amp;IT and selected C&amp;IT appropriate to the learning situation</p> <p><b><i>This will include evidence that you have:</i></b> <i>Analysed the learning needs of students, carried out an IT audit to identify resource availability and constraints, and identified appropriate technologies on the basis of educational principles and availability, taking into account discipline-related and local factors</i></p> | <p>Annotated bibliography</p> <p>SWOT analysis for use of C&amp;IT in context</p> <p>A new or revised module plan with rationale for embedded C&amp;IT</p> | <p>Selected appropriate C&amp;IT and provided rationale for decision.</p> <p>Explained how student learning will be enhanced.</p>  | <p>Discussed relative advantages and disadvantages of learning technologies in context.</p> <p>Demonstrated how selected C&amp;IT contributes to stated learning objectives.</p> <p>Shown innovative approach to meeting students' learning needs.</p> <p>Demonstrated how technologies could be integrated into a novel learning environment.</p> <p>Developed strategies to overcome constraints in the use of C&amp;IT.</p> |
| <p>Outcome 3: Designed and planned a strategy for integrating appropriate C&amp;IT</p> <p><b><i>This will include evidence that you have:</i></b> <i>Designed and planned a strategy for (re)structuring a course according to pedagogic principles to integrate appropriate C&amp;IT. The strategy should include an evaluation plan (see 5)</i></p>  | <p>Gantt chart/implementation plan</p>   | <p>Produced a module plan which includes C&amp;IT OR designed a computer-based learning resource.</p> <p>Analysed available resources (human and technical).</p> <p>Designed an evaluation strategy which takes into account the response of learners and gives stated objectives and criteria for evaluation.</p>                             | <p>Produced an innovative module plan with integrated C&amp;IT OR designed an innovative learning resource which makes full use of the relevant computer-based medium.</p> <p>Shown how resources will be effectively utilised in pursuit of stated objectives.</p> <p>Designed an evaluation strategy which takes into account a number of different stakeholders, and which uses more than one evaluation approach.</p>      |

|  |   |  |  |
|--|---|--|--|
| <p>Outcome 4: Implemented a developed strategy</p> <p><b>This will include evidence that you have:</b> <i>Demonstrated basic project management and/or team work skills in implementing your strategy. Piloted a course using technology-supported learning. Enabled students to use the learning technologies effectively and supported the learning process as appropriate.</i></p>        | <p>Learning log</p> <p>Critical incident analysis</p> <p>Teaching observation</p> | <p>Provided evidence of implementation with reflection on problems encountered and overcome.</p> <p>Demonstrated competence in facilitating student learning with technology.</p> <p>Included level descriptors and/or guidelines for giving students feedback.</p>        | <p>Shown inventiveness in identifying novel solutions to problems and bringing people together in new ways.</p> <p>Demonstrated effectiveness and imagination in supporting student learning with technology.</p> <p>Provided evidence of ongoing modification to the delivery plan as a result of reflection on outcomes.</p>                 |
| <p>Outcome 5: Evaluated impact of the interventions</p> <p><b>This will include evidence that you have:</b> <i>Evaluated the impact of the incorporation of technology on students and colleagues, Maintained an awareness of other, related development work and contextualised your findings.</i></p>  | <p>Evaluation tools</p>   | <p>Chosen an appropriate data collection method.</p> <p>Included evaluation tools and an account of their application.</p> <p>Findings summarised with suggestions for future changes to practice.</p>   | <p>Evidence of selection from a range of possible data collection and analysis methods.</p> <p>Analysis of evaluation findings with reference to other studies in the literature.</p> <p>Revised implementation plan taking into account evaluation findings.</p> <p>Reflection on evaluation methodology and suggestions for improvement.</p> |
| <p>Outcome 6: Disseminated the findings of the evaluation</p> <p><b>This will include evidence that you have:</b> <i>Provided feedback for students and colleagues and disseminated experience and findings to department or more widely</i></p>   | <p>Case study/report</p>  | <p>Final report/dissemination activity is an accurate account of the work undertaken.</p> <p>Final report/dissemination activity is suitable and relevant to intended audience</p> <p>Meets IMP assessment criteria relevant to assessment task of choice (see below).</p> | <p>Case study published or publishable in academic journal OR conference presentation with feedback.</p> <p>Evidence of networking, contact building or other organisational effort to promote sharing of experience outside the institution.</p>  |
| <p>Outcome 7: Reviewed, planned and undertaken appropriate actions related to own CPD</p> <p><b>This will include evidence that you have:</b> <i>Reviewed your needs in relation to embedding C&amp;IT and made an appropriate CPD action plan to meet your individual requirements. Undertaken your own CPD and shown how you have incorporated this into your implementation plan.</i></p> | <p>Learning plan</p> <p>Record of CPD activities eg attendance at workshops</p>   | <p>Evidence of CPD planning to meet personal and professional objectives.</p> <p>Evidence of personal development activities through attendance at workshops, training days or undertaking self-study.</p>   | <p>Evidence of reflection on personal and professional development in the course of implementation.</p> <p>Planning for future CPD.</p>  |

## IMP assessment criteria

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In completing your portfolio and final report you must choose to carry out one of the following assessment tasks, defined by the Integrated Masters Programme of the School of Graduate Studies in Arts and Education. You need not decide which task you will be carrying out until you have completed, or substantially completed, the Embedding Learning Technologies module. However, deciding early on which task suits you best, and therefore which assessment criteria you will be working towards, will help to ensure that you build appropriate evidence and do not waste effort meeting the requirements of other tasks. Unless you have specific reasons for choosing another task (e.g. because you have already completed these Tasks in submitting another IMP module for assessment) it is suggested that you submit your ELT work for Tasks 3 or 4.

What follows is taken from the student handbook of the Integrated Masters Programme. This is available online at <http://www.fae.plym.ac.uk/Postgrad/IMP%20Mod/handboo.htm>. Note that because students on this programme come from a wide range of educational and arts backgrounds, many of the examples will not be relevant. Please ask your tutor if you have any questions about how the IMP tasks relate to the ELT course.

### **1. Critical Review of a Corpus or Body of Knowledge**

In the context of our Programme, which spans such a range of different subjects and concerns, 'knowledge' may be seen as embodied in literature on the subject, in artefact, in performance, or in integrated combinations of these. The definition and justification of what constitutes an appropriate 'body of knowledge' for the selected topic is an important element in you demonstrating mastery of this Task.

The principal purpose of a review of a corpus or body of knowledge is to establish the nature and origins of the insights which have informed others' work on it; to decide upon the validity of such insights; and to identify aspects to be further explored, or hypotheses to be tested, or important research questions to be posed. This is why it is such an important ability to master before undertaking the Masters Project or Dissertation. The assignment will be judged upon your ability to select, summarise, compare and evaluate the material, and to identify appropriate conclusions or implications.

It is therefore likely that, in order to undertake this Task satisfactorily, you:

- will show familiarity at first hand with key writings, artefacts or performances relevant to the subject - sources may include books, journals, slide libraries, archives, exhibitions and catalogues, performance reviews, scripts and scores
- will ensure that your review of the body of knowledge includes up-to-date material and goes back as far as is appropriate for the subject (e.g. material on education management dating from before, say, 1982 may well be inappropriate, whilst material dating from the 1920's on the development of children's drawing may be highly relevant)
- will identify any limitations in the range of material you have been able to review, whether arising from the absence of such material, from the inadequacies of available Library or other provision or from time constraints
- will be selective in order to identify and delineate the variety of theoretical positions on the subject to be found in the chosen material, demonstrating strengths and weaknesses of each and identifying where they contradict or agree with each other, and where you yourself agree or disagree
- will indicate what appears to be an agreed position on the subject, or, alternatively, indicate the range of divergence of opinion and the lack of consensus.

### **2. Data Collection and Analysis.**

A data collection assignment is not simply a matter of accumulating a quantity of data. Nor does it necessarily require a large sample, or demand the use and statistical analysis of questionnaires and similar techniques. It can be as small as the observation and analysis of two children's learning difficulties, or the identification and analysis of the history of site-specific sculpture in a particular urban locality.

What it does do, in preparing you to undertake a Masters Project or Dissertation, is to focus attention upon the prior decisions that you need to make in order to ensure that any data collected, and the methods used to collect it, will be appropriate and will meet the purpose of your study. You therefore need to be very clear about the type of approach appropriate to your purpose.

Your approach may be *logico-deductive*. In such an approach you will use your understanding of existing theory to generate specific hypotheses about the chosen situation. and then set out to test them by appropriate methods. But your approach may be *inductive*. You will start by observing a meaningful situation and then speculate about these observations in order to construct a tentative "theory" and some resulting broad hypotheses. You may then use these as the basis for collecting more data which enables you to further refine your ideas in order to arrive at a more "grounded" and so more useful theory, from which you may drive implications for your practice.

Whichever approach is adopted, it is likely that, in order to undertake this Task satisfactorily, you:

- will clarify, either with reference to reading on the theoretical background to the topic or through a critical analysis of the situation being investigated, or both, the purpose for which the data is to be collected
- will explain the nature of such data and its suitability for the purpose, and will establish criteria for its selection, showing clearly how these related to the defined purpose
- will identify the chosen methods of collecting, recording and analysing the data and will subject them to critical scrutiny in order to demonstrate how such recording and analysis will service the purpose of the study
- will analyse the data appropriately and present findings and conclusions clearly.

### **3. Developing Practice through a Project**

For many of you working towards a Masters degree in the Programme, your study will be grounded in professional/vocational practice, and the subjects which you tackle will be based in your work context. One important aspect of such study will therefore be that of undertaking a project in which you show the ability to apply your growing insights to a specific issue or practical problem, and which service to enhance your practice. Such a project will always have some clear goal beyond the straightforward accumulation of knowledge.

This enhancement may in some cases be substantially in terms of increased depth and quality of practice, of an art, or a therapeutic or educational approach, or an academic ability. In other cases such enhancement procedures, or a longitudinal study of children's learning. If this is so, it is acceptable for your assignment to address the design of the Project, without necessarily carrying out the full study.

It is therefore likely that, in order to undertake this Task satisfactorily, you:

- will identify a project, of worth and relevance to your personal situation, with defined aims and objectives, of a manageable scale within an agreed time frame
- will locate the project within an appropriate conceptual, historical and critical framework
- will identify the trajectory of the project's development and, wherever appropriate, will indicate any problems that may be encountered, suggesting, where possible, strategies for overcoming or minimising them
- will design and justify an appropriate method or combination of methods for presenting the project for assessment.

### **4. Reflecting on Practice**

A strong element of any personal, professional or vocational development must be that you look carefully at what you do and engage in critical reflection upon it, analysing your experience, taking account of perspectives other than your own, and sharpening your awareness of any illogicalities in your thinking and of any inconsistencies and discrepancies between your expressed intentions and what you actually do.

It has long been recognised that the disciplines of conventional academic study can be very powerful in developing the capacity for and the effectiveness of such critical reflection and analysis. It is increasingly

acknowledged also that critical reflection upon practice in a wide variety of fields, such as the Arts and Design, or Education, can be equally powerful and valid in terms of postgraduate study, as well as often demonstrating increased depth and quality of practice. It is such reflection which is the focus of this Task.

It is likely that in order to undertake this Task satisfactorily, you:

- will identify and define the chosen area of development of your practice in relation to theoretical and other contexts/frameworks/references
- will produce evidence of the nature and quality of your personal engagement
- will give evidence of systematic and critical reflection upon and analysis of your practice, including consideration of the nature, boundaries/definitions of the activity in question and of motives, causes and influences contributing to a particular development
- will demonstrate, where appropriate, the ability to synthesise and to identify new and imaginative connections
- will illuminate the development of your awareness, identity and personal philosophy through appropriate methods (e.g. reflective commentary, journals, working notebooks, sequences or work, audio/videotapes, working with a 'critical friend').

### ***5. Making an Argument***

For many of you an appropriate format for this assignment will be familiar - that of the conventional 'essay'. But an argument can be made in a variety of formats, and the demands of some modules, and the trajectory of your personal study, may well lead to different types of presentation. However, in order to demonstrate functioning at Masters level in making your argument and to undertake this Task satisfactorily, you:

- will identify clearly the worthwhile topic you are setting out to explore, the problematic issues you are going to consider and, if appropriate, the position you are going to take
- will analyse ideas and evidence drawn from a variety of sources (including yourself), select critically from them and synthesise them into a coherent whole
- will show that you are aware of alternative arguments or positions (without necessarily explaining or arguing them fully)
- will draw your own inferences from the material you have synthesised and, where appropriate, identify the implications
- will make points clearly and concisely, indicating their place in the structure of argument.