The costs of alternative modes of delivery:

Technical appendices

A study for HEFCE by JM Consulting Ltd

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Contents

1 E-learning

1.1 E-learning is defined for this study as courses where the majority of teaching and learning and student support is undertaken through interactive internet and computer technologies to off-campus students. It did not include blended learning.

1.2 The e-learning programmes studied were modules within a programme, stand-alone modules/certificates, or, more rarely, whole programmes.

1.3 This appendix provides firstly an explanation of the type of e-learning provision in the sector – its size, the development of e-learning programmes and virtual learning environments (VLEs), staff training and development. It continues with a review of the key cost drivers of e-learning (which significantly depend upon the pedagogy used). Summaries are then provided of the differentials from the sample of programmes studied.

Size of provision in the sector

1.4 The HEFCE survey of off-campus learning and teaching in October 2002 showed that 38 out of 86 institutions offered e-learning provision as an off-campus mode of delivery. Excluding two providers with fewer than 2 students each, the 36 institutions comprise 42% of the sector.

1.5 30 institutions (35% of the sector) provided e-learning to HEFCE-funded students. The size of their cohorts (in FTEs) is shown below.

Number of FTE students funded by HEFCE	Number of institutions
14 or under	12
15-100	13
101-200	4
201-300	0
301-400	0
401-500	0
501+	1
	30

1.6 These FTE students represented 9,227 students (headcount). Of this the Open University (OU) accounted for 5,770 students (headcount). The remaining 3,457 students (headcount) were spread thinly across remaining providers – an average of 99 students (headcount) per institution – not per degree programme, or even per module.

1.7 Institutions had very different pictures of anticipated growth over the next five years. (See table below.)

Planned growth (in student numbers)	Number of institutions	% of institutions responding
Of those currently offering provision in this area:		
none	21	24%
<20%	12	14%
20 to 50%	14	16%
'>50%	10	12%
"Significant"	4	5%
Institutions intending to start provision in this area:		
<100 students p.a.	17	20%
>100 students p.a.	8	9%
Total number responding to the survey	86	

1.8 Growth is more likely to be in blended learning – using information and communications technology (ICT) to support on-campus teaching. For example, one institution at the forefront of implementing their VLE (e-learning is used to support more than 40% of their modules) explained that this provision, and the current growth in it, was to facilitate learning and teaching, not to replace it. E-learning use could consist of content, links to resources, or provide a means of communication (discussion groups). This was leading to a reduction in tutorial time in a few programmes, although there was no significant transfer of delivery from face-to-face to e-learning. E-learning was, however, felt to enhance face-to-face delivery to a significant degree. We discuss this in more detail below.

The development of e-learning programmes

1.9 E-learning seems to have developed from four main sources:

- enthusiastic and/or IT-literate academics who have developed e-learning materials (and a local e-learning environment, preceding the university's VLE);
- academics who have prepared materials on a distance learning (paper-based) mode, increasingly supported through emails etc, who are now converting the module or programme to e-learning materials;

- institutional initiatives to develop e-learning programmes, often in parallel with their own VLE, but more often spear-headed by external alliances and platforms such as that available from Ufi, UK eUniversities Worldwide, and others such as NextEd (Global Universities Alliance). Enthusiastic academics with less IT expertise are being supported by institutional funding and (emerging) institutional e-learning pedagogical and technical support units. Although the main focus of these has tended to be on overseas markets, home markets seem to be growing faster;
- other academics who are used to working with students at a distance (e.g. clinical placements) who are seeking more flexible modes of delivering to large cohorts, and introducing new multi-professional agendas. Similarly, academics working with new types of student in foundation degrees where e-learning complements their workplace learning/employment:

> For many of us, the initial investment of time and money in on-line learning was made without any investment appraisal. This is neither that unusual nor that surprising. Much of what we have been doing in on-line learning has been in the nature of the experimental and the relatively small-scale. It has been a legitimate research and development activity.
>
> Rumble (1999a)[1]

1.10 There are models outside this, and some very successful operations have arisen from academic research units focusing on e-learning and distance learning in HE. The Centre for Educational Technology and Distance Learning at Birmingham University provides one example.

1.11 There is no doubt that e-learning as part of mixed modes of delivery to on-campus students will increase. Many of our case study institutions were actively engaged in major projects to implement a VLE across their campus, and the increased use of this will lead to modules produced solely by e-learning. This does not mean that whole programmes are likely to be delivered by this method to cohorts who are currently being taught on-campus.

1.12 A significant expansion in off-campus e-learning in the short term appears less likely. The depth of academic expertise is not there yet and neither is the ICT infrastructure to support it. In addition, there is insufficient market knowledge about potential student cohorts. As Rumble (1999b)[2] claims:

> One reason why we may be concerned about developing the business case [for mass on-line education] is that there are fears that on-line learning is not going to deliver the economies of scale that first and second generation distance education has delivered.

Nor have the recent failures of a number of e-learning ventures in the USA (for example, Fathom, Columbia University; NYU Online, Virtual Temple, University of Maryland University College Online)[3] helped to increase confidence.

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[1] Rumble, G. (1999a) *What we Have Learnt About the Costs of On-Line Learning,* Conference paper.
[2] Rumble, G. (1999b) *The Costs and Economics of Open and Distance Learning,* London, Kogan Page.
[3] See *Breaking News* article, 13 January 2003.

1.13 Although some distance-learning courses have been, and are being, transferred to e-learning, this is unlikely to be a comprehensive move, at least for several years. As the University of London External System found:

> (We have) carried out a survey of its students and asked whether they wish the preponderance of learning materials to be "E" systems or traditional hard copy. The overwhelming response was in favour of traditional hard copy. This is not surprising as on-line delivery of materials will pass a significant financial cost onto the student and can be unreliable internationally owing to bandwidth problems.

1.14 The pedagogic case for e-learning, as much as the business case, needs "good stories". Developments in many science and vocational subjects are likely to be particularly slow. Students are considered to need face-to-face laboratory work; the case for simulations is not accepted by all academics, or even made for some applications.

1.15 We have identified a number of constraints that are inhibiting the expansion of e-learning. Institutional vision (with a clear strategy, support from senior management, and engagement of the heads of schools) is a pre-requisite. For any one programme, identification of the market will be key. Acceptance of the pedagogic soundness is probably now being successfully addressed as e-learning increases in use. More specifically, constraints include:

- the availability of funding for staff time to develop the materials;
- access to expertise and good practice in learning support and guidance in e-learning (with perhaps recognition of the role of e-learning in blended programmes – different models for different types of student and disciplines);
- workload allocation models that recognise the time required to support these students, in a way that does not require counting "face-to-face contact" time;
- staff training;
- educational development and technical support;
- a VLE that is effective for off-campus students, with technical support resolved;
- administration systems that work for off-campus students; and e-learning systems that work as well for on-campus students.

We cover these points further below.

1.16 This study assumes that all conventional delivery has access to and uses a robust VLE (e.g. Blackboard or WebCT). This is not the case at the moment, but many institutions that we spoke to were introducing these systems and had comprehensive plans for a full roll-out in the next three years or so.

1.17 VLE refers to the components in which learners and tutors participate in on-line interactions of various kinds including on-line learning. A VLE offers an e-learning environment; which is of course a pre-requisite for the provision of e-learning. A managed learning environment (MLE) includes the whole range of information systems and processes of the institution, including the VLE if it has one, that contribute directly or indirectly to learning and learning management.[4]

1.18 We have identified five stages in the introduction of a VLE, which are outlined in the table below.

Stages of introduction	**Pre-requisites**
I Communications Email	
II Isolated Stand-alone programmes	• interested academics • department servers and systems • (little centre involvement)
III Bolt-on (supports teaching) bulletin boards, resource links, websites duplication of teaching material	• academic training and IT support • easy for academics to load material and to use in lecture/seminar room • technical support to produce animations and streaming (to make it interesting)
IV Integrated (supports learning) mandatory access by students pre-lecture material good e-library/resource links discussion forums occasional e-learning module	• easy for students to access individually and in groups, on and off campus • restructured administrative systems and processes to support e-learning
V Partial replacement (new mode of teaching) pedagogically restructured materials chat rooms formulative feedback	• pedagogical support to change curriculum • different staffing and processes to support delivery • less face-to-face in seminar and lecture rooms
new approaches to practical subjects: e.g. simulations	• less face-to-face in laboratories

1.19 In our conventional model of teaching, we have assumed that institutions are around stage III across the institution (on-campus) and at stage V in terms of their e-learning programmes.

1.20 Most institutions are probably around stages I or II. The costs, and change management involved, of extending current IT laboratories/emails/on-line library provision, to a fully-developed VLE, are significant. Departments currently offering e-learning therefore have tended to introduce their own software (often pre-dating VLEs), their own file servers and IT support etc, and their own templates/protocols/pedagogic strategies for e-learning.

[4] These definitions have been taken from the JISC's *Introducing MLEs and VLEs,* which can be found at the following web address http://www.jisc.ac.uk/mle/reps/briefings/bp0.html

1.21 Many institutions are working to introduce VLEs to stage IV. Our assumption that a VLE is currently present is therefore a reasonable one, giving the elapsed timing of any policy action following this study. It is also necessary to assume that these are in place, as it would be inappropriate for the (small scale) e-learning programmes to bear the significant cost of their introduction. Where e-learning modules are currently provided by departments on departments' own stand-alone systems, the costs of introducing these systems, or any additional costs of providing these departmental platforms, have not been included here. There may be a cost of conversion to the emerging university-wide system in due course – again this has not been included in the differentials between conventional and e-learning courses.

1.22 However, where programmes are delivered on an external platform, then the direct costs to the university have been included in the differential. For example:

- Ufi hub models have offered an MLE "learning support environment" which is used by several institutions for their off-campus communications framework;
- alliances such as the Global Universities Alliance use platforms provided by commercial providers (in this case, NextED);
- some institutions are in discussions with UK eUniversities Worldwide (UKeu).

1.23 These costs would typically include the costs of making the programmes available on the platform, some publicity and marketing to potential students, the use of the brand-name, some technical support, as well as the actual accessing of the programmes by the student.

1.24 We have also assumed that all students have access to PCs, not funded by the university. This is a cost transfer implicit in e-learning (although some "special case" students are often catered for separately). This means too that students bear the costs of training (although some foundation degrees include this), communications, internet service providers, communication links, IT support, and printing.

1.25 Although few academics expressed concern at the technical support demands of students (it is "their responsibility"), this may be an area that is leading to attrition, or preventing recruitment. Some academics are using the UKeu platform specifically to ensure technical support is available.

1.26 The VLE facilities that we have assumed are available for all students (including e-learning) encompass:

- a good email system (e.g. including collective emails);
- a "virtual personal network" to the library so that on- and off-campus students can access library e-journals and chapters of reports (although the volume of these on-line may be limited – see preparation of materials below), and
- an MLE such as FirstClass, Blackboard, WebCT, which also includes:
  - web-sites for students;
  - discussion forum (asynchronous);

- chat rooms (synchronous, real-time);
- quizzes and on-line tests;
- bulletin boards or notice boards (administration notices);
- links to web resources;
- filing cabinets: course information and resources, including copies of lectures and slides and work generated by learners, posted and accessible to all;
- student tracking;

- all hardware and software, running and communication costs associated with the above, including appropriate bandwidth to delivery audio and videos.

1.27 Not all of these facilities may be used by on-campus students. However, the inclusion of them as a "core campus cost" means that none of their costs are appropriate to include in the differential calculated between an e-learning course and a conventional course.

1.28 Although e-learning programmes often use more sophisticated software than a university-wide VLE (for example, better chat rooms, additional formats to pdf or html, alternative templates, ability to monitor student on-line time and self-test results, student "whispering" facilities, and better quiz facilities) we have not attempted to build in any additional costs of this. The inclusion in a course of specialist software (e.g. GIS) has been included, or if it could not be costed, a note has been made to that effect.

1.29 The Ufi and the UKeu offer sophisticated platforms for the delivery of e-learning courses (as well as marketing, publicity and technical support).

1.30 We note that secure on-line assessment is not yet widely in use (if available), and that any e-learning programmes which incorporated exams (many use coursework and dissertations) are still bearing the costs of examination centres.

Staff training and development

1.31 Academic staff require expertise to use VLEs efficiently and effectively, and additional expertise to develop and produce an e-learning course. The independent, enthusiastic academic who, in the past, has often developed e-learning courses, may gradually be joined by a cohort of trained academics, supported by technical and pedagogical teams.

1.32 An institution has described the four phases of staff preparedness as:

1. able to use emails, discussion boards etc;
2. able to put materials on-line (using, for example, standard university proformas);
3. able to put a shell of interactive tools around these materials;
4. capable of adding a gradual increase in interactivity, video streaming etc.

1.33 Many of the e-learning materials that we looked at were being prepared for the first time by an academic. This involved staff learning and the development of their skills from the first phase to the fourth phase.

1.34 However, we note the importance to the development of e-learning of an appropriate support and training structure for academics, the presence of a new type of support service – often called educational technology units, or learning development units. These units are generally in charge of rolling out the VLE in terms of pedagogy and academic use (supported by the central IT department in terms of the hardware, software and communications infrastructure). Staff include both pedagogical experts, and technical experts (in both technology and design).

1.35 Pedagogy in e-learning requires rethinking; it requires innovation and creativity in the use of different technologies:

- the preparation of linked resources – in a way that the student can learn from these alone;
- the use of different tools to facilitate learning: discussion tools, chat and whiteboard, mail, self-testing, questions, quiz and survey tools; as well as presentation tools such as animation and videos;
- new assessment strategies.

(There are some academics who consider that this should all be in place for a conventional course, and little work is necessary to convert conventional materials to an e-learning form, but this is probably very rare).

1.36 Technical experts produce the more sophisticated techniques, such as animation.

1.37 Media services units have always been available to support the audio and video production in institutions. In some institutions these are now part of a wider educational technology unit, closely linked to the IT unit (supporting the university's IT infrastructure) and often responsible for the business use end of the VLE. Such units are now able to provide training and prepare or facilitate the preparation of materials. Different levels of support are often offered (with the proviso that academics are encouraged to go it alone with few restrictions where they wish to do so and already have the expertise – these units are enabling, not controlling). The levels include:

- doing it for them – the academic (a subject specialist) provides the material, and the technical and pedagogical staff both redesign this for an e-learning context, advise on an assessment strategy and convert this to html/Java enabled script. Standard university "proformas" are often used for this, often with less interactivity;
- enabling – providing specialised kit such as PCs, colour printers, scanning, digital video cameras, digital video editing tools and software that allow the composition of multimedia presentations using streaming video technologies. Academic and technical staff are available to provide advice and help on authoring tools, making and incorporating streaming video etc. Academic staff would generally be developing their own templates, and using considerable interactivity;

- providing specialist input – animations, video clips, simulations.

1.38 The costs of technical support in producing the materials has been built in where it was specifically provided (e.g. to provide animations or to convert Word documents to html).

1.39 There are as yet few institutions with dedicated educational development/ technology units that routinely offer support to academics in the development process – although many are planning their introduction. They consider that this not only improves the scalability of the e-learning (generally focused on on-campus provision, and an internal VLE), but also enhances quality. One of the most advanced (and experienced) units of this type described the design and production process as a set of parallel, iterative steps, consisting of:

- the academic writing the material (as well as sourcing and researching it) and supplying a disc in Word (having received an induction training in the use of university templates and standards etc), referring to style sheets and the templates;
- supported by pedagogical advice from the educational technology unit;
- clerical conversion of the Word materials to html;
- support from a copyright clearance team in the library;
- drawing diagrams;
- the provision of video clips (shooting and scripting these) if required;
- technical design and production of animations if required (this particular unit had not produced simulations – which tend to be the preserve of very IT-literate academics);
- internal review, editing and proofing processes (carried out in parallel with the academic);
- a formal external peer review; and
- the school quality management process.

1.40 In this institution a standard cost based on one month of technical, educational and design input from this unit was used when planning programme development. This totals a cost of £2,000 per (15 credit) module or £130 per credit. Actual time and costs varied widely around this; we list some of the cost drivers in the section on the economics of e-learning below.

1.41 In another institution, a research-led Centre for Education Technology and Distance Learning bases its provision around a set of business models – of which web-based delivery is only one (others include correspondence; “flying doctor” (i.e. local delivery by academics; and a blended learning model like that of the OU). A team of six professional designers and four academics designs high-quality web materials using a WebCT platform, but with their bespoke content management system and media player etc. They provide technical support to students. Delivery is by local tutors.

1.42 In our costing, where an institution has the more common traditional style general educational technology or media support unit, the costs of these have not been specifically included. They are included in the costs of central services. However where specific media were produced for a given programme by such a unit (e.g. a video) these costs have been included.

1.43 The costs of academic staff training have not specifically been built into the cost of developing e-learning programmes. A general scholarship/professional development allowance has, however, been made on all academic staff time (including those producing conventional programmes). In most of the programmes studied, academics had not received formal training in this area. This would have affected the time they took to develop their first e-learning programmes – and this learning time (although very broadly estimated) is included in the e-learning costings.

The economics of e-learning

1.44 We have found that e-learning costs per student are dominated by six factors:

i. development of materials;

ii. cohort sizes over the life of those materials;

iii. tutor time, in providing learning guidance and support on-line, including in assessment;

iv. tutor and estates costs for on-campus work;

v. administration and technical support;

vi. central services.

We cover each of these below

i. Development of materials

1.45 E-learning materials can be of various types. Broadly, in increasing order of cost, they are:

- text: references and links to learning materials;
- text: textbook style content;
- text: good presentation;
- text together with still images and graphics, sound etc, equivalent to a CD-rom;
- moving images (videos and animation);
- computer program-based learning;
- interaction (requiring a network);
- streamed audio and video; multi-media production. (Little found in our sample. Academics felt that its pedagogic value was not yet proven. It was costly to produce, and the bandwidth requirements limit access.)

1.46 Rumble (1999b)[5] reported that "the range of media involved makes it difficult to talk about development costs in any meaningful way. The reported costs of developing on-line learning materials vary widely". The examples he quotes include:

> Bates (1995): Canadian$2600 to $21170 per student-hour for the development of computer-based learning materials
>
> Arizons Learning Systems (1998): US$6000 to $1m for a three unit course, depending on the technologies used. Simple outlines and assignments are the cheapest at $6000, followed by text $12000, text with reference materials $18000, images $37500, audio and video $120,000, simulations $250,000, and virtual reality $1m. (These costs will no doubt be altered now, with digital cameras and DVD writing familiar home tools.)
>
> Tergan et al (1997): "the production of one hour of standard computer-based teaching necessitates a work input of – conservatively estimated – 150 hours."
>
> Sparks (1984) suggested that it would take 200+ hours to develop computer-aided learning that would occupy a student for one hour.

1.47 Others have estimated similarly large time requirements. For example:

> Alistair Inglis[6], claims it may take up to 100 hours of development time to create one hour of student material.
>
> A team approach is common. One estimate gave a ratio of 120 hours academic; 120 hours designer; 40-60 hours for Web coding. (McVay, referred to in "Calculating the Cost", B. Morgan, NACUBO Business.)

1.48 However, there are difficulties in establishing the costs of preparing materials for a conventional course. Some academics estimate 2 to 10 hours per hour of teaching, or alternatively, one day for every hour of lecturing. Indicative figures for comparative purposes are described in technical appendix 2 (distance learning) as:

> Band D: 360 teaching hours per year
> £30 hour
> 120 credits a year
> **Band D: £180 to £900 per credit**

[5] Rumble, G. (1999b) *The Costs and Economics of Open and Distance Learning,* London, Kogan Page.
[6] Inglis, A. (1999*) Is online delivery less costly than print and is it meaningful to ask*? in Distance Education.

1.49 Based on the research literature quoted above, it could be assumed that development of e-learning material takes 50 to 100 hours per hour of "delivery". This could imply costs of £4,500 to £9,000 per credit (based on 360 delivery hours per annum for 120 credits).

1.50 We found the costs of development vary depending on:

- the amount of material;
- the level of course;
- the complexity of course (i.e. complete programme, or single module);
- whether a new subject was being covered, or whether it was a translation of existing course. If the latter:
  - whether it involves delivery to an existing or a new market, requiring additional material or altered focus;
  - and the quality of previous material – both suitability for distance learning, and pedagogic soundness;
- the extent of multimedia such as video clips. It might take a couple of days to produce a 10 second clip, a week to produce an hour's streamed video clip, including resolving technical issues and access, editing, adding signing or captions, etc;
- the amount of interactivity – animations, simulations etc. It might take one week for a technical expert to produce an animation on, for example, a heart – this would include obtaining an understanding of the subject matter and liaising closely with the academic;
- the skill/experience of the academic;
- the extent to which material is to be transferable to other education providers;
- the user-friendliness of the VLE – although this is assumed to have no impact in our costings;
- the amount of support from pedagogical experts including helping the academic in rethinking the teaching and learning experience (instructional design), and in reviewing the assessment strategy;
- the amount of support from technical experts, including the conversion of material to html (an example given here was 20 hours for one 20 credit module).

1.51 One academic described the ten different steps in the development of two undergraduate modules (health):

i. rethinking the pedagogy (subject expert and educational technologist);
ii. designing the assessment strategy – bank of formative questions;
iii. preparing the materials (subject expert);
iv. incorporating the presentational tools such as animation (technical expert);

v. introduction of interactive modalities e.g. discussion boards;

vi. redesigning materials using on-line techniques (converting the materials to html, introducing images and objects);

vii. introducing a reusable template (for use on different platforms to allow interchangeability with other programmes); and allowing the module to be easily updated;

viii. building the course (pulling it all together);

ix. carrying out an extensive quality review process, and testing (including on students who had previously taken the module using a conventional course);

x. carrying out a pilot phase.

1.52 This material was designed to be of high quality. They estimated that it cost £150,000 to develop the two modules. Some departments who were at the forefront of e-learning development showed higher costs because of the early stage of the software (one 30 credit module cost £250,000 to develop using now very outdated authorware - £8333 per credit).

1.53 In fact, most of the courses that we studied showed fewer hours spent on development than the 50-100 hours per delivery hour quoted above. One educational technology unit estimated that it takes one academic full-time for one year to produce nine (20-credit) modules for a Masters degree, assuming that the academic had subject expertise, but no e-learning expertise, and that the existing material required extensive development (as Masters courses put on-line need, to make them suitable for wider student markets). This amounts to £250 a credit. Another educational development and media (including the VLE) unit uses a standard of 100 hours of academic time per 15-credit module: £200 a credit.

1.54 An e-learning offshoot of a US university employs “educational authors” who work with academics to author their e-learning material. Each 15-credit module costs around £7,500 to author from scratch (£500 per credit).

1.55 These lower costs may be a factor of the technological developments. The development of e-learning materials can be relatively low cost because of the use of the simple computing language (html) for creating materials and the development of intermediary course authoring software (such as WebCT and Blackboard) that enables a web-site to be easily constructed.

1.56 One academic we spoke to commented that:

> e-learning takes twice as long as a lecture prepared well; but four times as long as a lecture prepared badly.

1.57 E-learning materials have to be of publishable quality; they have to address copyright issues that might otherwise be less robustly addressed in lecture slides and photocopied handouts. Material has to be complete, and technically accurate. Diagrams can no longer be roughly drawn on the flipchart at the front of a seminar room. Disability Discrimination Act issues are high on the agenda to be addressed (easy reproduction in large text, colours etc).

1.58 Different business models lead to different requirements (and costs) for materials. The programme manager of one Masters level e-learning course currently being provided is considering using UKeu's platform. This would have incurred costs of around £100,000 to convert the (pdf and html) materials to xml, and to meeting the standards required, and to incorporate animations and video-streaming etc – all of which were considered necessary for the wider overseas market. A professional design team (as described above, and used extensively in the OU model of distributed learning) can be more costly, but the quality of the materials, and arguably the pedagogy behind it, can be extremely good as a result. A source of up-front funding for such professional development is a necessity.

1.59 The existence of a current course can help reduce costs as not so much original research (small "r") needs to be made into the subject area. However, most courses require significant rewriting as they are often targeted at a different type of student. And the whole pedagogy requires review to incorporate a different style of learning. (Interaction is no longer face-to-face students to lecturer: the pedagogy requires redesign to encompass student to lecturer in writing, plus student to computer, plus student to student, plus computer to computer.) Monitoring and assessment strategies also need to be redesigned.

1.60 In addition, if the cost benefits of large cohort sizes are to be achieved, the material must ideally be "tailored" to different local markets. The Interactive University in Scotland commissions the professional development of materials, following commercial business principles (the developers are based in academia) – these are of high quality, transferable, and technologically up-to-date (xml format). They include animations, but do not demand broad bandwidth. Local partners, who provide local learning guidance and support to students, add value to the content. As part of their local tutoring they give relevance – examples, local culture etc – to the standard materials. If local delivery cannot provide this, then the materials must be multi-cultural or specifically tailored (depending on discipline).

1.61 In e-learning, we found (from a small sample) that Masters courses generally required less material than undergraduate courses (they rely more heavily on students' autonomous research and learning). This is in contrast to distance learning, where the overseas markets mean that a complete set of materials needs to be provided to students at a Masters level. It is also very discipline specific.

1.62 During our discussions we found the following examples of development costs. These can be compared to £180 to £900 per credit for a conventional band D course (see above):

Band D (undergraduate)
20-credit certificate in social sciences (level 2, band D)
Moved from distance learning materials (and CD-rom) supported by e-learning environment to e-learning. 3 months full-time £15,000.
£750 per credit

Sciences.
Materials are just annotated lectures. 3-6 months for 1/3 person per module.
£370 per credit

Band D Masters
Social sciences
Conversion of existing distance learning material that itself was the same quality as conventional course material (the level and subject probably also influenced this to some degree). The conversion was a "clerical process" only (to convert text to html). No textbook resources were required. There was no change to pedagogy. The changes were managed by a very IT-literate academic.
No difference in preparation costs from a conventional course.

8 months for three modules, including personal development time for academic – 4 months, 2 people.
£500 per credit

Humanities
Very few materials required for course. Links to authors' reviews and works were the main new requirement for the materials (re)design.
No difference from a conventional course

Band C/B courses (undergraduate)
Generally need simulations and animations, or practicals. – hands-on experiments using home kit, or residentials. For example:

Sciences.
Levels 1 and 2 (six 20-credit modules leading to certificates and/or combined honours). Currently offered by distance learning, with workshops. This course could as easily be offered by e-learning. It is currently supported by an optional workshop on one module and two workshops on another module (which are being converted to a simulation): the other four modules do not require face-to-face contact. Laboratory exercises are carried out at home, using equipment found around the home and garden.

Health
60 credits. On-line materials written from first principles (researched by specialists and academics) £45,000
technicians put on-line (professional design, interactive and "fun") £10,000
multimedia input from Media Productions – video (estimated) £2,000
£866 per credit

Health
20 credits. £25,000
0.5 senior lecturer for 5 months FT to address content, plus
0.5 senior lecture for 6 months FT to address technical aspects: c £21,000
animation, £3,000
pilot course £1,000
£1250 per credit

Science.
15 credits.
conversion to html, £20,000
academic writing time from scratch £11,000
£2067 per credit

Band B Masters
Advanced Certificate in science subject (1/2 Masters)
self-taught html; used only plain text editors; some animated gifs (one day per figure) took £100,000 per 90 credits.
£900 and £1250 per credit

Band C Masters
Two months for each of eight modules (15 credits). Included considerable written text, and practical exercises using software provided. Considered a "low-cost production" as significantly text based: no animation or video. Maintained in both html and pdf (overseas markets)
£500 per credit.

1.63 Development costs are a significant inhibitor to setting up e-learning programmes. In conventional programmes, the time preparing materials for new courses is not an obvious cost, as it is part of the whole package of "non-contact time"; and courses can inform each other. In e-learning programmes the costs are much more obvious, special skills are required, and often academics are given special payment for the materials that they write. In general, the time required to write materials (and therefore the costs) are higher. This makes the costs much more obvious. Some institutions operate "loans" or "special development funds", which either allow the investment to be amortised over several years, or covered immediately. Without this, many academics perceive the up-front costs to be prohibitive. One interviewee noted the following in relation to an MSc in administration delivered by e-learning:

> Stunningly, staff thought each [10- credit] module would cost around £2,000 to write – this seems to be based on the idea that the process would be a simple one of transferring existing material to WebCT. As the project developed it was realised that offering a course by [e-learning] requires different teaching material and different teaching approaches both of which have high costs.
>
> The clearest example of costs is demonstrated on one of the modules which was written and delivered by someone not on the [university] staff (when courses are developed by internal staff there are too many hidden costs to get a serious grip on the real cost)… The eventual cost of the material for his (10-credit) module was in excess of £13,000 for a not very sophisticated package… The economics don't make much sense [if development costs for the full 180 credits were to be covered in the first year, plus on-line delivery and support, administrative costs and central overheads].
>
> This was a niche market product – if a realistic business plan had been constructed it is most unlikely that it would have been sanctioned without an indication that there was alternative funding to cover the development costs.

ii. Cohort sizes

1.64 The development costs of a particular course, that are to be attributed to each student taking that course, are as influenced by cohort sizes, and by the life of the materials (until they need significant updating/rewriting), as by the original time required to develop the materials.

1.65 Updating time can be more for e-materials – including cost of keeping links up-to-date, referring to current research findings and world events etc. The life of e-learning materials is generally considered to be less than that of conventional materials – due to the accuracy required, the need to reflect technological change, the need to "refresh a modern medium" (meeting students' expectations).

1.66 The graphs below illustrate the costs of development for a conventional course, compared with an e-learning course, with different assumptions about cohort sizes and life before significant rewrite.

Figure 1: Cost of preparing material for conventional taught course

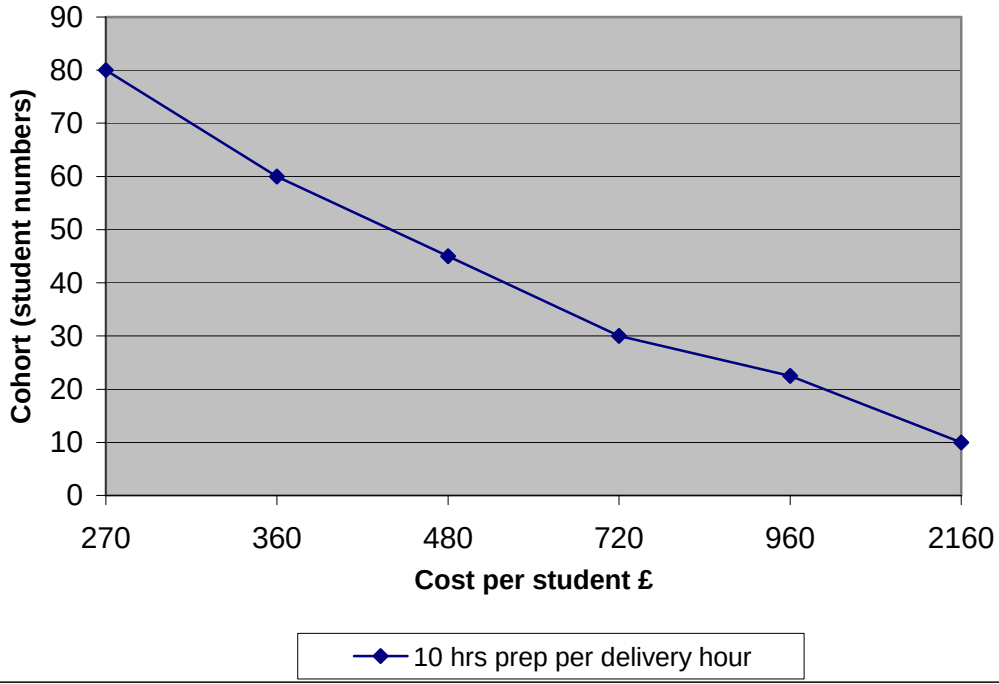
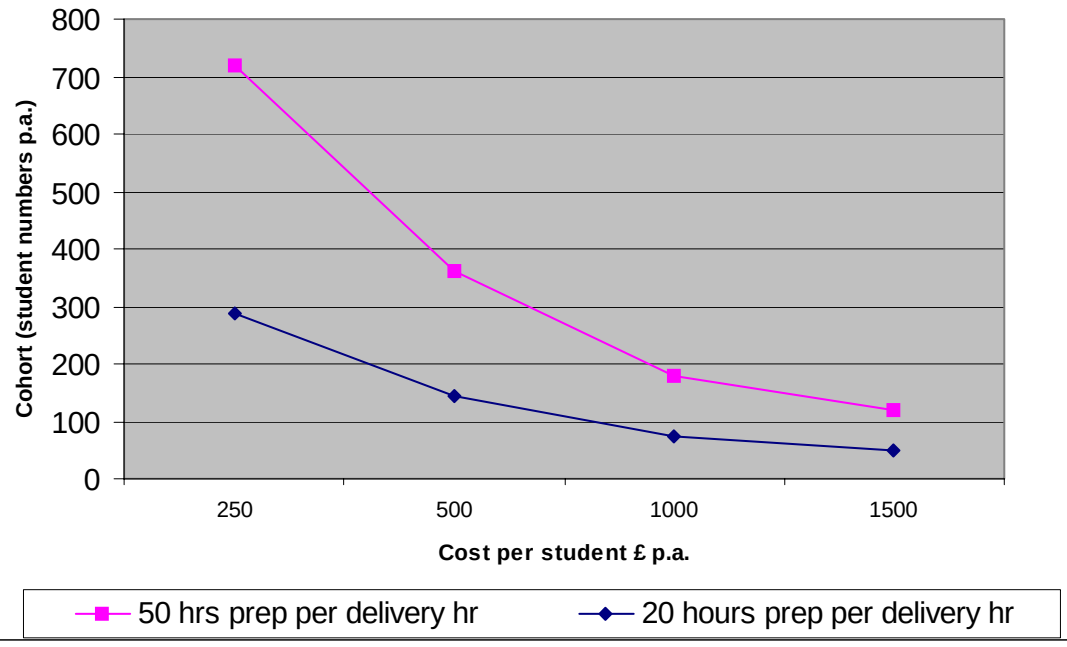


Figure 2: Cost of preparing material for e-learning course



1.67 The graphs show that if conventional delivery requires 10 hours preparation time for one hour of delivery, with a five year life and a cohort of 22.5 students, the cost per student is £960. (This is probably a maximum figure: it could be significantly less if the preparation time was less, or the cohorts were larger).

1.68 In comparison, if e-learning requires 50 hours preparation time for one hour of delivery, with a three year life, it takes 189 students to bring costs down to £960 – the maximum cost per student that might be expected for a conventional course.

1.69 Although the preparation element of e-learning materials is only a part of the cost of teaching a student – in a conventional course it might be only 5% of the total cost – this is of such a size that if these costs are two or three times those of a conventional course, it could start to produce a significant differential. We found this in many of our case studies.

1.70 As we have shown, if the materials and courses were made available to a larger number of students, the cost per student would fall. Making courses available to on-campus students would have this effect. The original development costs may not be less, but the cost per off-campus student would be lower. This is currently rare with e-learning programmes: the materials are often developed for a particular off-campus cohort or market; and the internal VLE cannot yet support such programmes. However on-campus students' access to e-learning programmes will increase as VLEs are developed. Their use may be:

- ”extra” – i.e. students who are having to retake a module;
- optional – i.e. students who have missed a lecture or tutorial could access and participate on-line for that learning outcome only;
- alternative – i.e. students are given a choice as to taking the module on-line or face-to-face;
- mandatory – students are required to take that module on-line (there is no on-campus substitute).

1.71 Student numbers will also be increased if materials are produced by one department and used by other departments in that institution (e.g. common skills or introductory modules), or in other institutions. There is still much to be done to define and standardise approaches such as learning objects (let alone curriculum or credit accumulation schemes) before this can really expand.

iii. Tutor time in providing learning guidance and support on-line, including in assessment

1.72 Delivery time can account for about 10% to 15% of total costs.

1.73 Delivery on a conventional band D course consists of the presentation of materials and interaction in a face-to-face setting. On an e-learning course students access materials electronically (and their learning through this is directed by the course guide or equivalent); but they still need as much support as on-campus students. This support is provided in a different way – through emails, discussion forums, chat rooms, and through more comprehensive feedback on assessment, for example. Computers cannot in general offer the quality of feedback and interaction that students need for their learning. Peer group experiences are usually less in on-line situations than in on-campus courses.

1.74 Even when the student time spent in interaction with a lecturer may be the same, the group sizes are much less, and the cost per student is therefore higher.

1.75 On a conventional band D course a 20-credit module might have one 1-2 hour lecture a week (to say 200 students), a 1 hour seminar a week (to say 25 students), and a 1 hour tutorial a fortnight (to say five students). The contact time is then 3 hours per week per student, and the cost per student is based on 0.15 of a staff hour (1.5/200 + 1/25 + 0.5/5).

1.76 On an e-learning course this can be almost totally replaced by moderated discussion boards (where there could be hundreds of participants but “threads” would need to be managed); a virtual conference (where groups work on topics over two weeks, post these to a communal site and make PowerPoint presentations, where all participants read and discuss it); and by a synchronous conference session/chat room (where there should arguably be no more than six or seven participants). During the latter, points will be brought out, a unit will be closed, and the next week’s unit will be opened. Assuming that 50 students in a discussion forum require 1 hour of moderation per week; and a chat room session requires 1 hour a week per 20-credit module then the cost per student would be based on 0.20 of an hour (1/50 + 1/6). The costs of supporting delivery in this way are higher per student than on a conventional course – but the assumptions in both models are significant and the conclusion could be the opposite way.

1.77 As another example: a three-year part-time humanities Masters course which requires 3 hours face-to-face a week (22 weeks) to a cohort of 25 or 50; proved to be less costly than the e-learning equivalent which requires:

> 1 tutor hour per week in a chat room to six students
>
> 6-8 hours bulletin board and emails per week for a group of 13 students
>
> This totals 15.5 hours (e-learning) as compared to 2 hours of tutor time (conventional), per annum, per student.

1.78 A university currently planning a foundation degree to be offered through e-learning is considering an allowance of 3.5 hours per student per module (this is a bundled hour, based on the 550 contract hours) compared to the 2.5 hours allowed for conventional courses. This is in part to recognise the nature of the students who will need this type of support.

1.79 At the OU an e-learning course (Masters, education) is very tutor intensive – there is very little content in the course material and on-line interaction is the main method of learning. The normal staff student ratio for tutorial input on a distance learning course of 1:25 students was reduced to 1:10-12 students to recognise this. A subsequent module has been specifically designed to make the content more inclusive and more structured, and to reduce the requirement for collaboration and interaction between students and between the student and tutor. The aim is to support this new e-learning module through a staff student ratio of 1:15-19. (This would then be in line with a sciences module at level 1 with normal print-based distance learning materials, which is supported by a ratio of 1:20.)

1.80 Cooper (2002)[7] makes the following comment on the University of Glamorgan e-learning initiative:

> Learners have been supported by traditional academic staff operating at normal staff student ratios. At the same time it is quite clear that the level of administration and support services needed is considerably greater than that required under traditional paradigms. While course development needs to build on academic excellence and leading edge knowledge, much of the support that learners need does not require fully research active academics. There is also a need to move towards support 24 hours a day, seven days a week, 52 weeks a year, which is impossible to provide under existing modes of operation for academic staff and is outside current standard contracts conditions that apply in the UK at least.

He goes on to identify the need for the development of:

> an alternative model for learner support ... which may include: call centre systems for managing simple repetitive problems, teaching assistant support on a different staff student ratio for basic course knowledge issues, and knowledge management systems accessible to learners, all having the effect of increasing face-to-face time with more senior academics to explore higher level issues.

[7] Cooper, A. (2002) *Barriers, Borders and Brands: Forging an Institutional Strategy for Development and Collaboration in Borderless Higher Education,* in 'The Observatory on Borderless Higher Education', London, May 2002

1.81 As Rumble (1999b)[8] commented:

> The great advantage of on-line systems is that they can support individualised, constructivist models of teaching and learning, and thus overcome the inherent depersonalisation and standardisation of first generation (correspondence education) and second generation (multi-media models). However, this is a labour-intensive activity. The cost structure of on-line distance education is thus nearer face-to-face models with their economies of scale. The biggest and I suggest the least costed ingredient in the costs of on-line learning is the cost of supporting learners on-line. Tutors at the OU consistently suggest that they are spending more time supporting learners on-line than was the case when they supported them through correspondence and telephone contact. They are not being paid for this increased workload [although this is built into the costing model used in this study]. The university has been talking about protocols to curb student demands on their tutors. At one level this reflects a process of change from an industrialised distance learning system in which students were expected to study more or less independently with relatively little direct support from a tutor, to a more supportive environment….
>
> Arizona Learning Systems (1998) report that: "All providers of Internet courses… have reported that this direct communication [between teachers and students] takes more time than preparation and delivery of a classroom lecture and the corresponding contact with students…"

1.82 This equivalence or increase in the time per student is borne out by the findings of this study. But this is not to say that this is the right conclusion. Much of these costs may be due to the lack of pedagogic understanding or availability on the linkages: between the type of materials, the type of students, how students communicate with each other and the tutor, what the platform needs to facilitate, what technical support students need, which administrative support and systems reduce demands on academic input, how the work is assessed, etc. We found only isolated examples of departments that felt they had a good understanding of these issues and inter-relationships.

1.83 Assessment methods may or may not be different. However, feedback to students is often made electronically. Instead of a quick mark and a scribbled comment in the margin of an essay or project, supplemented by feedback to a group in the seminar room, or a short meeting after class, on-line tutors are providing detailed written comments to individuals. This takes time. One academic commented that it can take double the time to edit coursework and return it on-line, compared to a conventional course.

1.84 Academics told us that supporting a student in their dissertation preparation (already a time-consuming one-to-one activity in a conventional course) can take 50% to 100% longer, when done on-line. Others reported an equivalent time.

[8] Rumble, G. (1999b) *The Costs and Economics of Open and Distance Learning,* London, Kogan Page.

1.85 As noted in chapter 2 of the main report, protocols can reduce the time required to support these students. But academics do not generally wish to impose restrictions on student access to assistance (achievement, retention, progression and reputation are more important, particularly with first or "flagship"; programmes).

1.86 There will in addition be a need for more one-to-one contact on an e-learning course if:

- it is a Masters dissertation – feedback during the drafting stages often takes longer, as stated above;
- students require pastoral support (often provided significantly by academics, rather than central services);
- if the course is for a cohort of undergraduate students who need inspirational lectures, have a need to belong to an HE environment, need to acquire skills, or who generally need support for their independent learning. They are not, in general, autonomous learners, as postgraduate students can be assumed to be. Without the one-to-one support, the quality of student learning and retention is considered to suffer. As one academic noted:

> Students have the right to the same amount of support as on a traditional course. It is just provided in a different way, but it is no less time-consuming.

1.87 The importance of support in an e-learning model starts to upset some of the economics of large-scale cost-efficiency models of e-learning provided to large cohorts. Where this is not required, or can be kept below that of an on-campus course, then large cost reductions from conventional delivery are possible.

1.88 However we found in the courses that we studied that overall tutor time on delivery – learning guidance and support provided interactively to students – is as much as for an on-campus course. The group sizes may be smaller, so the cost per student will be higher. There may be additional need for face-to-face contact, and the cost per student will rise further.

1.89 Workload planning models, staff contracts, departmental support processes, all make the development of the most effective and efficient learning guidance and support processes difficult. This is limiting pedagogical development, or the use of good practice that does exist. It is compounded by the still emerging use of this type of media, and the desire by enthusiastic academics or front-running universities to "do it right". Putting more time into support is seen as one method of achieving this.

iv On-campus support

1.90 Additional support is often provided through face-to-face contact. It is also required for some practical subjects – in many band B subjects, there is also delivery time in practical workshops (others have replaced this time by practical experiments using home equipment, or simulations or, to some extent, animations).

1.91 On-campus contact can be made optional, and may not be needed if the e-learning is just one module out of a programme (students can “knock on doors” as they are on campus for their other conventional learning). It is rarely mandatory on e-learning programmes aimed at a wide market (including overseas markets).

1.92 Of course it could also be provided locally, in a model closer to that of the OU, which we describe in the technical appendix on distance learning (Appendix 2).

v. Administration and technical support

1.93 In theory, administration costs should be no more than for a conventional course. However, in practice, due to the bolt-on nature of e-learning courses in an on-campus environment, as explained above, the administrative processes do not positively support these types of student. Both academic and support staff administrative effort is therefore increased.

1.94 The administration of students who are not off-campus is considered, by several institutions that are well advanced in their VLE introduction, to be a major challenge, yet to be addressed.

1.95 It is not clear to what extent technical support is inhibiting student recruitment or retention. Few departments could provide technical support.

vi. Central services

1.96 E-learning courses are generally provided off-campus. That is the assumption made here (in reality, many modules are part of an on-campus course, and students can be situated in the library or other part of the university premises). In our costings we therefore included a differential of -15% to -25% of total costs depending on the band, to reflect the lower estates and central services use. This is a material assumption.

Cost differentials

1.97 We discussed above the main cost drivers. It is possible to deliver e-learning at a lower cost if:

- material preparation costs (time) are low – either because the material is not substantial in size, or because it does not contain complex multi-media, animations etc;
- cohorts are large (to spread the costs of preparation further) or materials are bought-in;
- there is no face-to-face (and therefore no estates costs attached to students);
- tutor guidance and support is low. This can be because it is specifically restricted, or is being provided in a very efficient way (with good administration systems, well-written materials, well structured discussion groups and other communication methods), or because the student cohort is such that they do not need extensive support.

1.98 Alternative costing models might also erroneously cost e-learning as lower than conventional delivery, because:

- central service costs are not fully allocated to the course;
- academic staff time outside a "normal contracted week" is not included – this would encompass both the preparation time, and the on-going learning guidance and support.)

1.99 Case study examples of cost differentials follow.

Band D (undergraduate)

Interesting case study of a 20-credit module with bought-in materials and only voluntary face-to-face, no lecturer assessment (slightly lower cost); which then developed into same size module plus Ufi materials (higher cost); and then a larger diploma with bought-in, self-developed, and in-house materials (same slightly higher cost), as follows:

(i) a 20-credit module. Bought-in materials, voluntary workshops, self-assessment –**20%** vs conventional 20-credit module. Numbers large, but only for 20-credit module.

(ii) a 20-credit module. Materials combined with materials from another higher education institution (HEI). As above, but additional materials (and fees) +**30%** vs conventional 20-credit module.

(iii) a 50-credit diploma. Self-developed materials added. Again, with voluntary workshops (but students needed fewer as they were more computer literate); but also had in-house materials (translated from other courses) +**29%** vs conventional 50-credit diploma

A separate 20-credit module (social sciences certificate) costs +**9%** more than a conventional module. This included the use of Ufi's materials (although the more costly were barred from students' use) as well as their own.

30-credit science course with very high student numbers: although illustrative costs showed a differential of -**25%** with a taught band D standard cost, development costs were not properly included in the analysis because the course used existing materials. The course includes tutorial support through conferences and (initially) face-to-face tutor groups.

Band D social sciences degree: overall **cost neutral.** Delivery time broadly the same as a conventional course; costs of use of the external platform and additional development time are offset by the reduction in estates and central services costs.

Band D social sciences degree. **+15% to +50%.** Learning support and guidance (emails and chat rooms) require two or three times as much time per student as a conventional course; preparation and updating costs are considerably higher; added to which are the costs of the external platform. This positive differential is then reduced by the savings in estates and central services costs

Band D Masters

Social sciences Masters. -**15%** due primarily to the reduced estates and central

service use. Dissertation and research were 5 - 9 modules. Autonomous learners. Equivalent support as on-campus, but only if extra administration (for off-campus students) and VLE are both in place. Used existing material; just required a "clerical process" of converting Word to html.

Two 20-credit Ufi modules at Masters level, extended the materials offered on an existing social sciences certificate. Workshops were provided, with email support, bulletin boards etc. The university costed this the same as a conventional course, although it would be -**7%** if estates and central services costs were excluded.

Humanities Masters. Delivery (chat room and bulletin board and emails; with group sizes of a maximum of 68 and 13 respectively, compared with 50 and 25 for on-campus groups) +21%; less 15% estates and central services costs = +7% for each of two years; then same for third year (dissertation). Overall for whole Masters: **+6%**

Band C/B (undergraduate)

20 credits in health. Overall **+14%.** Development +27%, delivery (because of smaller cohorts) +7%, estates and central services –20%. But the delivery time actually required is as yet unknown, so the HEI had "decided to allow same as taught course". Part of a larger suite of programmes.

Band B Masters

Science (half an MSc). **No differential**. Conventional delivery would require 6 hours a week. E-learning requires 3 to 8 hours a week (chat rooms, emails, bulletin boards), so broadly the same. Pastoral support is less. Preparation is considerably more (+3% to +45% per module). Estates and central services are less (-25%)

Science MSc. **No differential**. Less estates and central services but more development time, administration and pastoral support, assessment, and IT.

Science MSc. **No differential.** Estates and central services –25%; delivery and preparation +10%; academic and administrative support and IT +12%; and voluntary workshops +2% (if attended). Free software.

1.100 To some extent these differentials reflect the emerging state of the pedagogy, and traditional staff hours allocated to support students.

1.101 It is not yet clear whether there is a significant differential between subjects, or levels of study. Subject costs are influenced by the type of material that is required but this does not fall neatly within the current price groups (virtual tours and copyright issues for art can equal the costs of simulations and interaction required for science; philosophy may not need these, but requires more debate with a tutor). It is likely that costs really needed to provide these courses are not considerably different from conventional courses overall (although funding the initial development costs can be a challenge). Good practice may emerge that provides students on e-learning courses in different subject areas with equivalent levels of academic support (and therefore cost).

Other studies

1.102 Rumble (1999b)[9] reported that there is poor cost information available. There is little quantifiable information, and it is of variable quality. The author referred to (for example) Phelps et al (1991)[10] who concluded that a computer-mediated communication training course for US Army reservists would have been about 20% more costly if it only substituted for one presentation of the current two-week residential course. But with further cohorts, the costs were significantly less (half that of ten presentations of a conventional course) as the main costs were in the original materials development. However these savings arose from moving training time out of the employer's paid time into the employee's free time.

1.103 However despite the scarcity of research, one study has identified very similar findings to our work. Rumble (1999b)[11] reported that:

> Arizona Learning Systems (1998) report that faculty workload costs have pushed the typical direct cost per course enrolment of an Internet course (US$571) above that of traditional classroom instruction ($474), but they suggest that faculty workload will be reduced through improved support and processes. They project that measures such as the development of academic helpdesks could result in unit costs falling to $447. With fixed costs amortised over five years, they suggest that the fully allocated (i.e. average) cost per course enrolment should fall as enrolments rise. For a simple text course, unit costs would fall from $782 per enrolment with 10 students to $453 with 500 enrolments; on a multi-media course with images, the cost per enrolment would be $1496 with 10 students, falling to $467 with 500 students.
>
> Unfortunately this does not give the fully allocated cost of a traditional course.

1.104 Fielden (2002)[12] quotes several sources in a review of e-learning costing and concludes: "What answers have all the studies described so far given about the cost of e-learning? In general they are unfavourable." He quotes Bob Keterick, who:

> writing in the Learning Market Space in December 2001 and January 2002, believes that 99% of people in higher education would now say that online learning costs more than face-to-face instruction.

Several authorities are cited as endorsing this message.

[9] ibid
[10] Phelps, R. H. et al (1991) 'Effectiveness and Costs of Distance Education Using Computer-Mediated Communication' in *The American Journal of Distance Education* 5 (3), 7-19.
[11] Rumble, G. (1999b) *The Costs and Economics of Open and Distance Learning,* London, Kogan Page.
[12] Fielden, J. (2002) *Costing E-learning: Is it Worth Trying, or Should we Ignore the Figures?* Observatory on Borderless Higher Education. (This can be found at www.obhe.ac.uk)

In conclusion

1.105 Most e-learning is being developed as part of flexible blended learning; there is very little provision currently provided to off-campus students. It has also been developed by individual "keen" academics. There are few "professional" models: where there are they can offer considerable advantages in terms of pedagogy combined with a business-like approach. However, the up-front costs of development in this type of operation are a significant hurdle.

1.106 Based on a very small sample of courses, we found postgraduate band B courses to be cost neutral, and other courses in band D to vary widely from lower to higher cost, as well as cost neutral (range: -20% to +50%). The costs varied from that of a conventional course due to:

- higher development costs (although not many courses had complex simulations; and few were at the levels of costs reported by other researchers. However, most reflected the learning curve being experienced by the academic authors);
- face-to-face delivery on some courses;
- tutor guidance and support (emails and discussion groups). Restricting this input is not an institutional aim in these sometimes "flagship" programmes: ensuring a high quality learning experience is;
- offset by estates and central services cost reductions (particularly if there is no face-to-face element).

1.107 We found some indication that band B courses could be more costly – due to the need for face-to-face workshops, or costly simulations. However, the subjects selected for e-learning were perhaps those not requiring extensive laboratory practice. There are very few undergraduate band B courses delivered through e-learning.

1.108 There are three assumptions which mean that our conclusions (of cost neutrality, or sometimes cost reductions) would not be recognised by department managers, who might believe costs were higher on e-learning courses:

- in some courses external VLE costs (often including marketing fees) have added significantly to costs. However, in most of these courses we assumed that an institutional VLE was used, with no difference in costs between the e-learning courses and conventional courses. In practice this is rarely the case. The costs of providing a VLE are currently considered a real additional cost for e-learning courses;
- we have also assumed reductions in estates and central services costs – which do not happen in practice (nor are they recognised in many institutional resource allocation systems);
- we have amortised development costs. Whilst some departments operate "loan" systems to help finance development over a period of years, most do not. The full costs are seen as something that needs to be recovered over the first cohort.

1.109 Experience in this area is still emerging, and it may be possible to reduce costs in due course by:

- good practice in materials development, combined by effective communication and interaction tools;
- delivery of the e-learning materials that have been developed to larger cohorts (including for on-campus students);
- more efficient support – good administration systems, processing students' queries in a business model;
- tightly controlled tutor support.

1.110 However, the state of understanding and development in pedagogy and academic skills across the sector as a whole are such that these represent an unusual model in HE.

2 Distance learning

2.1 Distance learning is defined for this study as courses in which teaching and learning and student support are undertaken where there is a non-trivial distance between student and tutor, and face-to-face contact is minimal. Non-interactive media are the main method of teaching: print, audio and visual media. Courses where the majority of teaching and learning is undertaken through interactive media (e.g. web-based materials) are covered under e-learning (see appendix 1).

2.2 Distance learning is mainly provided in the UK by on-campus institutions: the Open University (OU) is a notable exception to this.

2.3 We would note the difference between the definition of distance learning used here, and the use of other terms such as “open”, “distributed”, “flexible” or “blended” learning. Distance learning can be one mode of learning used, with others, in any of these types of learning systems. One set of appropriate definitions might consist of:

- open – referring to access (i.e. entry qualifications);
- distributed – referring to courses which are centrally supplied and managed, but which are delivered by local institutions;
- flexible or blended - meaning a blend of different modes of delivery.

Size of provision

2.4 The HEFCE survey of off-campus learning and teaching in 2002 provides data on the current volume of distance learning provision. Of the 86 responding institutions, 60 provided distance learning (70%).

2.5 Of the 77,168 students (headcount) taught by distance learning, 63,500 were from the OU. Five other institutions had significant numbers of students (>500). The remaining 8,838 (11%) of students were spread thinly over 54 institutions: 164 students (headcount) are taught on average at each institution – not on each programme, or each module.

2.6 In 2001/02 the OU offered 711 course presentations in the UK at levels 0 to postgraduate. This is greater than the number of courses in the curriculum, as the majority of postgraduate and management development (level 3) courses are offered two to four times a year. Of these, 218 presentations (30%) have more than 300 students. 38 course presentations (5%) have more than 1000 students. These totalled 95,000 student courses or about 44% of the non-overseas total number of student-courses. In 2000/01 three courses had just under 5000 students, and two courses had just under 10,000 students.

2.7 FTE distance learning students funded by HEFCE were taught in 49 institutions (57% of the sector) as summarised in the table below.

Number of. FTE students funded by HEFCE	Number of institutions
14 or under	10
15-100	17
101-200	11
201-300	2
301-400	2
401-500	1
501+	6
	49

2.8 The International Centre for Distance Learning database[13] shows that most institutions in England offer distance learning. Of the total number of courses shown, 4 out of 5 are at postgraduate level (including advanced certificates). Undergraduate "courses" could be degrees, modules on a degree, or certificates or diplomas including those at "vocational level" and "FE level". The majority are in subjects allied to medicine, in education, the built environment, law, and (usually niche areas of) engineering; with some professional courses in, for example, insurance, marketing and banking.

2.9 Unlike most of the other modes of study covered in this report (with the exception of sandwich years-out), much of the provision is made by pre-92 institutions and there are considerable numbers of overseas students.

2.10 Distance learning courses have a very long history – perhaps meeting the needs of Empire early this century. Distance learning grew into a recognised mode of delivery that made a UK institution's programmes available to wider markets and that reduced the funding restrictions on growth that some institutions were experiencing. Niche markets, often postgraduate, that offered opportunities for attracting reasonable levels of fees, were targeted, as were markets offering large cohorts (e.g. in management). In many pre-92 institutions distance learning helped departments to meet their research strategies: with reasonable cohorts and income levels, and with strong administrative support, once the materials had been written, academic staff time could be released for growing research activity.

2.11 With the OU, and more recently with many post-92 institutions, distance learning has been seen as an opportunity for widening participation, although the emergence of e-learning has taken away some of its importance in this area. Nevertheless, distance learning still offers a high degree of flexibility in the learning environment.

2.12 The OU continues to dominate the undergraduate market, and perhaps provides stiff competition, given the quality of its materials and tutorial support. Undergraduate growth elsewhere is more likely in niche areas.

2.13 40% of institutions that already offer distance learning provision expect the number of students in this mode to grow over the next five years, at a rate of below 20%; whereas nearly 30% expect no growth. The remaining 30% expect significant growth (20% or greater), as shown in the table below.

[13] Accessed at www-icdl.open.ac.uk

Growth (in student numbers)	Number of institutions	% of institutions responding
Of those currently offering provision in this area:		
none	24	28%
<20%	34	40%
20 to 50%	11	13%
>50%	12	14%
"significant"	3	3%
Institutions intending to start provision in this area:		
<100 students p.a.	2	2%
>100 students p.a.	0	0%
Total number responding to the survey	86	

Source: HEFCE Survey 2002

The economics of distance learning

2.14 Many of the points made in the chapter on on-campus learning, and the appendix on e-learning are of direct relevance here but are not repeated in this appendix.

2.15 However, distance learning has a much longer history than e-learning, and different organisational structures have emerged that have resulted in different cost structures.

2.16 Distance learning can be provided by:

- an institution dedicated to off-campus delivery – large volumes (wide range of programmes) for example, 63,000 at the OU;
- a department dedicated to off-campus delivery – large volumes (single suite of programmes) e.g. 1,200 students;
- a small part of a department in an institution whose main focus is on-campus delivery.

2.17 Our case studies covered all three. The first and second of these tend to differ from the third in terms of the "professional" or "business-like approach that is adopted, particularly to the development of materials, but also to the support and institutional processes used for off-campus provision, both administratively and academically. This does not mean that the costs are necessarily lower than they are in the third model – professionalism (and very high quality) can bring its own costs. However, it does bring the potential for lower costs.

2.18 Other variants of these structures exist, particularly for the second type of structure described above, for example:

- a department that was of such a size and so commercial in nature that it was formed into a separate company;
- a research-led unit, that develops courses using a range of professional business models covering web-based, correspondence, local delivery and support, and blended models like those of the OU. A professional team develops high quality materials, which are supported (in some of the models) by a WebCT environment complemented by bespoke software;
- groups of courses (from different departments) that are provided off-campus in a flexible mode – a combination of distance learning, and local face-to-face delivery. The large initiative "Enterprise College Wales" at Glamorgan University (supported by the European Social Fund) is an example of this. Cooper (2002)[14] claims:

> Delivery is a "Clicks and Mortar" blended learning approach – web-based training packages, complemented by dedicated face-to-face tutor support at partner institutions, mentors and other local services.

2.19 Underlying cost structures can be different between the very large distance learning providers and institutions whose organisation is predicated on on-campus taught courses, as shown in the table below.

2.20 Many of the larger distance learning programmes are actually distributed learning – they are formally or informally supported locally through face-to-face contact, by:

- the university's academic staff travelling to locations close to the student;
- local tutors, who are formally contracted for this by the institution and who are responsible for the programme and its delivery;
- local education providers, who are formally recognised as partners or associates of the institution, and whose delivery is part of the student experience, included in the QA process;
- local organisations, who are not in any way formally associated with the programme.

[14] Cooper, A. (2002) *Barriers, Borders and Brands: Forging an Institutional Strategy for Development and Collaboration in Borderless Higher Education,* in 'The Observatory on Borderless Higher Education', London, May 2002

	Open University	HE sector (excluding residences)	
Academic staff	41%	44%	Other academic staff costs (HE sector) are in research grants and contracts
Academic services	9%	8%	Library, ICT, other, and (in OU) warehousing stocking and despatch (half of learning and teaching support).
Central administration and services	32%	9%	Including (in OU) half of learning and teaching support, the central development team, and student services (=15% of total costs) responsible for fees, tutor recruitment, allocations of students to tutors, handling assignments/ assessment, providing advice and guidance to students, awards/ certification (excluding tuition)
General educational expenditure	3%	4%	
Premises	8%	11%	
Research grants & contracts	4%	15%	
Other expenditure	1%	8%	
Total	100%	100%	Excluding residences

Source: HESA statistics, and further analysis from the OU.

2.21 Our case studies focused on courses without significant face-to-face contact, not the distributed learning courses described above. Some courses did have mandatory residentials (for example) but most were optional (reflecting the widely dispersed and often international nature of the markets they were serving). Almost all OU courses have face-to-face support, usually now through local tutors, rather than residentials.

2.22 We have found that distance learning costs per student are dominated by five factors:

i. development of materials; and the cohort sizes to which the materials are presented, over the life of those materials;

ii. tutor time;

iii. tutor and estates costs for on-campus attendance;

iv. administration;

v. central services.

i. The development of materials

2.23 Materials are a significant cost. We identified that the costs of preparing and updating materials can be 5-8% of the total costs per student for a conventional taught course. This would include both the costs of developing the materials amortised over the student numbers using the materials, as well as their shelf-life before replacement and the annual cost of updating them. Rumble (1999b) reported that in distance learning annual updating can be 10% of the original development time (from research at the OU).

2.24 We note that distance learning, like e-learning, has developed technologically over time. Development and production costs changed as new stages were reached:

1. correspondence model (print, produced by a production/print room);
2. multi-media (print, audio and video technologies);
3. electronic (local desktop-publishing);
4. tele-learning model (supporting students by telecommunications);
5. and now, distance learning is running in parallel with e-learning (on-line delivery).

2.25 In the e-learning appendix we listed many factors that affect the content of the materials – this will affect the cost of its production. In a distance learning context they include:

- the type of material;
- the type of media;
- the academic's experience and skills;
- the team or individual production process used.

Type of material

2.26 The costs of developing materials will depend upon:

- the amount of material (does it take the place of a textbook, or is it a study guide, making reference to existing textbooks);
- the level of the course;

- the complexity of the course (i.e. complete programme or single module);
- whether it is a new subject or a translation of an existing course. If the latter:
  - o whether it is an existing or new market, requiring additional material or an altered focus;
  - o the quality of previous material and its suitability for distance learning;
- the extent to which the material is to be used for other purposes (is the textbook being produced of publishable quality?);
- the specialist nature of the subject – some postgraduate modules can require very costly input from clinical specialists.

2.27 The level of course can influence the volume and complexity of material required. In the University of London for example (with about 30,000 students studying in over 180 countries, and offering primarily in a distance learning mode 96 degrees and diplomas at first and Masters degree level):

> At an undergraduate level learning materials consist primarily of study guides which provide outline academic guidance and refer students to secondary sources. At postgraduate levels, students are provided with all required learning materials (and are more expensive, reflecting the greater level of provision of study materials).

2.28 The OU's materials are renowned for their quality – a student will receive a bespoke textbook along with study guides and other media. It is accessible in a variety of user-defined formats. Few other institutions emulate this type of material. Most consist of a desktop publishing style study guide in a ring- binder.

The type of media

2.29 Different types of media incur different costs. This study did not investigate these costs in detail as, outside of the OU, most courses use text – either ring-binder style or replicated on DVDs – or an occasional bought-in or university produced video. Only two courses that we looked at used media other than text.

2.30 The cost of text-based materials (producing study guides, etc) has been significantly reduced with the use of desktop publishing software.

2.31 Other types of media that could be used to supply distance learning materials are:

- audio cassettes;
- film, video tapes, DVDs, which are sometimes used to support text materials;
- videoconferencing (rarely used for delivery to UK distance learning students – more frequently for on-campus students);
- radio;
- TV (few institutions other than the OU have made use of this medium. In 2000/01 OU students received 819 transmission hours).

2.32 More common in HE are:

- videos of lectures. Producing videos of lectures can be cheaper than writing text. This depends on the style (and quality) of the film finally produced. Techniques can include:
  - a standing camera taking a wide shot of the room where a lecture is being given;
  - a technician moving a camera, panning across to follow the lecture and to pick up illustrations at appropriate points;
  - two tapes made in parallel – of the lecturer and of (high quality) illustrations – that are subsequently edited together;
  - a purpose-produced lecture (not made to a group of students) produced with illustrations and perhaps text inserts.

  Quality issues need to be addressed well and videos have generally been used as supporting material only. We did not find any course that depended upon this medium for a significant part of the delivery of a programme;

- CD-roms. These can be cheaper to reproduce and despatch than hard-copy text, if all they contain is text, although the early days of writing to this mode were expensive with early software, and without the "shells" now available to drop things into. On the other hand, multimedia CD-roms combine video sound, images and text. Authoring and design costs depend upon the complexity and content – whether it contains resources, a copy of the study guide, interactive animations or games style software. One audio-visual department estimated that it took 200 hours of their time (and 20-30 hours of academic time) to produce a supporting CD-rom with text combined with video clips, photos, etc). Another department produced the text for a module which was turned into a film script, produced with screen and sound tracks etc, then turned into a CD. This cost £140,000 (for 8 modules on CD-rom and 4 on hard copy) excluding academic staff authoring time;
- laboratory kits. Used rarely outside the OU, returnable kits can cost £20 to £100 per student, depending on the cost of refurbishment. This would exclude the original development cost.

2.33 One 60-credit science course in the OU comprised 87 items mailed to students. These included 11 full colour books, 11 loose-leaf study files, 12 study guides, 7 CD-roms (with interactive exercises), 2 videos, 3 assignment booklets and a home experimental kit. Few other distance learning courses outside the OU have this range and number of items.

Production of content – writing, design and editing

2.34 There are three main models in use. Under any of these, an academic's prior experience in writing or delivering distance learning programmes significantly affects the time required to write the materials. This can be reduced if there is professional expertise (a design team, standard templates) available in support.

2.35 The first production model was most commonly used in our case studies: development of materials by an academic who in effect carries out the writing, design, editing and production functions themselves. A print-room might provide reproduction facilities. A media services unit might be commissioned to provide a single piece of supporting material such as a video. **Academics in effect are the production system.**

2.36 The second involves a **central team which offers design and production support**. Professional editing, and typesetting and/or desktop publishing functions are used to support the academic's authoring. In the case of a video production, the central team will provide script-writing, production planning, studio and location recording, screen design and post-production. Use of central specialist teams for producing audiovisual materials is common.

2.37 A less common, but very strong, variant of this extends the support offered by the central unit, with the team also providing pedagogical advice on styles, assessment methods, etc. This was described in appendix 1. It might extend to the commissioning of external peer review, but the academics would still be responsible for the materials, and for the delivery of those materials. Academics are very close to the design and production system. As described in appendix 1, one standard cost used for a central unit (supporting educational development as well as providing technical and publishing functions) was £180 per credit.

2.38 The third production model is a highly professional approach, suitable for very large-scale operations. A **very structured design and presentation approach** is taken, involving large numbers of people with different expertise and a considerable elapsed time. The functions of authoring, design, production and support (of the students' learning) are clearly delineated. This is the approach typically taken by the OU. There are occasional examples of this approach outside the OU. They require specific up-front funding, but can provide a pedagogically sound approach to the development of distance learning courses.

2.39 At the OU a course takes between two and five years to develop and produce, with most courses being prepared in about three years. The material for each course is developed by a team of academics, pedagogical experts, and media and design experts, although some may be prepared by just one or two authors working with a smaller production team. The team follows a formal project management process. There is an extensive quality assurance process involving external assessors during the development phase (unusual elsewhere in HE). There is a well-developed and systematic editing and production process. Some courses can cost up to £4 million to develop and produce, depending on the mix of course components that are used, but most are cheaper than this. Some illustrative course development costs that we were given ranged from £500,000 (£8,850 per

credit, for a science course using emerging technology), to £85,000 (£5,700 per credit, for a postgraduate science course)

2.40 The costs of these three approaches will depend upon what media and content are involved, as described above. However the latter can be most costly, and the former can be least costly, purely because of the number of people involved. Of course the quality of the end result (in terms of materials, not necessarily its effectiveness in terms of teaching) is also very different. This will impact on the amount of learning guidance and support required by the student during the course presentation.

Examples of development costs

2.41 In a conventional course (as described in appendix 1) development costs could perhaps be estimated as follows:

Conventional band D
2 to 10 development hours per hour of teaching.
360 teaching hours per year = £30 hour
120 credits a year
£180 to £900 per credit

2.42 We found a very wide range in our case studies:

Social sciences Masters
An overseas distance learning course (for international market) used under licence. Will rewrite 4 distance learning modules using professional authors and distance learning pedagogy: conversion cost of £7,000 for each of 4. Using existing materials for 8 modules.
£350 per credit for the conversion costs

Certificate, Engineering
0.5 FT academic per 20-credit module, desk-top publishing, workbook/learning package only, excluding the resources pack, and assuming the academic knows the subject. So £22,500 per 20 credits.
£1,125 per credit

Science foundation degree
20-credit module. £45,000 to develop, but incorporating **new definitions** and concepts.
£2,250 per credit

Science undergraduate
1 person year for each of six 20-credit modules**.**
£2,250 per credit

Education undergraduate
4 weeks FT (including production of tutor packs) for 20-credit modules.
£210 per credit

Social sciences undergraduate
£4000 per 10 credits paid to (reluctant) academics. Same materials as undergraduate course if had produced latter comprehensively – explanations, references to reading lists, self-assessment questions, activities, think points, case studies.
£400 per credit

Professional accounting qualification
One to four weeks per 15-credit module i.e**.** £60 to £230 per credit, although the department actually paid academics £33 per credit. To this should be added the costs of a central educational development and media services unit at around £200 a credit.
£260 - £430 per credit

Postgraduate health
1.5 months to write a module**:** £350 per credit (although the actual honorarium paid to the authors amounted to nearer £250 per credit). Again the costs of a central educational development unit would need to be added.
£350 per credit + cost of central educational development unit

Postgraduate humanities
£70,000 to develop a 180-credit Masters including module packs, videos and audio tapes and simple laboratory kits. Depending on the treatment of the dissertation element:
£400 to £600 per credit

2.43 Many of these costs include the time spent by academics in familiarising themselves with distance learning pedagogy and authoring techniques. One academic on a health course quoted three months (or 0.25 FTE) to develop a 15-credit module for the first time, but as experience grew and standard formats were developed, this fell to two weeks. In other words, the original cost of £870 a credit, fell to £150 a credit. The latter is comparable with the costs of producing lecture materials (ignoring any central educational and media services unit). However additional costs from the central educational development and media services unit, plus specialist clinical staff input (their endorsement was critical to academic credibility) were incurred. These cost a further £200 a credit.

2.44 All of the examples quoted above are of a hard-copy text. An example of a CD-rom production (interactive software) showed costs of nearly £140,000 for the production of the CD-rom (for 160 credits) plus academic authoring costs of £3,700 for 20 credits; a total of £1,000 a credit. Encryption costs added £50 per module, per student.

2.45 Most of the examples that we looked at were initiated, and largely developed, by individual academics. The materials produced can still be of very high quality.

Cohort sizes

2.46 The costs of material development per student are significantly affected by cohort sizes. An illustration of this was given in appendix 1. Most distance learning courses in UK HEIs (other than the OU) have small cohort numbers, although there are exceptions to this.

ii. Academic time in learning support and guidance, including assessment

2.47 Academics support students through telephone and, increasingly, e-mail or discussion groups. Feedback on assessment is an important method of learning support.

2.48 Good practice is still emerging in this area. There is not yet general acceptance (or a wide understanding) of the standard levels of support required for different types of students, and the different ways that this can be provided. A strong, professional administration function, piece payments to academics for marking, and the use of junior staff to support, can all lead to a lower academic staff time (cost) than required for a conventional course. We saw some examples of this, particularly where student numbers were large (in their hundreds), at postgraduate level, and in pre-92 institutions.

2.49 Support is generally provided by the university's departmental staff. Lower-cost options can include employing specialist staff (e.g. graduate teaching assistants), and larger distance learning units in a few universities which have more flexible and specialist staffing. There are also examples of support being provided by staff external to a university (which can "release academic staff to do research"). Some examples of this included paying external assessors (to assess competences) on an undergraduate education course and, on a social sciences course, paying staff to support students (although they are generally supported by the academic who set up the programme). In another HEI, health modules pay local clinical tutors to support students, which adds significantly to the cost.

2.50 Such support can, however, be unpaid; on one undergraduate education course, for example, unpaid "associate tutors" from the workplace are appointed. (There is strong employer support for this scheme.)

2.51 The OU describes its provision as "supported open learning". It offers intensive tutor support to students, through: face-to-face tutorials (attendance at these is optional); open days; induction meetings; learning skills workshops; and revision and examination preparation workshops, as well as one-to-one interaction on the phone or email. Staff student ratios of 1:15 for level 1 students are typical for support. On one 60-credit, level 1 course this involved 34 hours contact time mainly in the form of face-to-face contact in tutor groups.

2.52 Generally, academic time in learning support and guidance was considered to be broadly the same as for a conventional course. Although there were some examples of less time, sometimes these ignored the costs incurred by students in paying local educational institutions to support them. In other cases students were provided with high quality comprehensive materials, extensive feedback in their assignments, and were otherwise "left to contact" the academics if they needed. A dozen emails a week from a cohort of 100 students was quoted. This can be compared with other departments experiencing four hours of emails a week from much smaller cohorts of students. There were some examples of higher cost than in conventional courses, particularly at undergraduate band D level. However, the sample size at this level was very small.

2.53 Students seem to require different levels of support depending on (a) the quality of the learning materials provided, (b) the subject, and (c) their level of study. So, for example:

- if materials are well-written and comprehensive, including all textbooks, and a rewrite of all required articles ("stand-alone learning packages"), then the support required from tutors may be less;
- in some subject areas discussion with tutors (and peers) is part of the learning process, and support may need to be higher than on other courses;
- in terms of level of learning, postgraduate students can be pretty resilient and self-sufficient, with a good capacity for learning. Academics employ a "student-led approach" in terms of contact; the students' personal development is arguably already in place. At undergraduate level this is not so certain, especially with foundation degree students. With no prior degree, students generally have less confidence and experience with learning. They need personal development. The support costs of this will be higher than for postgraduate courses, and study school weekends, for example, are often provided (see below).

2.54 Several of the case studies involved stand-alone departments where the academics only taught on distance learning programmes, or support was contracted out to academics. This meant that the costs of support provided on these courses could easily be ascertained. It was less easy to identify the costs of comparable courses where the same mix of thesis/dissertation and learning/teaching were present (the time required to support these can be very different). We note that where academics are paid specifically to support students and mark assignments, the pay given does not generally cover the time required.

2.55 Whilst we did not identify significant differences in assessment between distance learning and conventional courses, there may be a tendency for over-assessment to ensure that the learning outcome is as good as that on a conventional course. In addition, giving full feedback, in writing, can be higher cost. Many courses, including those offered by the OU, still require a written examination at the end of each course – invigilators, examination centres and script-markers all add to cost. For example, the University of London operates through an international network of around 700 exam centres, with scripts returned to London for marking.

iii. On-campus attendance

2.56 It is rare for there to be mandatory requirements for students to be on-campus at some stage, or for their physical attendance at some location. A notable exception is the OU, where most students attend local tutorial groups (residential weeks are becoming fewer).

2.57 At one university some attendance at a local institution is required on some undergraduate diplomas (equivalent to Year 1). Local institutions frequently provide teaching support that they may link to the university's courses, but there are no formal links with the university and it does not endorse them (attendance is not compulsory).

2.58 Several of the programmes that we studied do have some provision on-campus, although these are most commonly an optional part of the programme. Views on the effectiveness and need for these differ. On one postgraduate course (health) for example, three approaches have been taken. A study day per module was offered when the programme was first introduced; the department was new to distance learning, and this was one of the "safety nets" that they put in place to ensure the quality of the learning experience. However, attendance was poor – students were too busy or too far away – and email and telephone provided the opportunity for tutorial-type support. Study days were withdrawn. Subsequently, the department became aware of the advantages of networking opportunities (both for students and for academics), and "briefing events" are now offered, for which students pay additional fees. These are not formally linked to the programme.

2.59 In some programmes, students are offered study school weekends. On one social sciences course, for example, three are offered, over a 180-credit programme. The cost is £180 per annum per student, as the university bears the costs of the students' accommodation. The weekends typically include tutorials, dissertation advice, and guest speakers. This is offered, at least in part, to avoid quality problems. Academics are not yet clear whether "distance learning would work on its own".

2.60 Similarly, on a science course, summer schools are offered to the distance learning students – one week of very intensive activity, each year (many part-timers would attend one each year). 60% of all students on the programme attend. This offers a chance for:

- bonding, as a group and with the department;
- the academic staff to assess how the students are getting along;
- pastoral contact;
- a staff/student committee (forum);
- students to develop transferable skills;
- students to carry out laboratory exercises, both wet lab and technological. This reinforces and develops the practical skills explained in the distance learning packs, and otherwise carried out by the students using home kit.

iv. Administration

2.61 Chapter 2 of the main report considered the costs of administration. In distance learning it is relatively common to find a stand-alone department, with specialist administrative staff. These are considered an essential part of the support for the programme, including to the student. The costs of these staff are typically higher than for a conventional course.

2.62 Administration is considered by some to be absolutely key to the quality of learning: student tracking (including their contact with the university) is very important in monitoring progression and possible success. This generally requires more input from academics and from dedicated (high quality) clerical staff. One department was considering supporting its distance learning students through the Ufi learning through work platform, as this provided an excellent tracking system.

2.63 Commonly, however, using the university's central administrative systems (particularly to track fees and income, but also students active or "suspended" status in terms of registration) was considered by academics to be "horrendous" or "a nightmare".

vi. Central services

2.64 Distance learning courses are by definition provided off-campus. In our costings we therefore included a differential of -15% to -25% of total costs depending on the band, to reflect the lower estates and central services use. This is halved if there is some time on-campus at residentials or weekend schools.

Fixed and variable nature of costs

2.65 We considered whether distance learning courses have a higher percentage of fixed costs to variable costs. This depends on the definition of variability – we interpreted this to mean variability with the number of students (rather than the number of distance learning programmes, or times that they were presented). In many of the courses studied, the fixed estates and central services costs were replaced with other fixed costs – that of developing the materials. Otherwise the cost components broadly remained in the same proportions of fixed and variable.

2.66 If no significant levels of academic support were provided to students during their study then costs overall would be lower, and a higher proportion of the total costs would become fixed.

2.67 If variability was linked to the development and presentation of a particular programme, then a higher proportion of costs (including now, all academic staff time and associated premises and indirect costs plus the costs of any central design team) would be defined as variable in distance learning programmes. This is the method used by the OU in apportioning costs, and makes comparison with other costing methods, such as those used here, complex.

Cost differentials

2.68 We identified the following differentials in the case studies that we investigated.

Band D undergraduate:

At undergraduate level, there is very little band D distance learning provision. The following examples were specifically sought out to provide some data at this level. The number included here does not represent the relative share of provision across the sector.

Professional qualification

Taught course allocated 2 hours per student per module (to include assessment etc). Distance learning equivalent: allocated 5 hours per student per module to recognise the individual learning support provided to individuals, not to a group, giving a differential of +55%. This also reflects the higher cost of assessment (on the taught course a considerable amount would take place in the classroom) and in the development of materials. Estates and central services are -15%.
+40%

DipHE social science

Students receive a professional qualification which is valued by themselves and their employers. All students are employed, and employers provide a tutor who provides 14 days support a year to their employee cohort – appointed as an associate tutor of the university, but not paid by the university. They are provided with a comprehensive tutors' pack, training etc. In addition the employee has a workplace supervisor who the university visits, and trains. A FT academic manages the programme, with professionally qualified paid assessors (senior professionals, also educators) assessing practical competences.
-18% or **-11%** if unpaid tutor costs are included

BSc social science

Desktop published material, specific payments to lecturers to develop material, and to support (by telephone) and assess students. Students are all in employment. One three-day residential is held at each level.
+18% to +3% depending on cohort size

Foundation degree social science

Delivery costs are significantly lower, offset by increased development and administration costs. Central services and estates costs are less. This leads to a differential of -40%. If the full costs of development are included (covered by prototype funding but requiring similar major investment at the end of the first three years), and additional residential study days are included (a preferred approach, common to other distance learning programmes in the department) then the cost differential overall becomes -10%.
-10% to -40%

Humanities level 1

Delivery costs were significantly lower and development costs were not substantially higher – overall academic staff time was -20%. Estates and central services costs -20%; offset slightly by increased costs of books, advertising and administration.
-35%

Band B undergraduate

Foundation degree health

Delivery including administration +9%; estates and central services -12% (there was a residential workshop).
-3%

Level 1 engineering
Delivery is the same, preparation and estates and central services differentials offset each other.
Same cost
(To some extent this type of result is a fait accompli, as staff in dedicated units are provided with same staff student ratios as for conventional delivery. Development and estates costs then offset each other. This is shown in the table below.)

Delivery/support	Same level of costs
Development: (cohorts reasonable: 60 p.a.) desktop publishing: learning package	£22,500 per 20 credits: +£8%
Resource pack/textbook	+8% to 14%
Estates/central services (no face-to-face at all)	-25%
	Overall, same level of costs

Science undergraduate
Six modules at levels 1 and 2; some face-to-face was required on two of the modules – although one was an optional workshop, and funding had just been received to convert the other two workshops to simulations or "virtual weekends". Otherwise, laboratory experiments were carried out at home, usually using equipment found around the home. One module had 100-150 students, other modules had 30-70. The costs of the modules varied from 10% to 20% more than the costs of a conventional module, with the following variations:

less delivery	-6%
more assessment	+5%
more preparation	+25%
more pastoral	+1%
more admin	+10%
less estates	-20%

+15% overall
(Preparation costs were calculated using a five-year life. In fact the programme has already been running for seven years. If a 10 year life was assumed then the overall cost differential would be closer to **+10%.)** The overall opinion of the academics involved was that a cohort of 100 cost less than a conventional course, and a cohort of 30 probably broke even. Given the margin of error on the calculations, that view is probably correct.

Foundation degree band B health

Where a module is provided as part of a whole programme, the practical and pastoral support can often be supported at least in part through the other modules. For example, a 20-credit distance learning module on a foundation degree: although delivered using distance learning materials, it was part of a programme which otherwise included significant use of further education colleges' (FECs) and university equipment, and provided opportunities for considerable tutorial support (from the FECs). The costs of developing this particular module were £45,000 (it was the creation of a new subject, but spread across cohort sizes of 60 a year), and the students' learning was supported by academics visiting them at their FECs (who delivered most of the other modules in a conventional mode). This alternative method of delivery resulted in a 10% lower academic input on this module than for a conventional module (estates costs are arguably still required). However, at only 50% of total costs, this only leads to a **-5% reduction** on this particular module, and, by definition, this lower level of cost only occurs on a small part of the course – 1/12th. The differential on the programme as a whole is immaterial.

Negligible

Masters/postgraduate

At Masters/postgraduate level costs tend to be broadly the same as for conventional delivery. This applies to both Band B and Band D. Note these courses are generally more costly anyway than undergraduate, as many are "long courses", and they are often in receipt of higher fee income (especially in Band D subjects) that allows higher costs to be covered. Some examples are given below.

Social science Masters and postgraduate certificate

Delivered to the **same** SSRs as a conventional course. (These may be considerably in excess of a "conventional undergraduate Band D cost" but that is irrelevant in the comparison being made here.)

Engineering Masters

However, another example, not perhaps driven so much by conventional expectation of staff student ratios, also delivered the **same** overall results. The delivery was very different (one learning package with a reading list, no resource pack or textbook, but written at a higher level; two three-day weekend sessions per annum; more time required for assessment) but costs overall were similar to a long (postgraduate) course. Here the costs of a conventional course and a distance learning course are significantly made up of the dissertation/research support, and this reduces any significant differential between the modes of delivery. (Estates costs are still incurred due to the weekend sessions).

MSc sciences

Preparation and estates differentials offset each other. **Same.**

MBA humanities

The differential arises in administration and management. This course is delivered in full-time, part-time and "open learning" modes. The face-to-face time required for the latter (two days a week) is broadly the same as that for the part-time "on-campus" mode of two evenings a week.

+8%

Band C health science Masters
The 60 credits in Years 1 and 2 each showed a differential of +15%, whilst the Year 3 project showed little differential. This is a "flagship" programme for the department and, therefore, these higher than usual costs were not unexpected. The differential comprised of:

more contact time than conventional (residential weekends)	+4%
smaller cohorts	+2%
preparation of materials (desktop publishing)	+3%
extra administration	+6%
estates	0
overall differential in years one and two	+15%

+11% for an FTE (180 credits)

Band D social science Masters
A college based course could be compared directly with a "network learning" course comprising:

5 residentials
5 network conferences (lasting two weeks)
with the same distance learning materials delivered to both cohorts
plus PowerPoint slide copies to on-campus students.

8% overall If on-campus students receive distance learning materials too, then differential would be +10%

Band D social science Masters
A very large cohort (>1000 students headcount), dedicated department, business model "operating efficiently": different staff contracts, protocols, dedicated call centre (not quite 24/7), production manager. Materials are comprehensive, "self-contained" and of high quality. Very low attrition. Optional teaching weekends.
-10% overall

Band D social science Masters
Higher costs of development, but amortised over significant numbers of students. Payments to agents for marketing and strong professional administrative team, considered by institution to be more than offset by reduced academic staff time in learning support, and reduction in estates/central services.
-20% overall

Band C postgraduate diploma health
Well-established distance learning unit (supporting 200 students across a range of predominantly postgraduate distance learning courses) has identified that academic time is the same as a conventional course (broadly, two hours per 15 credit module per student). However, in addition, clinical tutors formally provide further support to these (employed) students. These associate tutors are trained and supported in this by the university department. Although there is no direct cost, fees are reduced to these employers. The real cost of this additional support amounts to a differential of +12%. Lower estates and central services costs and higher development and administration costs then offset each other.
+12% overall

Band C postgraduate certificate health
The time spent in supporting students is considered to be significantly less than for a conventional course, but this is offset by the costs of administration and the development of materials. Estates and central services costs are less. Supplementary briefing events are covered by additional fee income.
0 to -10% differential

Band D humanities Masters
180 credits with the **same costs** as a conventional course (but the actual costs of which are at band C). Comprehensive materials are provided, including textbooks, laboratory kit, videos etc. However, development costs are being recovered over reasonable cohort sizes (nearly 100 FTE a year), and estates and central services are lower. Associate tutors (sector professionals, trained by the university) assist with support and assessment. Campus-based summer schools are offered – one week of intensive activity, and often part-time.

2.69 We informed our understanding of differentials between subjects and levels of degree by a theoretical exercise using some indicative OU costings. These were based on the assumption that the main cost driver of many central costs (as well as all academic time) is the initial development costs of each course and the number of programmes (rather than the number of students). Therefore, even more so than in other institutions, differentials are most significantly affected by cohort sizes and development costs.

2.70 Development costs were affected by the range of factors listed earlier in this appendix, only two of which are the subject area and the level (and we have found elsewhere that academics' view as to the amount of material required at each level varies).

2.71 The other most important cost in the OU illustrative figures (but small in comparison to development costs) was the costs of tuition. Support given to level 1 and postgraduate students can be considerably higher than for a level 2 student (e.g. 33% higher tuition costs). However, different levels of tutorial support are not provided to science vs arts students because of their discipline area. This is unlike much of distance learning in other institutions, where the levels of support provided can be heavily determined by the funding available (reflecting the HEFCE funding model differentials).

2.72 In the OU model, if the development costs, cohort sizes and tuition time are otherwise the same, then the cost differentials between subjects would be very small, relating almost totally to the laboratory space required for academic work.

Other research

2.73 Our findings are reinforced by other studies (although there is limited evidence in this area). For example:

> The costs of small distance-teaching universities are still relatively unexplored. A number of studies in Australia have attempted to address the question of costs in dual-mode universities. (The difficulties of disaggregating costs from those of internal teaching have complicated this process.) These studies have shown unit costs for full-time equivalent students which are broadly similar to those in conventional courses in the same institutions. It is not clear however whether these represent real costs or are a function of the apportioning of costs between on-campus and external courses. In addition to the Australian studies, one small tertiary distance teaching system in Europe [Ireland] has been extensively studied. Overall one can say that, in spite of the sparsity of empirical studies, there is some operational evidence to show that small systems can be cost-effective provided appropriate approaches are adopted to course development and teaching, to the choice of media, and to the range of courses provided.[15]

2.74 Rumble (1999b)[16], a seminal textbook in this area, gives a summary of findings from research reported from 1972 to 1993, on the comparative costs per student of distance and traditional education systems. The most comprehensively he quotes is that of Wagner (1972)[17]. However, most of the programmes here had very large numbers of students: from 1,000 to 400,000. Two further studies are of particular interest:

- Muzio (1992)[18] reported on courses with 40-80 students and identified that their "efficiency ratios" (distance unit cost over conventional unit cost) ranged from 0.75 to 1.66 (under 1.00 means that distance teaching is less costly than conventional teaching);

- A study by Coopers and Lybrand (1992)[19] looked at the costs of training provided to staff in large commercial organisations (who were not specialist training or education providers). Student numbers ranged from 13 to 248, which is closer to UK university numbers. Efficiency ratios ranged from 0.10 to 1.08 (with an average of 0.57). However most of these courses used bought-in materials, and a significant part of the differential was the savings in employee productivity through their learning in their own time, rather than through day release. This is not a cost (or reduction in cost) that is recognised in this study for HEFCE.

[15] Quoted in the European Commission's *The Potential Cost-Effectiveness of Tertiary Open and Distance Learning* 6, p.17, January 1995.
[16] Rumble, G. (1999b) *The Costs and Economics of Open and Distance Learning,* London, Kogan Page.
[17] Wagner, L. (1972) 'The Economics of the Open University' *Higher Education* 1 (2), 159-183.
[18] Muzio, J. (1992) 'Distance-Taught Computer Education for Managers and Professionals at the University of Victoria' in G Rumble and J Oliveira (eds) *Vocational Education at a Distance: International Perspectives,* Kogan Page, London.
[19] Coopers and Lybrand (?) *A Report into the Relative Costs of Open Learning* for the Training Agency, Department of Education and Science and NEDO.

In conclusion

2.75 Distance learning courses are provided by most HEIs. However, most providers support very small cohort numbers, with the obvious exception of the OU. Apart from the OU, most of the provision in the sector is at postgraduate level. In other institutions distance learning materials are developed (and usually produced) by individual academics and are text-based.

2.76 Costs are significantly affected by:

- the type of materials and the cohort numbers they are delivered to;
- the amount of distance support provided to students by academics;
- the amount of face-to-face support;
- to a lesser extent, administration;
- the reduced estates/central service costs.

2.77 We found that development and materials costs were broadly the same as the reduction in estates and central services costs, leaving the amount of support the critical factor determining the cost differential. The majority of case studies were small-scale provision, and showed delivery at conventional levels (so no differential was identified). In several instances lower levels of support were found (e.g. for large scale postgraduate provision), or higher levels of support (e.g. for "flagship" courses).

2.78 Our conclusion is that distance learning costs are broadly in line with conventional costs when delivering undergraduate band B and postgraduate courses in both bands B and D. Costs can be lower or higher than conventional band D courses (there are very few examples outside the OU of this type of provision).

2.79 We found many band D and band B courses that showed little differential in delivery costs from the conventional courses – this could imply that there is a differential between price bands on distance learning courses. However, where there is no need for laboratories, there is no particular reason for band B subjects to be higher cost than band D. Our findings probably showed the impact of the resources being made available to different departments; rather than the real need.

2.80 Delivery is also affected by administration, the comprehensiveness of materials (and their effectiveness in a learning process), the students' perceived ability to "stand-alone" (we did not link costs to retention or achievement), and academic caution. Many academics often expressly plan higher levels of support (including on-campus days), to ensure that students receive the same quality of learning experience, whether that support is actually required or not.

2.81 Costs in distance learning courses can be lower than those in conventional courses if:

- the costs of development are kept low (determined by choices relating to the volume of text and amount of original research, media, collaboration – bought-in/sold out/co-produced – as well as an individual rather than design team approach used in development);

- cohort numbers are high, so that development costs are spread amongst more students;

- one to one support is not required or is restricted or limited (with no residentials);

- alternatively, the course is developed and supported by a very professional team, with sound pedagogy informing the development of materials and the types of interaction (learning guidance and support) provided. This requires considerable up-front investment to cover the costs of development – much more so than the individual academic "preparing materials in the evening";

- the university's (and department's) administrative systems are efficient and effective when handling these types of off-campus student.

2.82 We found several examples of lower cost. However, this would not be transferable to all distance learning provision.

3 Foundation degrees

Introduction, and definitions of foundation degrees

3.1 Foundation degrees (FDs) were launched in England in 2001. These intermediate level qualifications are vocational and have been designed to be delivered in flexible ways. They include elements of workplace learning or work placements, and many also include elements of distance or e-learning.

3.2 At the time of launch, it was anticipated that "there will be no single model for the foundation degree", other than the two years required for completion (and a bridging course to allow progression to the final year of an honours degree). Bridging courses are not covered in this study.

3.3 However there were several key features identified at the time of the FDs' launch:

- bids for funding should come from consortia of HEIs with degree awarding powers, employers, and delivery institutions (typically FECs). FDs should be partnership based; HEIs with degree awarding powers would award the FD, but the delivery would involve several other partners, including FECs and employers;
- programmes should integrate study and work – they should facilitate full and/or part-time study through modularity and distance or web-based learning;
- credit accumulation and transfer and Accreditation of Prior Experiential Learning (APEL) should be offered to students to encourage wider participation.

3.4 This allowed a significant degree of scope in how an FD could be provided.

Types of foundation degree

3.5 Formally, there are prototype and non-prototype FDs (the former were awarded development funds in December 2000). Our study has excluded development costs (see below) and, therefore, this has not influenced cost differentials. Otherwise, institutions converted existing numbers, or were awarded funds for additional student numbers. Again this has not influenced costs (although it may reflect the type of course that these latter institutions have tended to provide).

3.6 FDs can be part-time and/or full-time. Students can be full-time in employment and full-time students at the same time. We have attempted to exclude obvious differentials between these types of provision that relate purely to its part-time nature (the costs are covered in technical appendix 7).

3.7 The Foundation Degree Support Team[20] has produced a taxonomy that identifies five types of FDs:

[20] The Foundation Degree Support Team (2002) *Types of Foundation Degree: A Case Study Approach,* available at www.hefce.ac.uk/Pubs/Rdreports/Downloads/report14.htm

1. Meeting a niche employment need (key characteristic: employer led)
2. Meeting an essential employee need
3. Delivering sustainable regional collaboration (key characteristic: FEC delivery)
4. Adapters
5. Re-badgers.

3.8 We did not find that cost differentials lent themselves to these five types – but we did identify that:

a) if courses are re-badged HNDs they are unlikely to show a differential. However, they can still incur a higher cost than the original HND if for example workplace projects, with academic visits, are added into the programme;

b) the more "partners" there are in a course delivery (as distinct from course development), the higher the differential. Instead of an HEI liaising and co-ordinating only with students, on an FD it can now be liaising and co-ordinating with:

- employers/organisations;
- trade organisations;
- FECs;
- perhaps associated HEIs (delivering the same programme);
- perhaps individual assessors and mentors within the employing organisations.

3.9 Some FDs will operate with none of these relationships. Others will have some or all of them.

FECs

3.10 Many of the courses that we studied are being delivered by, or jointly with, one or more FECs. In general, we identified FECs' costs through discussion with FECs, rather than accepting that the FECs' share of funding represented the real cost.

3.11 We found that working with FECs incurs additional costs associated with co-ordination, liaison and multiple party involvement in planning, assessment, quality assurance, etc. However, these are normal costs incurred by any programme jointly delivered by FECs and universities or that is franchised. Universities perceive FECs' costs to be lower than those in an HEI, and that overall cost levels might be the same as a non-franchised course. However, we could not ascertain whether this was in fact the case, and assumed in general that the costs incurred by the FEC were the same as in an HEI. Where the number of hours delivered by

the FEC was considerably lower than they would normally deliver on an HND (because they are delivering to an HE curriculum) costs would be lower, and we took this into account where it occurred. A more detailed discussion of this is given in chapter 1 of the main report.

External organisations

3.12 Some of the courses that we studied are being delivered jointly with commercial organisations. These are not training companies, although training departments are generally involved. Again we discussed costs directly with those organisations.

3.13 We have identified three models of employer involvement:

i. assessment. The costs for employers will include the assessor's time, the overheads associated with the assessor and the programme champion, and the reduction in productivity from employed students learning in the workplace or taking time off for training. Arguably the last two might be similar to those for any full-time student who is being sponsored to undertake training through, for example, day release;

ii. mentoring. We did not investigate the costs to employers who provide only mentoring or employee supervision – these form the majority of those FDs where employers are more than passively involved;

iii. learning agreements. Employers who are least involved usually agree to some sort of learning agreement. This generally ensures that the student is helped to gain access to non-confidential documents, allowed to discuss studies with their workplace manager, and is given time off work to study and to attend seminars.

3.14 Again, we found that the involvement of another party increased costs. Additional time on planning, and programme management was spent. In one FD, we identified six forums (plus others as required) meeting monthly, bi-monthly, or less frequently. These included a champion's forum, education forums, board sponsors' meetings, evaluation meetings, programme committee meetings and away days.

3.15 Institutions commented that they had an "uneasy alliance" with these organisations: it was a genuine partnership, but agendas were different. And any changes in personnel or company restructuring meant significant challenges for the programme.

3.16 **The type of sector** also affects costs.

3.17 It can be more costly to recruit students and employers/organisations in a non-unified sector such as media, where there are many small to medium enterprises (SMEs) which change each year, and where there is no sector history of training or educational standards. This adds costs to the recruitment process (of employers and students), to retention, and to maintaining quality placements.

3.18 These costs can be circumvented by minimal involvement of the workplace or where the HEI facilities are used as a workplace (for example, its science laboratories, recording studio or computer laboratories). Workplace learning is a loose term. FDs can be vocational, but re-badged, HNDs, or workplace learning can involve delivery close to the workplace. If this is the case, then additional costs can be incurred from:

- the tutor potentially needing to understand the employer's context;
- the need to make the course "closer to the employer's needs" in development, but also in assessment and feedback;
- the time required to liaise with National Training Organisations/Sector Skills Councils.

3.19 Alternatively, a large company can be encouraged to support a particular FD, helping both with student numbers and work placements. This requires training and support from the university, and requires careful management to ensure quality. It can also pose similar risks to those found on other workplace programmes (see technical appendix 5) where the key person, or company, can abruptly disappear or become focused on other priorities.

3.20 However it can also be costly to provide a programme in a sector with interested employers, for example where:

- structured programmes of work placements can be used (engineering, with a history of workplace learning, and where recruitment is seen to benefit);
- other costly models of workplace assessment are used as they are the "norm" in the sector (health, with workplace assessors);
- there is considerable interest in developing professional standards that cross several sectors or competencies, and where employers also ask for a very flexible range of routes (e.g. with workplace learning offered as an alternative to campus provision on several modules).

3.21 A less-costly alternative here is education (e.g. schools) where the schools are supportive of the FDs, but not actively involved in the student's learning.

Foundation degree models

3.22 There are probably as many models of FD as there are FD programmes. The table below summarises the different models found in our case study reviews. (All examples illustrate one of our sample of FD courses, unless noted.)

Academic (HEI) input to delivery	FEC input to delivery	Employer/organisation input to delivery (other than input into planning and course design)
No workplace visit by lecturer		
same delivery as conventional course (5 examples)	none	none (HEI will provide workplace environment)
100% distance learning (same as current distance learning certificate/MSc) with workplace learning projects in addition	none	minimal
100% distance learning	none	none
4/12 taught off existing degree; 4 negotiated work-based learning ("Ufi model") with project assessed in campus and no visits	4/12 practical skills training (local FEC provider)	minimal
1/12 taught (block); 1/12 distance learning; 1/12 portfolio	9/12 taught by one of 3 FECs - lab-based and extra equipment provided	minimal
directly funded FEC	taught as a normal HND, with one work-based module based on a project from a client in industry	
directly funded FEC	taught as a normal HND; work-based module has been significantly in-house (e.g. commercial website design by the cohort)	
Visits Franchised	same as FT HND (delivery on-campus) with workplace learning projects. significant facilitation of workplace learning by academics	internal (in early years, HEI will provide workplace experiences)
delivery on campus equivalent to conventional degree, plus placement organisation and visits	none	provide placements
majority of delivery on campus or through assessed projects, lecturer visits to quality assure workplace and mentor	none	formal consent only (university mentors)
delivery on campus, lecturer visits to confirm learning environment. Distance (open) learning materials	none	mentor
delivery on campus, but observation and feedback	3 FECs providing personal tutorials [HEI plans to handover to FECs to deliver]	mentor

delivery on campus and at partner institutions, visits to observe/support	two HEIs, 4 FECs and 2 local education authorities jointly delivering and supporting	mentor
franchised	fewer on-campus delivery hours, lecturer visits to observe support and feedback (assess?) in workplace	learning agreement
Supported by workplace mentors		
workshops, groups and visits to workplace	all students are taught by 5 FECs as well as the HEI	mentor; one provides a lecturer; one provides training facilities
distance learning (as with other courses in that dept)	none	supervisors who formally mentor
fewer on-campus modules, 3/7 workplace learning modules	none	part of tripartite approach to assessment (not trained assessors but good supervisors)
delivery on campus plus visits to workplace	none	students are in employment
students, with significant work in workplace, keynote lectures only on-campus, VLEs, lecturer visits to support and assess, and: a) employed – employer mentoring and supports learning – part-time model b) not employed – work placements, lecturer provides more support to learning – full-time	none	if student is employed then employer mentors
Supported by workplace trainers		
academic delivery, some visits to workplace for quality assurance	none	full-time "practice trainers" (clinically competent) facilitate learning and assess/verify in workplace. Provide training environment. Students are employed.
academic delivery, some visits to workplace for quality assurance	none	provide dedicated training facilities and equipment, and deliver practical training. Students are not employed.

3.23 These models illustrate the diversity in the sector. We note that in the 27 June 2001 DfES letter that of the 84 courses "being delivered in 2001/02" HEIs had identified learning in the workplace as the key element of the course in only 12 (14%) of these. We note also that the University Vocational Awards Council will only accredit FDs if a (specified) minimum of any programme is provided as work-

based learning, involving mentoring and supervision. This requirement has driven the specification of a few of the FDs.

3.24 Of the above models, only the last section (supported by workplace trainers) encompass models where employers/organisations have taken a significant part of the learning support, guidance and/or assessment from the HEIs. FEC contributions are more common.

3.25 At the other end of the "workplace setting" scale, we note that there are examples of an on-campus course, with no external workplace requirement at all (students may not be employed, or may not be in relevant workplaces). Here the HEI will generally provide that environment as part of the formal teaching experience.

Establishing costs

3.26 We did not include:

- the costs of developing the course over and above those which would have been required for a conventional course. We note however that FDs developed in conjunction with employers and FECs would take more effort;
- VLE and e-learning support (see technical appendix 1) – although several academics did identify this as a major new cost for their FDs, as the university's VLE was not operating comprehensively;
- staff development;
- the cost of aborted FDs;
- the extra costs of planning the new concept of FDs, and of developing it (curriculum, progression etc);
- extra modules for "learning skills" provided by student services outside the academic department;
- development costs of the materials for a new subject or programme, outside those required for a normal course;
- the salary cost of the student, or the reduced productivity – although we did identify this on one of the FDs (health);
- the costs of mentoring and supervising the student, or providing the workplace infrastructure, unless the employer/organisation provided part of the formal assessment or delivery;
- any increase in cost due to any higher attrition. We did not study attrition in any detail. In general academics were building in the support that they deemed was necessary to retain this sometimes more vulnerable group of students.

3.27 We did include the costs of either HEIs or FECs in liaising and in course management, quality assurance reviews, etc. Any differential arising from this is arguably the normal product of any franchised course.

Cost differentials

3.28 The differentials that we identified across a sample of courses are as follows and are expressed as a percentage of total costs:

Band D

Education

Less formal delivery time; but offset by increased skills support, assessment, and quality assurance visits to workplace (schools) including mentoring.
Two cohorts were taught. A separate cohort of more experienced learners required slightly less portfolio work and assessment providing a differential (on band D) of -2%
+8%

Education

The same delivery time, but administrative, preparation and assessment time is significantly higher.
+10% to +20%

Education

The same delivery time ("deliberately made so") plus three visits a year to schools to provide support and observation and liaise with mentors. These three visits are made irrespective of whether the student is full or part time. Plus additional management and co-ordination costs associated with delivery to 160 students in nine cohorts, across a number of locations, with delivery and support shared between two HEIs, four FECs and two local education authorities (other organisations are involved in consultation and monitoring). Costs of smaller cohorts assumed to be offset by the lower hourly costs in the FEC delivery (although this has not been costed).
+15% to +20% (full-time to part-time)

Social science

Delivered in partnership with 5 FECs. Colleges have enrolment and personal tutoring responsibilities. Modular delivery is split between the FECs and university according to the location of lead expertise. Delivery of the course is facilitated by the employer of the largest group of students, through provision of training facilities (the costs of which are assumed to equal the reduction in university estates costs). They make some input to course development, but not to delivery (workplace or classroom). There is no formal workplace assessment requirement, but the employer does operate a formal mentor programme. (Students' lost productivity is not included.)

delivery +9%
liaison between FECs and university +3%
+10%

Social science

Includes top-up (i.e. 270 credits in total), and includes cost of distance learning materials that students pay for: if excluded these then total becomes +7%.

Three FECs offer personal support for students, and delivery of some modules. College tutors and university staff jointly visit the workplace (not for formal assessment)

The differential arrises from:
FEC liaison costs +5%
course materials +4%
administration +2%
+11%

Social science; and science

Both courses are taught exactly the same as their conventional course equivalents. 88% of modules are those delivered to other diploma or degree students. Marginally higher cost due to the additional assessment (a higher degree of coursework to reflect the different student population) and administration.
+2% each

Arts

Small increase due to liaison on work-based module included in the programme; and additional key skills element.
+1%

Social science

A distance learning programme. Delivery costs are significantly lower. Central services and estates costs are less. This leads to a differential of -40%. However the full costs of development are not included (as it was covered by prototype funding). Materials will require similar investment at the end of the first three years. In addition, residential days need to be included in the programme (in common with other distance learning provision in that department). These would bring the cost differential to -10%.

-10% to -40%

Band C

Social science

Tutor group size is smaller than in normal provision, because of the need for hands-on skills transfer; plus small additional costs from work-based module.
+7%

Arts

Fewer delivery hours than normal in FEC (university model used in FEC) offset by the extra time on skills support and to support the work experience and administration: -2%
smaller cohorts than conventional course: +22%
HEI franchising costs could add a further +10% to +20% to this
+**30% to +40%**

Arts

The contact time, and the personal tutor time, is exactly the same as on the conventional degree. This was a deliberate policy to provide for progression to the BA. Students carry out workplace learning experience in industry and the costs of the placement office and the two placement visits a year, add 14% to total costs.
+14%

Social science

Same model of provision as above, but the students are in work so there is no placement office. However, there is considerable work in recruiting employers from the SME sector.
+15%

Science

Half the number of hours required to deliver a conventional HND, more than offset by the additional time to plan and visit in the workplace (support and assess): +2%
cohorts smaller than conventional course: +16%
franchising costs could add a further 10 to 20% to costs.
+28% to +38%

Science

Currently this course is a “re-badged HND” (although with a heavier focus on work-based learning). Costs are therefore the same as for conventional delivery. However, a model is being planned whereby the course would be delivered to one employer cohort. This would mean visits to the workplace. If delivery took place off-site then potentially -20% in estates and central service costs, offset probably by higher costs due to travel, and smaller cohorts.
No differential

Education

Three FECs, in parallel, carry out all the delivery and provide support to workplace learning (one or two visits a year), assessment, tutorial support and administration. The university incurs quality assurance, management, and co-ordination costs. These costs are broadly offset by the FECs delivering to a smaller number of hours than their normal HE programmes (and therefore incurring lower costs). However, there are specific additional costs in the FECs making “flying mentor” visits to students in the workplace; and in liaison with each other and the university. No school costs are included (or arguably incurred on any significant basis). The two cost differentials relate to different interpretations of the franchising costs.

The part-time mode is delivered in different ways in the colleges (one on an evening basis, the other infilling to a full-time cohort). This affects cohort sizes and costs for a part-time student can be slightly less because of this factor.
+5% to +20%

Science (planned)

Expected to be the same as conventional distance learning.
No differential

Health

The +56% differential includes an estimate of the costs of the employer providing practice trainers (who train the students in their development of clinical skills and competencies in practice, and assess and verify including on NVQs). Their costs include a clinical environment, management time, and central services overhead on the practice trainers (but not lost productivity from student employees). These are not paid for by the university (irrespective of whether the student is funded by the health consortia or not). If employer costs (clinical environment etc) are excluded then the differential becomes +8%.

This differential still includes the costs of practice trainers (employed in organisations). These trainers would need to be paid by the university where the student is not employed in a trust. However, where they are funded by the health consortia (and employers' costs are excluded as well) then the differential becomes -37%.

If the programme is considered to be a long course then the headline differentials of +8% and +56% become -9% and +25% respectively.

Total **+8%** (with employers' costs excluded) to **+56%** (with employer costs included).

Band B

Engineering (planned)

Planned course, will be based on existing distance learning materials and course that is broadly the same as conventional course.
Slightly higher than conventional

Health

Distance learning, with staff student ratios the same as a conventional course but overall levels of support higher – in reality +6%. Delivery includes very intensive lab work in residentials.
administration +2%
technicians and estates/central estates: -12%
-3%

Science

Students are taught together with those on parallel subject programmes. Marginally more assessment and administration time.

+2%

Science

Mainly taught by an FEC but with two modules (distance learning and portfolio) run by the university. The costs of delivery and academic staff time are the same as for a conventional course; the university incurs the costs from quality assurance and management, and planning, and in liaising with the FECs and employers. (There is significant interest in this FD, and the university is working with organisations from a wide variety of sectors to develop occupational standards in this area.) Academic staff time in the college is lower than normal in the FEC (as it is based on a university curriculum) but this is offset by an equivalent spending at the university in course management development and assessment. There is no workplace learning based in the workplace. The range of cost differentials represents different interpretation of the costs of franchising (for academic liaison and management).
+10% to +34%

Engineering

Delivered jointly with employer who provides trainers and supervisors, dedicated training facilities. Equipment costs are significant both to employer and university. The employer receives funding to contribute to their costs. Full costs have been included in the differential calculation (not the income transferred to the employer).

Differential comprises:
delivery +21%
administration +11%
equipment +10%
+42% (long-course)

In conclusion

3.29 We looked at 22 foundation degree courses. There are many different ways of providing a FD, and we probably reviewed 20 different models. These included programmes which incorporated one or more of the following elements: workplace learning (with and without significant support by the organisations); distance learning; franchised delivery with FECs; shared delivery by HEIs and FECs; delivery at company training facilities; conventional delivery, sometimes with additional assessment or learning guidance and support. We did not include many converted HNDs in our sample, although this is likely to be a growth area.

3.30 One-third of the courses showed costs that were almost the same (+ or -3%) as those for conventional delivery. None were lower cost. The differentials in the other two-thirds of the courses ranged from +5% to +56% of their respective band comparators. (One course, in distance learning, showed lower costs.)

3.31 The higher cost differentials arose from the following. Each only applied to some FDs:

- franchising arrangements with FECs (assuming that all non-academic staff costs were otherwise the same);
- smaller cohorts;
- support in the workplace (where that took place);
- complexity of the provision offered (more management and administration; and also an impact on cohort sizes);
- administration.

3.32 We based our differentials on costs, not on the transfers of income to partners. The differentials for courses partly or wholly delivered by FECs depended on:

- the university's understanding of the costs to it of franchising (we note that this issue is not only applicable to FDs);
- whether the course was delivered to an HEI curriculum (and hours) or that of an FEC (usually with higher contact hours than HEI norms);
- the assumption (which we made) that non-academic staff costs in FECs were at the same level as those for an HEI course.

3.33 The costs for courses delivered at, or partly delivered by, other organisations outside the HEI, were higher when we included the following:

- the practice trainer (or equivalent) costs – which are often not charged by organisations, or are funded by other sponsors;
- the organisation's overhead costs – environment, training facilities etc, which are sometimes charged to universities, and sometimes not.

4 Sandwich years-out

Definitions

4.1 Sandwich year-out programmes, often called industrial placements, can be offered as a compulsory or optional element of a degree. Students carry out a significant period of work experience, on a paid or unpaid basis.

4.2 Sandwich years-out are an important model within the range of workplace learning programmes.

4.3 The official definition of a sandwich year-out is given in HEFCE 2002/40 Annex H (mode of study):

"A year of a programme of study is counted as a sandwich year-out if it includes a period of work experience and if it meets both of the following criteria:

a. The course falls within the definition of sandwich given in the Student Support Regulations[21]:

A sandwich course is a course other than a course for the initial training of teachers consisting of alternative periods of full-time study in an institution and periods of work experience so organised that, taking the course as a whole, the student attends the periods of full-time study for an average of not less than 19 weeks in each year…

This includes language year abroad courses where the year abroad is spent working.

b. The fees are approximately half of the full-time fees that would be chargeable if the student were full-time."[22]

4.4 We do not cover sandwich years-out where the students are in education elsewhere.

4.5 There are two types of sandwich years-out: thick and thin. Thick sandwich years-out are more common, where students undertake a placement for one year (Year 3) full-time. On thin sandwich years-out, two placements are taken – each one between the end of one year and beginning of the next (i.e. between Years 1 and 2, or between Years 2 and 3). Thin placements are funded by HEFCE in a similar way to thick placements: at 0.5 FTE for the third year.

4.6 Placements are generally 44-48 weeks in length, full-time and salaried (but not always).

[21] Regulation 5(2) of the Education (Student Support) Regulations 2002 (SI 2001 No. 195)
[22] There are other specific criteria given in the Regulations

4.7 To assist in understanding the variations in costs, we identified three types of placement which we loosely categorise (for this purpose only) as high-specification, medium-specification, and low-specification. These definitions are based on the level of input from the academic tutor:

1. High specification – strong assessment and support by university
2. Medium specification – assessment and strong university support
3. Low specification – assessment and minimum academic support.

4.8 We have not expressed this in terms of accreditation (separate award) or even formal linking to a Year 4 project. Some departments suggest there are potential problems with this since the uncertain quality of placements might adversely affect students' marks. However, most high-specification industrial placements are linked more formally to the rest of the programme than low-specification industrial placements are; and if they are not, the nature of the discipline (expectation of employers and students) may require similar levels of input.

4.9 It was not within the scope of this study to determine whether all placements met the Quality Assurance Agency's code of practice for placements, but we have no reason to believe otherwise.

Characteristics

4.10 Sandwich year-outs, or industrial placements, have four significant academic benefits (outside the income to the students):

- they increase students' employability (they can lead directly to job offers or indirectly improve students' CVs on graduation, as well as allowing them to make informed career choices);
- they can enhance the students' personal and professional development, including: skills acquisition (practical, inter-personal, communication); linking academic principles to real situations and problems; and reinforcing the relevance of other disciplines to the course, and thus improve achievement;
- they can contribute material to a Year 4 research project or dissertation (which might be a mandatory requirement, but is more often a potential outcome from the placement year);
- they can contribute to a wider range of links with employers (who might then contribute to lectures, provide material for academic research, provide student prizes, etc).

4.11 Irrespective of the importance of the placement to the overall programme, sandwich year-out programmes all have similar characteristics. However, the resource input will vary, and this generally depends on how much the placement is linked to the degree programme in which it sits.

4.12 All sandwich students are visited by a tutor for quality assurance, monitoring, liaison and supervision, and general support (answering queries and smoothing any practical problems). Two visits a year in a thick placement is common, with a range of one to three scheduled visits. If these visits were not made the student might leave the course (with consequences for retention and completion); or receive a poor final report and not pass; or express dissatisfaction (they are paying fees).

4.13 The involvement of the organisation providing the placement can be:

- proactive, group meetings at the university including:
  - participating in pre and post-placement workshops/seminars
  - writing comprehensive reports
  - joint assessment of reports
  - providing data for a subsequent research project (Year 4)
- or light touch, complete a tick-box report.

4.14 However, having the proactive involvement of the placement provider does not mean less tutor time, and in fact the converse may be the case (more liaison and feedback may be expected by the organisation). A company is only interested in this level of engagement if it is the employer or potential employer of the placement student (it can prove an excellent recruitment initiative).

4.15 It is important to have some type of report coming out of the sandwich year that is assessed, so that the student can be evaluated as having "passed" the year. Otherwise they could only receive a normal degree, not "in sandwich mode", if that is available. A simple set of reports includes:

- the placement provider completing a tick-box report;
- the student completing a report (3,500 to 5,000 words) summarising their experience and reflecting on practice, linked to the course;
- tutor visit reports which state that performance has been satisfactory (i.e. that the student is on placement).

4.16 None of these requires significant assessment time. There are other more time-consuming models e.g. a presentation and two academics grading a logbook (logbooks are common in science placements); or a tutorial day, a de-briefing, a portfolio of evidence (linked to learning objectives) and a presentation.

4.17 Placements can be found by students (sometimes they are required to do so) or found by the department (generally through a placement office). Department placement offices consist of administrative staff and some time of an academic as placement officer. It does not necessarily mean less time from a placement office is required if students find their own placements. It is often easiest for a placement office to have well established contacts with large companies who operate sandwich placement schemes and regularly provide placements. One-off, new or SME placements need vetting to ensure they provide appropriate experience, to satisfy the department's "duty of care" to the student, and to ensure that health and safety issues are addressed adequately.

4.18 It is costly to visit students who have placements overseas. A variety of methods is used: placements can be supported by local universities, or visits linked to conferences. It is also costly to support students in placements geographically distant from the HEI, albeit based in the UK. Few courses require their students to take part in overseas placements, but there are examples of this (for example, international hospitality management courses).

4.19 Occasionally students come back onto campus for one day in their sandwich year to reinforce their identification with the course, to link with (a possibly placement based) Year 4 project, to help with their careers planning, and so on.

4.20 The main input from the HEI is:

a) a placement officer (academic or administrative) who is responsible for identifying and setting up placements; supporting students in their CV preparation; liaising with companies; giving health and safety sessions; and liaising with the Examinations Board;

b) a placement tutor who makes at least one visit to a student and writes a report on this; marks a short student report; and sorts out any problems with placements. In a high-specification model, it can also include the costs of advice and support pre-placement (excluding any module which covers this as well); a tutorial day mid-placement; a debriefing session post-placement; review of a portfolio of evidence as well as a significant sized report from the student (or a logbook); and a presentation by the student;

c) associated administration, and travel costs;

offset by:

d) lower estates and central services costs. As for other off-campus provision covered in this study we included differentials of -15% to -20% depending on the band, to reflect the reduced estates and central services costs.

4.21 Placement office costs are a significant part of the total costs of the sandwich year. These can be more cost effective per student if the office is large scale (i.e. 200-300 students, not 15) and is part of a wider responsibility of staff (academic and administrative) for external relations and industry links. This would also cover projects with industry, facilitating company participation in teaching, awards for students etc. Placement offices can be less cost-effective if they handle placements for large numbers of students who have the option to decide (and do decide) to switch from thin to thick mode, or to a full-time mode without a sandwich year, after the placement process has started but before they actually start their placement.

4.22 We found wide variations in placement office costs, which are not related to the three types of placement (specification). For example:

social science (small cohort, part-time academic responsibility) £500 per student;

arts (large cohort, part of external relations responsibility for full-time administrator and part-time academic) £250 per student;

social science course with an even larger cohort (500 sandwich students) has similar cost levels to the latter, as they do more work because placements are compulsory – arrange interviews, handle CVs, etc;

social science (compulsory placements) supporting 30 student placements a year: £400 per student;

science (not compulsory placements) supporting 70 students a year: £800 per student;

science course could support between 90 and 120 students: £670 to £500 per student;

social science placement office, four administration staff, supporting 250 students: £400 per student;

engineering with a part-time academic tutor and 15 students: £600 per student.

4.23 The costs of the placement office range from £250 to £600 per student. This represents 10% to 35% of the cost of 0.5 of an FTE band B student. Placement office costs are independent of the type of sandwich year (the specification).

4.24 The other key variable was the time required to support a student. Estimates for time on visits varied from one-third of a day to one day (but were not informed by robust evidence). Other tutor time (preparation, planning, assessment, report writing) varied equally widely. The latter correlated slightly with the high to low specification, but the wide variation overall was more to do with the different judgements and estimates provided by academics.

4.25 There were very few examples of thin placements. The departments offering them considered that their benefit to the student was much higher than on a thick placement, but the cost pressures were forcing them to consider changing to thick models. The courses that we reviewed covered two 22-week periods (broadly equal to the 44 weeks for a thick placement). The input for each thin placement was the same as for the single thick placement, with the exception of the tutor visits (there was only one visit per thin placement, whereas in the thick placements in the same department two visits were undertaken).

Cost differentials

4.26 We describe below the cost differentials that we found during our study. These are expressed as a percentage of the costs of a 0.5 FTE student on a conventional course. For this comparison, standard costs were used, established as described in the chapter 1 of the main report, rather than the previous or subsequent on-campus years of the particular programme being studied (which would have ignored the more costly fourth year).

4.27 Travel costs abroad have not been included. This would be a significant additional cost attributable to that student, in terms of additional time (one to two days) and other costs, such as air fares and accommodation. Departments take special care to minimise the costs incurred on these, but they could represent an additional £2,000 or more per student – an additional differential on those shown below, for band B students, of +70%.

i. High-specification

In these sandwich year-out courses, the choice of placement is closely linked to the student's programme. The student carries out a research project or an identified learning plan. Alternatively, the sandwich year-out is part of a formalised employer programme. The academic tutor visits two or three times a year. There is strong assessment: a separate award may be made, or the sandwich year-out experience may be an integral part of a Year 4 project, for example by providing empirical research data.

Band B science
Three formal face-to-face contacts and rigorous assessment process (formal presentation and log book graded by two academics)
-32%

Band B engineering
(assists companies' recruitment; strong tradition)
Finding placements and liaison with employers: structured work placements (linked network of local employers who come in each month for planning/process updating etc; employers pay students; structured rotation of placements. Employers supervise, support and write reports on student (quantitative, not assessed, but important part of overall learning outcomes). Academic visits (monitoring and quality assurance) conducted three times a year; but these visits are local. A logbook is assessed by staff.

It is getting more difficult to provide these placements as large companies are being replaced by SMEs where: there is typically no learning culture; they are not working to three year training plans; and there is no training manager. This will increase costs.
+14%

Band B science
Industrial placements are a key part of the academic mission. They are a structured part of the programme, with input by the tutor pre-placement (references, CVs), two visits by the tutor, an extensive report on their experience in the placement by the student, followed by a debriefing, and a group presentation of that report. Success in these, and an employer's report, will result in the award of a diploma, and a degree in sandwich mode ("professional development").
-20% (thick) and +13% (thin)

Band B science
Another example from the same institution. Here, students have the responsibility for finding placements (they are supported in this by the placement office). Learning objectives (learning plan) are agreed by the tutor pre-assessment (they have to be at an appropriate level), two visits are made by the tutor (followed by a report). The student prepares a portfolio of evidence and a report setting out how they have met their learning objectives. Post-placement there is a one-to-one debriefing session to add context to the process and to position the work in regards to the project/dissertation to be undertaken in Year 4 (there is no mid-placement tutorial day or post-placement presentation). The placement has a module code, and a diploma is granted (pass, fail, merit, distinction) – this does not contribute to the class of degree, but appears on the student's transcript.
-20% (thick) and +13% (thin)

Science
Similar input as above. Thin placements are compulsory, and research data has to be collected for the research project in Year 4. No diploma is, however, awarded. There is

a debriefing, but no tutorial day or presentation. Placements in the department all have the same resource input. However, the subjects encompass all three price bands.
Band B -27% thin; band C –2% thin; band D +27% thin.

Band C social science
Industrial experience is a compulsory part of the degree. It is treated as a continuation of a 20-credit Year 2 module, delivered in a distance learning mode during the placement year, and contributing to the degree classification. A research project is carried out during the year. The tutor makes two visits to the student, and there is an on-campus tutorial. There is a heavy assessment load.
-7%

Band D social science
An optional sandwich year, but it carries 40 credits, which is additional to the 360 required for the degree. Delivery and placement office costs are the same as the course above (+30%). Estates and central services are -15%.
+15%

ii. Medium-specification

In these sandwich year-out courses, the university or student finds a placement, and the student writes a report. The academic tutor visits twice, and the student report is assessed by the tutor. The year does not generally contribute to marks; nor it is an integral part of the Year 4 project preparation, or a separate award.

Band D social science
Students are employed and there is joint assessment by the company and the university. There are two academic visits per year and these include overseas visits. The same amount of tutor time is allocated as for a 0.5 FTE band D in the manpower planning model in terms of delivery, but the placement officer adds 60% to costs, whilst estates and central services reduce costs by 15%.
+45%

Band D social science
Two visits at half a day, one on-campus meeting, and a very small number of sandwich students.
placement office and tutor +10%
administration and travel +2%
estates/central services -15%
-3%

Band B arts
Two visits a year. Reduced estates, central services, technician, etc costs. The sandwich year is not an option, although the work may be practical or desk-based (it must be a practical environment). A report is produced which is generally a project, rather than a summary of the placement as a whole.
-**48%**

Band B Engineering
Two visits, of one day each. Placement office and tutor +11%; administration and travel +7%; estates, central services and technicians, etc -25%. This does not include the more costly overseas visits.
-10%

iii. Low-specification

The tutor visits the student on placement normally once a year.

Band D social science
A large placement office and generally only one visit (the assumption here). Usually only 1/3 day per visit
-26% (broad estimate)

Band D social science
One visit, no presentation, one academic assesses, and a large cohort.
-37%

In summary

4.28 Sandwich year-out courses are an important model of workplace learning. We identified three types of sandwich year out courses:

- high-specification: strong assessment and support by the academic
- medium-specification: assessment and strong academic support
- low-specification: assessment and minimum academic support.

4.29 These categories were developed to help identify the level of academic input – the number of visits and the work preparation and assessment.

4.30 Costs appear to be determined significantly by the importance of the placement to the accompanying degree programme. If it is a separate award, or is integrally linked to a Year 4 research project, or if it has strong employer input (a high-specification model), then the costs are higher. More visits are made, and assessment is more complex and time consuming.

4.31 However, irrespective of the place of the sandwich year in the programme, of equal importance are the costs of the placement office, and the estimates of time spent on visits. Some lower-specification placements can be more costly than higher-specification placements due to the placement office alone. Estimates on the time per visit vary widely. The difference between the highest and lowest estimates, taking these two elements together, is equal to 50% of band D conventional costs (for a 0.5 FTE student) and nearly 30% of those in band B. In addition, no overseas travel has been included – the costs of this could potentially add a further differential of +70% to the costs of teaching a particular student in band B.

4.32 Thin placements are more costly than thick placements.

4.33 Low-specification placements showed differentials of -26% to -37% (band D only). High and medium-specification placements showed differentials of +14% to -48% (band B) and +45% to -3% (band D). (Sandwich year-out costs expressed as a percentage of 0.5 FTE of the standard costs of a conventional course.)

4.34 The difference between subjects is not caused by the normal factors that differentiate between the costs (i.e. laboratory costs including smaller cohorts, and increased contact time). It is more likely to be a factor of the resources that have been made available to those academics. Despite this, the cost differentials indicate that the costs of bands B and D sandwich year-out courses are closer than the current HEFCE price bands.

5 Workplace learning (WPL)

> In recent years, work-based learning (WBL) has figured in UK government policy debates as a significant element of professional development and lifelong learning…. Recognising, assessing, and accrediting learning from work at HE level extends opportunities to adults who would not necessarily have engaged with further study, and thus contributes to widening participation.
>
> *A Briefing on Work-based Learning (David Gray, LTSN, Nov 2001)*

> It follows that if students are deterred from continuing their studies because of the need to find employment, those who are already in work may be deterred from embarking on courses because of a lack of suitable provision which would allow a greater integration of learning and work.
>
> *Paper to a University's Academic Board, covering Work Based Learning,* January 2003

Existing definitions

5.1 Work-based learning (WBL), work-related learning, and workplace learning (WPL) are widely used, but still emerging terms. Their meanings have not yet been standardised.

5.2 One of the most widely applicable definitions is given by the Government:

> Learning in the workplace is a structured academic programme, controlled by HE institutions, and delivered in the workplace by academic staff of the institution, or staff of the employer, or both. Unlike work experience, which is part of the course, it is at the heart of an individual's learning programme. It is assessed by the institution's academic staff, and perhaps jointly with an employer. It includes:
>
> - the imparting of relevant knowledge and skills to students;
> - opportunities for students to discuss knowledge and skills with their tutors;
> - assessment of students' acquisition of knowledge and skills.
>
> The actual machinery (whether lectures, tutorials, examinations or other means) is not crucial in identifying learning in the workplace, so long as knowledge and skills can be shown to be effectively imparted and assessed.[23]

5.3 Institutions do not define courses or learning in terms of processes, methods or location; but rather use academic terms, focusing on outcomes.

[23] Taken from *Guidance for local education authorities on the administration of student support* DfEE 2001/02 (updated in letter to LEAs 27June 2001):

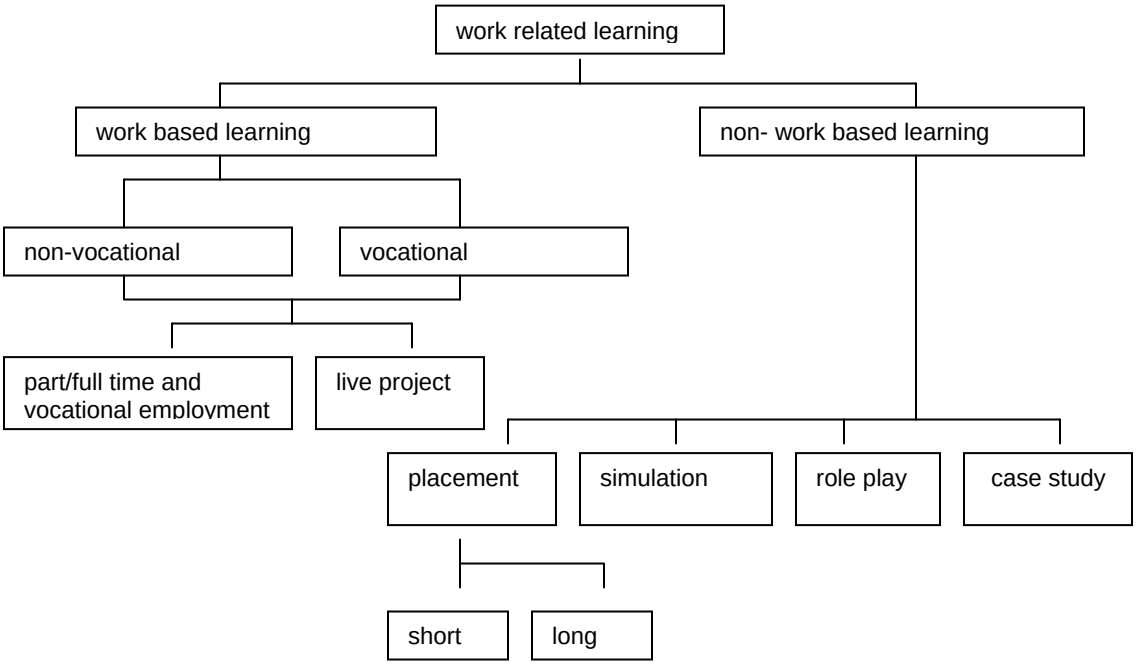
5.4 A working definition used for this study was given by HEFCE in its survey of off-campus provision[24] which defined workplace learning in the following terms:

> workplace learning (which is not primarily delivered by e-learning) is where the majority of learning**,** support and assessment takes place in the workplace, through direct experience of the workplace environment and face-to-face contact with tutorial or workplace staff.

5.5 This distinguished WPL provision from:

- e-learning (there may be elements of this);
- distance learning (where there is no face-to-face contact off-campus);
- work-based learning (which arguably is a broader concept, see below).

5.6 Workplace learning is generally considered to be different from work-based learning (WBL) or work-related learning. One researcher showed work-related learning thus:



The work related learning environment, Dr J Hills[25]

[24] The study was undertaken in October 2002. The results of the survey were drawn upon during this study and are summarized in the report.
[25] From the University of Newcastle's 'Real World' project website which can be accessed at http://www.careers.ncl.ac.uk/realworld/whatis_wrl.html

5.7 WPL is different from WBL – which many institutions would argue is a main focus of much of their provision. Academic underpinning of a vocational subject, perhaps linked with skills acquisition, is often carried out with projects, case studies and other techniques which base the theory in practice. This does not necessitate a project (or any learning) based in the workplace, although many courses do include some sort of workplace-based project.

5.8 There is a considerable amount of WBL and WRL:

> Based on the 1998/9 student cohort, the majority of full-time undergraduates gain some form of work experience during their time in higher education, with around 18% being involved in organised work experience as part of their course.[26]

5.9 This report classified five types of organised work experience as part of a programme of study (it also explored other types of work experience outside a programme – not covered here):

1. supervised work experience as part of a sandwich course for a number of weeks (conventionally for an academic or calendar year);
2. "blocks" of work experience (occurring concurrently or recurrently) where there is a professional or regulatory body requirement that students undertake practical work as part of the undergraduate study;
3. short periods of work experience, usually relevant to their subject;
4. employer-linked project work (individual or in a team);
5. workplace visits.

5.10 Interestingly, none of these obviously fit within HEFCE's working definition given above (at paragraph 5.4). Many institutions are considering extending WPL, in foundation degrees and other programmes, but almost none of these courses involve the majority of time in WPL, whether expressed in terms of student learning time or academic delivery and support time.

5.11 WBL can alternatively be classified in a different way:

- learning at work – company in-house training (which is rarely assessed by HEIs);
- learning for work – work placements on a sandwich year-out, or professional education in practice, such as social work, nursing, allied health professions, teacher training (an integral part of many HE programmes in these disciplines);
- learning through work – for example, WBL as defined by Ebbutt (1996)[27]: "students are full-time employees and most of the research-based fieldwork is carried out in the learners' own workplace".

[26] Quoted from *Nature and extent of undergraduates' work experience.* A report to the HEFCE by the Centre for HE Research and Information, and the Centre for Research into Quality, December 2002.
[27] Quoted in Gray/LTSN/01, see footnote 31.

5.12 Other researchers have used other definitions and taxonomies, for example we look at Ufi's learning through work, below, which uses a different definition from that of Ebbutt.

5.13 In this study we focus on the third of the WBL classifications in 5.11 above – learning through work – with comparisons with the second, learning for work.

The volume of WPL

5.14 The HEFCE survey in October 2002 investigated current WPL provision, and likely growth. It was completed by 88 institutions (of which responses from 86 are included below). We note that this includes franchised-out students, but does not include FECs who are directly funded by HEFCE (who could be expected to have more of this type of provision). The percentage of students funded by HEFCE was also provided – this includes relevant foundation degrees and Ufi provision.

5.15 Of the 817,000 FTE home and EC students (including those funded by the Teacher Training Agency and the NHS) at the 86 institutions, 3% received the majority of their teaching and learning through WPL. The total number of HEFCE-funded students experiencing this level of workplace learning was 9,631 FTEs, or 39% of the FTE students receiving WPL.

5.16 45 institutions (52% of the usable responses) reported some students in this category. Of these, more than half had less than 200 FTE students. 37 institutions (43%) had students funded by HEFCE.

Number of FTE students in total	**Number of institutions**
1 - 14	9
15-100	11
101-200	6
201-300	2
301-400	3
401-500	2
501-600	3
601-700	0
701-800	2
801-900	2
901-1000	0
over 1000	5
	45

5.17 On average, institutions had 260 HEFCE-funded students. However, if the 12 institutions with more than 500 students were excluded, the average was 126.

5.18 Five institutions reported more than 1,000 students. Their student numbers ranged from 1,500 to 8,000.

5.19 We contacted most of the institutions with more than 150 students in this category, unless they had given additional comments on their responses as to the nature of the provision. We found from the responses and our conversations that the majority of this provision consists of the following:

- clinical placements – both medical and nursing/allied health professions (although not every institution with clinical placements included those students in this category), and social work practice learning – these accounted for the majority of the students reported by three of the institutions with more than 1,000 students;
- sandwich year-out students;
- PGCE students (although many institutions excluded these numbers);
- Post-compulsory initial teacher training (certificate in education), for example for FE teachers, most working in their college. Their FECs deliver the course (franchised) in conjunction with the college. (This example was given by an institution with a 1,000 WPL headcount on this provision);
- foundation degrees;
- Connexions students;
- NVQs.

5.20 Institutions' interpretation of the term "majority of a student's learning" varied considerably. Technically, no social work, allied health professions or nursing pre-registration clinical placements should have been included (they amount to only 50% of the timetabled hours on the course). We consider this further below.

5.21 Many more students may be undertaking WPL on a single module, as part of a course. At one institution, two-thirds of the student population undertake some form of planned work experience as part of their programme of study. Although only 13 of its degree programmes involve sandwich year-out work, every student has the opportunity to undertake some form of accredited course-work related work experience. One example of this is the Work Placement for Professional Experience module, which is available across almost 90 degree programmes.[28]

5.22 The survey carried during that study found that:

> Nearly 15% of the total of full-time undergraduates had some form of organised work experience. The ancient university has about 1% of its students undertaking any form of work experience as part of the programme of study. At the other end of the spectrum, one of the new universities has an estimated 47% of students undertaking some kind of organised work experience.

[28] Quoted in *Nature and extent of undergraduates' work experience.* A report to the HEFCE by the Centre for HE Research and Information, and the Centre for Research into Quality, December 2002.

> Most students, in the sample of 9 institutions that provided student numbers, obtained their work experience through sandwich placements (35%) or professional practice (42%) as a compulsory part of a programme of study. However, nearly 3000 students (23%) had work experience opportunities in the form of short placements or "live" projects with employers or other activities such as work-place visits.[29]

None of these work experiences meet the definition used in this study.

5.23 WPL is a key element in the provision of foundation degrees. We cover foundation degrees in appendix 3, but draw out relevant information here. WPL is also integral to sandwich year-out provision, and again we cover this in some depth in appendix 4.

5.24 We can conclude from the survey results that other WPL provision using the HEFCE definition is extremely small in size.

5.25 In conversation we identified half a dozen courses that represented other forms of WPL provision. One institution has a significant amount of provision (300 students) on undergraduate degrees in professional studies, undergraduate and Masters degrees in WPL, and doctorates in professional studies. These are programmes of what they call "negotiated workplace learning"; individual programmes for students in the workplace, with learning contracts between themselves and their employers. They involved projects undertaken in the workplace, with assessment by the university, involving occasional visits by academic tutors to the campus. Example employers include the Ministry of Defence, Marks and Spencer, and Bovis. Sometimes the employer has a training department and undertakes some of the training. In all cases the employer supervises the students on placement.

5.26 Other institutions offer individual courses, for example:

- a course that involves a local computing firm (network installation) where the employer supervises and gives some instruction, and the tutor visits and assesses. Student numbers are small. 85% funded by HEFCE;
- a Masters course where medical educators, and HE lecturers and in-service teachers visit the institution for some lectures and tutorials. It comprises largely WPL assignments, with tutor visits to develop, support and assess; and the use of local mentors (not paid). Assessment mainly takes place at the institution. A similar certificate programme in social science was also identified. However, these are not "typical" students;
- a postgraduate diploma in health (exceptionally, not funded by the NHS Workforce Development Confederation, WDC), which is supervised by professionals.

[29] ibid

Some characteristics of WPL

5.27 In WPL, much of the student's learning is carried out in or based on the workplace, generally as part of their work. It can include:

- the acquisition of skills (including learning how to learn);
- acquiring knowledge;
- problem solving;
- one or more "live" work settings;
- reflecting on experience (which arguably does not necessitate a student's physical location at their workplace).

5.28 Assessment is more difficult than for conventional examinations and assignments. It takes on a particular importance; the demonstration of knowledge acquisition is no longer sufficient, and the demonstration of skills and attitudes acquisition is also required. (These are generally defined in terms of learning outcomes and competency standards).

5.29 Assessment becomes an integral part of the learning process. It relates directly to the work situation so is relevant to the employee/student, and provides a particular motivation for their learning. It is an integral part of the learning process. It provides an opportunity for feedback (in what is otherwise a distance setting) providing both a diagnostic of strengths and weaknesses and feedback on progress and achievements.

5.30 This can affect costs. Providing feedback on assessment to assist learning is more time-consuming than, for example, providing cursory comments in the margins of an essay.

5.31 WPL also gives the opportunity to involve employers (programme champions, mentors, supervisors and/or trained educators) in planning, supervising, learning support, and assessment. This can often meet their needs for research or project completion at the same time as the development of their employee.

Models of WPL

5.32 Our case studies encompassed courses that institutions felt might come closest to satisfying the HEFCE WPL definition. To ensure that our investigations covered enough examples, we interpreted this more widely as:

> Workplace learning which involves face-to-face contact time for work-based learning support and/or assessment, off-campus. This may be provided by the student's workplace manager and/or the HE lecturer.

5.33 There are four points to note about this definition:

- there is no comma between learning and support. "Learning support" means some form of delivery or supported learning – not just learning by the student. (A full-time on-campus student's learning hours may be typically 40 a week, of which only 24 or so are spent in contact with a lecturer);

- it uses the term “off-campus” not “workplace” (any final definition might wish to revert back to the latter, but there are issues about this, covered further below). However, we note that the above definition could now include any franchised course, which is not what is wanted (and we did not interpret it this way);

- it uses the term “workplace manager”, not “employer” as students are not always working in an employed capacity;

- we have removed the terms “majority” or “significant” so as not to exclude any interesting models from our case studies.

5.34 This definition would need to be developed for any inclusion in a funding or costing model. The focus there, if costs are to be reflected by funding, would need to be on the HE/workforce manager input. It is this that drives the costs and therefore any cost-based driver for reduced or higher funding.

5.35 The purest model of WPL (outside HE clinical or social work placements) is probably in FE. Advanced Modern Apprenticeships or Foundation Modern Apprenticeships (funded by the Learning and Skills Council) are offered by (often commercial) training providers. They involve work-based assessors from the company or peripatetic assessors from an FEC (generally an FEC, not an HEI) who assess students in the workplace. These programmes are developed around occupational standards and key skills, rather than academic tests. In HE, academic tests still predominate, even when the programme is described as WBL or a variant of it.

5.36 An exception to this can be found in graduate apprenticeships. In one social science model, the university was required by the National Training Organisation[30] to offer a wide range of NVQs (not occupational standards). This involved one-to-one testing in the workplace, assessment specifically designed around NVQs, an extensive verification process (operating outside the university model of external examiner), paying a fee to the awarding body, developing a wide range of customised materials for a very small cohort, and a large amount of administration in student tracking (because of the “roll-on roll-off” nature of the course). The university identified this as a very high cost course. This was corroborated by another university, where an FEC was paid to deliver additional workshop training for a graduate apprenticeship course. Similar verification and certification costs were incurred over and above what would have been normal for a sandwich course.

5.37 There are a number of possible models of WPL in HEIs. From our case studies we have identified the following examples. These include a number of foundation degree programmes, but a more complete set of examples is given in appendix 3. On investigation, we found that most of these do not actually involve delivery or assessment in the workplace, either by an academic or by a workplace manager.

[30] now known as the ‘Sector Skills Council’

Academic input on-campus **NB always on-campus support for workplace-based projects**	**Academic input taking place in workplace (or near to workplace)**	**Notes and examples**	**Workplace manager involvement** **NB always provides projects, learning environment, and facilitates**
No academic delivery at workplace; no delivery or assessment by workplace managers			
(no delivery) learning support by lecturer (group learning sets on campus) assessment by lecturer	occasional visit by lecturer	e.g. education, 2 years part-time level 3 or level M: "action research in workplace" is often a project required by employer MSc or BSc similar to MA research – significant piece of writing vs dissertation	learning agreement
learning support by tutor: development of learning contract; APEL; access to or delivery of e-learning and distance learning an taught modules	no visit	Negotiated workplace learning Ufi learning through work	learning agreement with individual or learning agreement with company and individual if delivered to company cohort
delivery by lecturer on-campus WPL project assessment	visits to workplace	often day/ evening release e.g. an FD (students are employees; WPL projects in all modules which account for 100% of assessment)). visits to workplace three times a year	learning agreement perhaps some mentoring
delivery by lecturer assessment by lecturer	WPL support by lecturer (visits) (inc to on-campus WBL projects)	e.g. an FD (but significantly on-campus projects; stand-alone cohort; projects in some modules – flexible as to WPL use)	little
Academic delivery at workplace; no WPL delivery or assessment by workplace managers			
WPL assessment by lecturer	delivery by lecturer	e.g. an HNC/HND (students are employees; 100% casework assessment, but are not all WPL projects; occasional visits to campus) e.g. a certificate (students are employees, delivery at, or if SMEs, close to workplace)	learning agreement
WPL assessment by lecturer	delivery by lecturer	FD	learning agreement, mentor, training facility

Delivery and/or assessment also provided by workplace managers			
distance learning programme, assessment by lecturer	students are employed, but no visits by lecturer	a postgraduate distance learning programme	clinical tutors provide (paid) support to students/employees
assessors (external professionally qualified educators, paid by university) support students and assess competences	Quality assuranceA planning, co-ordination, training, visits (a student cohort per employer)	a BA (distance learning)	workplace "associate tutors" appointed by university, unpaid, provide structured support; workplace supervisors also support; both are formally trained by university
some delivery and assessment by lecturer		An FD an HND (students are not employees; 1/18 was either lecturer or manager delivery and assessment; 1/18 was manager WPL delivery and WPL assessment; 1/18 was lecturer WPL assessment)	learning agreement some delivery and WPL assessment by workplace managers
delivery	Quality assurance and planning, co-ordination and visits for joint assessment	clinical placements and social work practice learning an FD (health)	support by clinically competent practice educators; joint assessment
learning support and guidance for distance learning course	visits	a DipHE	"associate tutors" lead tutorial days and assess

Notes:
Learning agreement or equivalent: may be very structured e.g. a learning contract, or a less formal memorandum or letter of understanding. As Gray[31] (2001) notes: "Learning contracts are used to construct an individual programme of learning based upon an assessment of learners' current competencies, compared to what level of competence they want to achieve."

Delivery – formal delivery through timetabled sessions mainly in groups (lecture, seminar, small group tutorials). May include some assessment.

WPL learning support – one-to-one (or very small group) support including all or some of mentoring; the provision of physical facilities and a project; active agreement of employer; visits to the workplace by the lecturer.

WPL assessment – timetabled or untimetabled assessment such as examinations, portfolio and project review and marking, and clinical demonstrations of skills.

[31] Gray, D. (2001) *A Briefing on Work-Based Learning,* LTSN Generic Centre Assessment Series, No. 11, p.21, November.

5.38 It is difficult to make a clear distinction between WPL and distance learning. There is a considerable amount of distance learning at Masters level – where a dissertation is a "live" research project generally based in the student's workplace, with distance support from the academic manager. This can comprise a "negotiated programme" with employers, with the department delivering the Masters "shell".

5.39 There are also some mixed mode programmes – distance learning modules supported by local (clinical) tutors who might provide learning support and guidance (health) or who might also jointly assess (social science). Sometimes this can be formalised. In a DipHE (Education) programme, workplace tutors/co-ordinators are appointed as associate tutors. They lead tutorial days for their cohorts of students and assess the workplace elements of the course.

5.40 In the first part of the table we included some models which, although termed WPL or WBL, are not "pure" WPL, where WPL is defined as academic visits to the workplace and/or employer delivery or assessment at the workplace. These models include the following:

- "**Negotiated programmes".** These are common at the lower levels of undergraduate teaching, however they are generally provided through standard modules (on-campus) – and the negotiation relates to the combination of modules that is selected, which are not covered by combined honours. This does not involve WPL.

- "**Student initiated modules".** These form a course of independent study, bound together with a learning contract, which might include bibliographical research and/or study or a work-based assignment. Again WPL with academic visits to the workplace or employer delivery/assessment is not a normal part of these courses.

- "**Negotiated workplace learning"** comprises modules or programmes which are based on a reflection on practice. It is a way of accrediting concurrent practice learning (similar to some APEL). One model was described earlier in this appendix, where the student is based in the workplace and assessed in the workplace.

  A more common model involves students who may be in work, who prepare planned learning outcomes, carry out a detailed set of exercises, and build a portfolio. At one HEI a generic "learning through work" module is available at level 2 – this includes a (group) workshop and assessment of portfolio, and was considered to be as time-consuming as a conventional project module (itself higher cost than a taught module). However, there is again no WPL involving employer or academic delivery/assessment at the workplace.

  In another HEI a "negotiated module" (30 credits) was available in a Learning Through Work course, which involved (in the case that we studied) a project, use of LearnDirect resources, reference to texts, and interaction with the tutor. This module was provided as part of a bespoke suite of Learning Through Work modules, including a learning contract module, an APEL module and a WPL project module.

Another institution based a module on the Ufi Learning Through Work website with the student developing a module through this framework. They then completed their project and portfolio for assessment by the lecturer. The tutor input to this type of module will depend on the students' needs, but it was considered comparable with a dissertation module, and as such will be higher cost than a conventional taught module. However, if a group of students from one company could be recruited, learning outcomes could be standardised and group support would help to reduce the costs per student.

5.41 The Ufi Learning Through Work scheme is another example of negotiated workplace learning. It is often a mix of WBL projects, distance learning modules, e-learning modules, APEL and taught courses, "bound together" by a 10-15 credit "learning contract" module. Ufi's extensive web-based framework and resources to plan, implement and manage this, are an alternative to institutions' own (paper-based) programmes and VLEs. Use of the Ufi websites costs universities 10% of (all) student funding (irrespective of size). Other benefits, e.g. publicity, are also received. The use of the Ufi's Learning Through Work framework is still a developing concept in many institutions.

5.42 At one HEI, another type of negotiated programme was being developed, with courses delivered to an employer's cohort of employees (and theoretically to others outside the company as well) in workshops. The Ufi MLE platform was to be used to support this (but no programme materials), and Ufi's national publicity scheme was to be used, linking students with providers. Although the first (high-tech) employer went into receivership; discussions are continuing with other large employers with dispersed operations. This would require reasonable cohort numbers, bespoke learning materials, delivery off-campus, and support at a distance. The costs could only be less than that of a conventional course if the face-to-face or distance support are significantly less, and cohort numbers are reasonable. Arguably if the costs were much higher (due to the level of support required, or low cohort numbers), it would be appropriate for the partnership company and (most of the) students to bear the additional cost.

5.43 Characteristics of these negotiated workplace programmes include:

- their bespoke nature – each student's curriculum is different;
- a considerable amount of one-to-one support, both in the development of the learning contract, and in subsequent project and APEL modules. This can be alleviated through (a) any significant use by a student of existing taught modules, or (b) delivery to a cohort in a company (although numbers are often still small);
- targeting employers as the market for this type of course has proved high-cost, with long lead-times and significant amounts of abortive effort required;
- a large amount of current provision has been funded externally by the European Social Fund and other agencies, particularly to cover the considerable costs of marketing. (For example, one university invited 700 SMEs to a conference, 10 turned up, and none as yet has signed up);
- delivery to a cohort, even at the workplace, does not mean assessment or delivery by workplace managers.

None of these "negotiated WPL" programmes meet the definitions of WBL used for this study.

Delivery and assessment by workplace staff

5.44 Universities are very concerned about maintaining quality standards, and workplace involvement in assessment is rare. The appointment of "accredited tutors" (with the training and monitoring then required) is probably only worthwhile if there are significant student numbers in that workplace, over time; or if quality-assured tutors are already available, in a workplace where such involvement is the common.

5.45 There are three sectors with a tradition of workplace manager or staff involvement in HE delivery and assessment: health, social work, and education.

5.46 Many clinical placements in health, such as for nursing, take place over 22 weeks in a 45 week year. Half of the student's time is spent in college and half in clinical practice. (This is not the same as practice learning, and might actually include some time in college, including time spent on reflection on practice.) The curriculum comprises integrated theory and practice. Workplace managers work with students for a minimum of two or three shifts a week; and are responsible for the student achieving learning outcomes. Practice educators/clinical supervisors:

- are trained assessors;
- prepare for practice learning;
- provide learning opportunities – and plan and co-ordinate these;
- help the student to provide evidence against competencies;
- sign off evidence (verify, produce and report);
- assess, with joint grading with lecturers.

5.47 This requires a considerable input of resources by health managers, but is considered by many to be offset by the benefits to the service (from the students' contribution) and to subsequent recruitment.

5.48 University staff support the clinical practice element. One estimate by the head of a nursing school is that the input by her staff to the clinical practice learning is probably double that required to deliver on-campus, although the elapsed time is the same. This is particularly due to:

- the time spent on travel (although students are clustered);
- the meetings with students in very small groups (on- and off-campus);
- fortnightly meetings in clinical settings with workplace supervisors relating to the student experience;
- training assessors;
- preparing assessors for placements, including annual updating;
- validation and audit;
- verification, moderation of practice assessment;
- including marking practice portfolios.

5.49 Another institution made a very different estimate, stating that the one day a week in clinical practice (a requirement for qualified nurse professionals in HE) was the time spent in supporting students during their clinical training. To this was added verification and moderation of clinical assessment, training of clinical assessors, management, etc. Overall, this institution estimated that the same elapsed learning time by students (half a year) required one-third of the academic time spent on supporting this, compared to two-thirds of time required for the taught element. We note that interpretation of the use of this professional day, and staff student ratios funded in nursing departments, vary widely.

5.50 In social work trained practice teachers are used – generally employed by agencies or working freelance. They or their employers receive funding for this input (funding for practice learning is changing, but may be something like £20 per day). HEIs and practice providers also receive funding to support partnership and collaboration arrangements. This is currently about £110 per student per annum. In addition some HEIs retain other parts of the funding made available for placements to cover the additional costs that they associate with supporting practice learning that they consider is not being funded through the HEFCE funding (as transferred to them through the university's resource allocation model).

5.51 We identified one HEFCE-funded course in health that was based on some of the clinical supervision concepts in pre-registration nursing. Students on this foundation degree were supported by clinical tutors during their workplace training.

5.52 Another model was found in education. Associate tutors, trained by the university, provide tutorial support and assessment to learning/classroom assistants. Again this reflects the workplace (schools in this case) history of support to students on initial teacher training. In this diploma programme, the associate tutors were paid by the university (unlike the health models).

5.53 Otherwise a few isolated examples were identified. For example, a foundation degree has extensive delivery provided by a large engineering company (with training facilities and specialist equipment). The university shared the income with this company, broadly in proportion to relative input, as a contribution to their costs.

5.54 Another institution is seeking to develop similar models. The institution has a commitment to increase WBL (all programme teams are being encouraged to offer up to 40 credits at each level of undergraduate study as WBL modules). As one method of taking this forward, they are exploring the concept of a bespoke "employer's service". Employers would participate in course design, mentoring WPL, and in assessment, with "associate tutors" or "registered teachers" based in companies. This is probably closer to the "pure WBL model" covered by the HEFCE survey definition. Some institutions designed foundation degrees on similar concepts, but found it difficult to sign up employers. We have found very few examples of current provision of this type.

Cost differentials

5.55 We looked at a range of courses that might have been considered to include a significant WPL element. (Not all subsequently showed this, as shown in the above table.)

5.56 We identified additional costs arising from WPL in four main areas:

a) the additional hours (often scheduled) required to make contact with and work with employers (these are partnerships, not a supply chain relationship). As soon as a third party is introduced costs will increase;

b) the additional scheduled hours required to support and assess students in their WPL. Significant one-to-one support is required; often with costly upfront APEL and learning contract design; non-standard pathways are being followed; there is a considerable amount of project work (with higher costs of support and assessment); support is given at a distance; changes to the workplace often need to be incorporated into the learning contract and designed programme during the course.

> Considerable tutor effort is required, initially in devising and negotiating learning outcomes with learners, then in marking the material. Work-based assignments make particular demands on tutor time because they are usually contextually unique. Typically, it may take between one and two hours to mark a 3,000 word assignment and to provide constructive feedback.
>
> Gray (2001)[32]

c) the much smaller cohort numbers on many of the courses that we studied;

d) additional staff travel costs of (e.g.) £100 per student (2% of total costs); additional costs of material development; additional administration and management time.

> WBL generally requires a different set of structures and processes… Typically WBL programmes operate in open time frames, not confined to the traditional start dates of the beginning of the academic year or the second semester…The tracking of student progress may also be more complex due to greater choice in modules or units of learning that may form part of a programme…Communication may make greater use of electronic means than in more conventional programmes…For all these reasons then, administrative support for work-based learning may need more administrative staff support than conventional methods; particular in the early stages of development…WBL may present challenges to information support systems, and require staff to develop individual student tracking systems unique to WBL programmes. Approval and quality assurance of WBL is also of major significance and may challenge existing quality assurance frameworks.
>
> (Noble and Paulucy, 2002, p.29)[33]

[32] Gray, D. (2001) *A Briefing on Work-Based Learning,* LTSN Generic Centre Assessment Series, No. 11, November.

[33] Noble, M. & Paulucy, B. (2002) *Think Through the Implications of Work-Based Learning,* Exchange, 2:Summer pp26-30.

5.57 This was also described in chapter 2 of the main report. WPL programmes are "different" and:

> Arguably, the model of WBL facilitating a learner centred approach presents the greatest challenge to staff within higher education. It questions many notions of learning and also the appropriateness of existing structures and processes to facilitate such learning.
>
> *Exchange* p29[34]

5.58 We found no example where delivery time (in terms of time/cost per hour per student) is less than on a conventional course. It can be at the same level as for a conventional course, but it is often increased because of cohort sizes, and by the additional time required on assessment, administration or outreach activities.

5.59 We considered how lower costs could be achieved. We found two examples. In one foundation degree a cost reduction arose from the use of material prepared jointly by a university and an FEC, which has led to a reduced number of delivery hours by the FEC, in line with university hours. However, this is probably offset by the additional costs of franchising on this course.

5.60 Otherwise, cost reductions might arise where students are wholly off-campus and there would then be (in our assumptions) a lower level of costs to be attributed for central services and the university estate than in a conventional on-campus course.

5.61 Any WPL in the workplace by students which involves academic visits (arguably essential to true WPL) is higher cost, unless delivery by the academic is significantly reduced (e.g. being replaced by input from workplace managers at no cost to the university). However this in itself incurs costs from training, moderating, and support, and is difficult to get from most employers.

5.62 In the following examples there are two potential areas of cost that have not been included in this study: attrition (which may be higher than on a conventional course); and, unless they provided formal delivery or assessment, workplace managers' costs. These include:

- the (unfunded) time of the workplace managers, mentors, and supervisors;
- the costs of reduced productivity (of employed students);
- the use of the workplace as a learning environment (note that in some models, e.g. Ufi "Learning through Work", students are encouraged to use existing work, not to look for different types of experience; other models require students to experience a range of workplace settings).

5.63 The following are illustrations of cost differentials for some of the models listed in the table. The sample sizes are not sufficiently high to give robust data, but the factors underlying the differentials are unlikely to change significantly.

[34] ibid

Model: no academic delivery at workplace; no delivery or assessment by workplace managers

FD science
WPL is part of every module, and the lecturer visits the students in their workplace three times a year. This requires half the time required to deliver a conventional HND, more than offset by additional time to plan and visit (support and assess) the workplace: +2%
Cohorts are smaller than on a conventional course: +16%
HEI franchising costs could add a further 10-20% to costs
+28% to +38%

FD arts
The contact hours are broadly the same as a conventional programme. (Although the delivery hours are less than a normal FEC programme, as it is a university programme, additional time is timetabled to provide additional skills input and to support work experience.) The course is run like a conventional full-time HND. However the cohort sizes are half the size and this immediately doubles the cost per student. There have been problems identifying work experience of the right quality, and other ideas are being planned to create real learning opportunities on-campus including: bringing people in to work with students; recording the performing students; work with the college's radio station; and piloting a record label in conjunction with other courses. There may be few quality opportunities available externally. Franchising adds a positive differential to the costs.
+**30% to +40%**

Model: academic delivery at workplace; no delivery or assessment by workplace managers

HNC and (part-time) HND sciences
hours +1%
cohort size +12%
travel +2%
estates and central services: -25% .
This course is delivered off-campus by the academic, and no costs have been included for the use of the employer's training facilities.
overall differential is -8%

Level 1 social science (60 credits)
Contact hours are the same as a conventional programme; however as delivery is made to groups of 10 or 1 (the support, often in workplace, element) then contact time becomes 40 hours per student, rather than 8.5. The programme is aimed at SMEs, and this requires a significant investment in outreach and liaison with employers. The full-time staff employed in this add a further 60 hours per FTE student per annum. The differential cost might be £2,500 to £3,000 extra for these FTE students. The costs are only sustainable as this course receives a grant from the European Social Fund. Other customised short courses are common at postgraduate certificate level, aimed at senior levels of management. These courses, in business schools, are then able to charge significantly higher fees to students or their employers.
150% differential overall

FD social science
Delivered in partnership with five FECs. The colleges have enrolment and personal tutoring responsibilities. Modular delivery is split between the FECs and the university according to the location of the lead expertise in each module. Delivery of the course is facilitated by the employer of the largest group of students through the provision of training facilities (the costs of which are assumed to be the same level as any reduction in the university's costs). The employer makes some input to course development, but not to delivery (workplace or classroom). There is no formal workplace assessment, but the employer does operate a formal mentor programme.
+10%

Model: delivery and/or assessment also provided by workplace managers

FD engineering
Delivered jointly with an organisation that provides trainers and supervisors, and dedicated training facilities. Equipment costs are significant both to the company and to the university. The costs take into account the full costs of the company (which are partially covered by university transfer of income). The differential is comprised of
delivery: +21%
administration: +11%
equipment: +10%
+42% (compared with band B long-course funding)

HND science (FEC)
hours 0 (but only for 15/18 modules)
cohort +11%
additional WPL module 2%
estates/central services 0
overall differential is **+13% plus the costs of delivery of 3/18 modules** over two years. (These were provided "free" by the employer and/or through WPL project/tutor on-campus assessment).

FD health
The +56% includes: an estimate of the costs of the employer providing a clinical environment; practice trainers (who train students in the development of clinical skills and competencies in practice) and assess and verify, including on NVQs; management time; and central services overheads on the practice trainers (but not lost productivity from student employees). The employer's costs are not paid for by the university (irrespective of whether the total costs are funded by the WDC or not). If employer costs are excluded then the differential becomes +8%.

This differential still includes the costs of practice trainers (employed in organisations) who would need to be funded by HEFCE if not employed in a health trust. However, if the practice trainers' costs are also funded by the WDC (and all other employers' costs are excluded as well) then the differential becomes -37%.

These differentials would alter if the course is being funded as a long course, to -9% and +25% respectively.
+8% (with employer costs excluded) to **+56%** (with employer costs included)

DipHE social science
A distance learning course, where students receive a professional qualification valued by themselves and by their employers. All students are employed, and employers provide a tutor who contributes 14 days of support a year to a given cohort of employees. The tutor is appointed as an associate tutor of the university, but is not paid by the university. They are provided with a comprehensive tutor's pack, training, etc. In addition the employee has a workplace supervisor, whom the university visits and trains. A full-time academic manages the programme, with professionally qualified paid assessors (senior professionals, also educators) assessing practical competences.
-18%, or -11% if tutor costs (not paid by the university) are included

A review of definitions

5.64 If workplace learning were to be identified separately for funding purposes, the definition would need to be robust. This is very difficult to achieve. We found that challenging issues surrounded any definition in two respects:

i. what it was that needed to occur in or near the workplace;

ii. what a workplace is.

i. What is occurring in the workplace

5.65 The issues here relate to determining what "learning guidance and support" (or "learning**,** guidance and support") is to be counted.

5.66 A student learns; academics and/or workplace managers provide learning guidance and support.

5.67 If the measure were that of a student's learning, then this would involve measuring students' learning hours. In HE, guided learning hours for a full-time student might total 40 hours (a module) of which only 16 (or less if groups are smaller) are supervised or contact time. Most of the students' learning time, although guided, does not involve contact time with academics (or workplace managers). Even for conventional courses, the majority of non-contact learning time can take place either on-campus (for example, in the library or cafeteria) or off-campus (at the student's residence).

5.68 Even if the student is learning at the workplace, we found no examples where the majority of the academics' time was spent off-campus. Learning guidance and support is commonly provided from a base on-campus in a distance learning mode (telephone, or electronically). Assessment is almost always provided at a distance (observation is rare outside health and NVQs). Academics' preparation, administration and management functions are generally carried out on-campus. Some learning support and pastoral support may be provided off-campus, but these are unlikely to take even as much as 20% of the academic's time on that course.

5.69 There are also significant difficulties with trying to measure these different parts of the academic workload since no records currently exist that could provide robust measures of each element of work (or where it took place).

5.70 Workplace managers may contribute to student support (through mentoring) but this is rarely replacing academic delivery or support. Even when it does contribute to learning guidance and assessment, it is only rarely funded, and is anyway often combined with supervision of their student/employee's work.

5.71 Few of the models described above (with the possible exception of clinical placements) have, in practice, a "majority" of academic (or workplace manager) staff time spent in providing learning, support and assessment in or near the workplace.

ii. What a workplace is

5.72 The term "off-campus" is arguably too broad – it could, for example include all franchised students. However, the term "workplace" is not ideal either:

- formal scheduled delivery of lectures etc can take place in the workplace, or at a venue next to the workplace. This can, however, be as much to do with expediency (it is "merely" convenient for the employer) as pedagogically linked to "learning in the workplace";

- if students are not employed they do not have a permanent workplace/employer – and this happens even if the sponsoring company (paying the students' fees) is actively involved in the learning support and assessment;

- some foundation degrees provide work experience, not workplace learning (e.g. on-campus recording studio/radio station experience for an FD in an arts subject). However this will still require additional staff time to support and assess in that work environment over and above a conventional taught course;

- when working with employees in SMEs or private or voluntary organisations (such as nursing homes), because (a) the workplace may not be a suitable environment, and/or (b) it is important to get small groups together for cost-effectiveness, then venues other than the workplace may be used;

- distance learning students often carry out study (using distance learning material) in their workplace. Sometimes this is pro-actively supported by workplace tutors and supervisors.

In conclusion

5.73 WPL is difficult to define in any robust way. There are issues concerning both the definition of an activity that indicates that the course meets any "WPL" criteria, and how the amount of this activity can be measured.

5.74 We identified four broad models:

i. no academic support at the workplace (only occasional visits for quality assurance);

ii. some academic (didactic) delivery at or near the workplace;

iii. learning support and guidance provided by academics to students at the workplace;

iv. workplace staff providing significant delivery and assessment.

5.75 The last two could be considered "pure WPL". Outside clinical practice (health), initial teacher training and social work, there is very little of this in the HE sector; academics rarely deliver and assess in or near the workplace, and there are few instances where workplace managers provide significant amounts of learning guidance or assessment to students.

5.76 All four approaches can mean additional cost. In particular, where a student is supported or assessed significantly in the workplace, costs are generally higher than for a conventional course. The additional costs are due in large measure: to the smaller cohorts on the course; the extra time required to travel and visit a student on a one-to-one in the workplace or for project support and assessment; administration; and the time required to market and outreach with employers where they are to be actively involved.

5.77 Costs can be lower where workplace managers contribute significantly to the students' learning guidance or assessment at no cost to the university; or where training facilities are provided at no cost (either for academic delivery of a taught programme, or for use by a student on a distance learning programme). We found very few examples of this.

6 Accreditation of prior experiential learning (APEL)

6.1 APEL – the accreditation of prior experiential learning – is a method that can be used to help widen participation. It does not require any prior learning in the traditional sense of certification. Students can either enter courses without the "normal" entrance qualifications (awards) or can be exempt from certain parts (modules) of the course that they wish to take.

6.2 As one institution commented:

> The accreditation of prior learning (including experiential) is of particular value to mature students wishing to re-enter education or training, or to reduce the overall time of a programme of study. Its significance is growing now that increasingly academic institutions are prepared to accept learning from experience, as well as learning that has already been certificated, as a valid indication of achievement.[35]

6.3 APEL widens access to programmes, and facilitates the flexibility of progression routes. It is seen by many (mainly post-92) institutions as a way of promoting lifelong learning.

6.4 This appendix considers different types of APEL in use in the sector, with the aim of identifying and costing APEL that is being provided in the place of teaching.

Definitions

APL: The Accreditation of Prior Learning can be defined as the accreditation of previously acquired certificated and un-certificated learning.

APEL: The Accreditation of Prior Experiential Learning, is the process by which appropriate un-certificated learning is given academic value and recognition. Un-certificated learning is also known as experiential learning, which are the knowledge, skills and personal qualities acquired through life, work experience and study which are not formally attested.[36]

APCL: (here defined as) The Accreditation of Prior Certificated Learning.

6.5 Wailey (2002)[37] claims that:

[35] University of Derby: Regulations for the Recognition of Prior Learning for FE and HE provision. May 2002.
[36] The APL and APEL definitions are derived from Wailey, T. (2002) *How To Do AP(E)L*, Southern England Consortium for Credit Accumulation and Transfer (SEEC), London.
[37] ibid

> APEL is about making academic judgements on the value and level of prior and increasingly concurrent learning, whether achieved through formal study, training, self-direction or life and work experiences. It is normally valued against the benchmark of an institution's degree programme and more specifically against clusters of learner outcomes associated with a diet of modules at local or institutional levels.

6.6 APEL is actually a misnomer, as the educative component is actually the reflection that gives learning based on experience, not the fact that the experience was actually carried out.

6.7 In fact an APEL process (commonly a module) can often include concurrent learning (e.g. on a company scheme) or experience (to meet some particular learning outcomes). APEL may often include some APCL as part of the portfolio.

Volume of APEL in the sector

6.8 Developments in APL/APEL generally grew out of the Credit Accumulation and Transfer Schemes or as a means to address specific demand on named awards. Konrad (2001)[38] states:

> The process of enabling individuals to gain credit for learning outside the formal system of education and training has developed in the UK over the last ten years in parallel with the introduction of system of National Standards in vocational training and a modular credit system in higher education. These developments have taken on wider potential importance with agreement on a common framework of qualifications in HE as reflected in the National Qualifications Frameworks for the UK.

6.9 The HEFCE survey of off-campus provision, conducted in October 2002, identified the levels of students for whom APL and APEL provided exemptions from parts of courses, as summarised in the table below.

APL (1) number of students (headcount)	**Number of institutions (2)**
>1001	4
501 - 1000	8
251 - 500	12
1-250	39
0	14
Total	77

APEL number of students (headcount)	**Number of institutions (2)**
>201	2
151-200	5
101-150	3
51-100	6
1-50	27
0	29
combined with APL	3
Total	75

(1) Sometimes both APL and APEL combined – student records systems could not distinguish between them.
(2) Number of institutions responding to this question.
APL and APEL were not specifically defined in the survey.

[38] Konrad (2001) *Accreditation of Prior Experiential Learning in the UK,* working paper.

6.10 A survey of SEEC members (Johnson, 2002)[39] found that:

- many institutions do not record APL and APEL students separately
- there are proportionately more part-time APEL students, outnumbering their full-time colleagues by almost 3 to 1;
- the number of part-time students averaged 120 per institution, with numbers ranging from 10 to 700. The number of APEL full-time students averaged 46, with individual institutions recording a range of 1 to 250;
- two-thirds of institutions had been using APEL for over 5 years, whilst another 26% had been doing so for between 3 and 5 years.

6.11 APEL in pre-92 institutions is much rarer than in post-92 institutions. Most academics in pre-92 institutions see the potential for APEL on many programmes as small, in part because of the research nature of their degrees, and the knowledge and theoretical base which they contain. As the academic standards code of practice for a pre-92 university notes: "Given the nature of the programmes offered in many parts of the university, the overall demand for and acceptability of APEL is likely to be low."

6.12 Many post-92 institutions strongly support APEL. However the numbers of students taking this mode are low as a percentage of the total cohort. Students may not be fully aware of the potential for APEL. Full-time students may wish to participate with the cohort with whom they started throughout their study; and there is anyway the elapsed time required to prepare for APEL assessment – during which time the modules themselves can be studied. APEL can therefore be more relevant to part-time students.

6.13 Students quickly realise that it is not a "soft option" and can require as much work as the taught module(s); they may consider it just as easy to do the module itself. Academics too prefer student participation; it is useful for students to consolidate their learning skills, and to inform other students of the application of some of the knowledge that they are acquiring.

6.14 Academics may also be more reluctant to promote APEL as it is both time consuming, and "different" (therefore difficult pro-actively to support in a busy timetable). As one institution commented:

> It is considered a very tortuous process. Staff are uncertain about the method, and it is easier for students just to do the module or assignments.

In some cases there may be little financial incentive if there is a subsequent reduction in a department's student numbers (especially if they have not run the APEL module).

[39] Johnson, B. *Models of APEL and Quality Assurance,* Southern England Consortium for Credit Accumulation and Transfer (SEEC).

6.15 Notwithstanding this, Johnson (2002)[40] notes that none of the institutions in the SEEC survey:

> felt that the number of APEL students would fall in the coming year. Indeed, 24% expected growth to be in excess of 5%. However, over half of the respondents did not expect APEL to grow in the coming year.

6.16 The author however expresses the view that:

> As HE learning becomes more fragmented with, for example, more and more students interrupting their studies, institutions having policies to encourage widening participation and to provide more flexible modes of delivery, it would seem that the use of APEL could be exploited much more fully and across the board. Indeed, it may be argued that institutions may need to develop APEL more seriously in response to such developments and initiatives.

6.17 Other drivers for this that he points out include:

- credit frameworks and institutional support for APEL have been stronger as universities become more confident of their procedures;
- APEL procedures provide an institutional framework to address the increasingly complex combination of learning experiences being presented to admissions tutors;
- there is an increasing level of demand for linking educational provision with the assessment of work-based learning for academic credit.

Models of delivery

6.18 The purpose of APEL can differ. It can be:

- the means of gaining entry to a programme;
- the means of gaining entry part way through a programme ("with advanced standing");
- the means of gaining credits in individual modules;
- learning in its own right (e.g. part of personal development module to encourage reflection; or the OU's "Portfolio approach to career development").

6.19 We have identified six models of the delivery of APEL.

[40] ibid

1. A self-standing module which subsequently forms part of a qualification

For example, a 15-credit module, where students are given assistance in getting their portfolio together, and advice on how to match their experience against learning outcomes. The module includes a considerable amount of one-to-one time, as well as small group work. This incorporates consideration of APCL as appropriate. The Examinations Board accredits the module for 15 points (if appropriate); the school then checks and awards APEL. The APEL module credit rating is not linked to the size of the APEL then awarded.

Another institution runs a 10-credit module, part of the aim of which is to ensure that staff are given some recognition of the time required for the work. The size of this module has been dictated by the student learning hours, rather than the amount of staff time required.

2. An alternative to the taught mode for a given module

In one institution, specific named modules could be APEL-ed (through a portfolio); students were registered on those (otherwise taught) modules. Alternatively, general credit could be obtained – credit was given to experience expressed in a module/credit equivalent, but where the experience could not be mapped onto a specific named module.

3. A self-standing process (not credit rated)

APEL can be used in admissions. Students can be given recognition of work experience as well as (any) certificated learning to gain entry to a programme. This could also grant direct entry to Year 2 (without a Year 1 qualification).

Experiential learning is considered during admissions on postgraduate programmes in some institutions. If applicants have very relevant life experience then they can be accepted provisionally onto a programme (subject to satisfactory performance in the first term). However, other institutions (and these might include many of the pre-92 institutions) would find it unusual to admit a postgraduate student who does not have a degree or relevant professional qualification, although experience may be considered as a (small) contributory factor alongside their qualification. A key constraint here may be the research career potential of many of the pre-92 institutions' postgraduate qualifications, and the technical knowledge required.

At undergraduate level, experience is commonly considered (but not as a formal assessed process) to help judge the ability of the student to work at this level in this area (and their commitment to learning) where the students does not have the "traditional" entry qualifications for the particular course (or has not come through an access route such as a foundation course).

When used for admissions, an informed judgement appears to be the normal technique, rather than a formal portfolio process. Students are given an interview and/or make a written submission, and sometimes applicants are tested for their academic ability by written test (for example, a book review).

There are occasional instances of the formal APEL process, involving portfolio, leading to direct entry to Year 2. If this is not handled through a module, there is no funding. However, significant (120-credit) exemptions appear rare: the work required is so onerous.

4. Integrated with a WPL module

For example, one FEC provides credit for learning at work, up to a total of one 30-credit module. This is designed to meet the learning gap for each student's APEL, and is developed into tailored learning objectives that are carried out in the workplace.

Another social science FD allows 45 credits that are APEL, "learning through experience". 15 credits provides the framework (how to report on benchmarking against learning outcomes, planning the work, how to demonstrate and evidence this). A further 30 credits allows for the production of experience (experiential and current) by way of portfolio.

One HEI is planning a module where students will use their recent prior experience as well as their concurrent experiential learning for their learning/reflection as part of an integrated WPL module (some of this already happens on one of their certificates). In some cases this can form part of the university's accreditation of in-company schemes (kite-mark of recognition to an existing continuing professional development structure, which involves the development of an awards structure, and is often accompanied by a WPL module which would include APEL or concurrent learning). This is normally funded by the company (not HEFCE).

5. To allow partial participation on conventional courses

In one institution, students can claim APEL for up to 30 credits, they then do not take the APEL module, but register on the full course, and only do the assessment for those modules; they do not attend lectures and seminars. In contrast, in the education department of another institution, students are APEL-ed from assignments but have to attend classes (so that they can contribute their experience to the cohort).

On one engineering course, students have to carry out industrial training (skills acquisition) to fulfil professional body requirements (this is not credit bearing, but is a requirement for the degree). Students with relevant work experience (e.g. 10 years on a factory floor) can be exempt from some of this.

6. APEL leading to exemptions, where the APEL is not carried out in a funded module

An example of this is direct entry to Year 2 (e.g. social work diploma before it was replaced by the degree programme).

Sometimes it can mean occasional exemption from a module or part of a year. On some courses this type of APEL is funded outside HEFCE, e.g. in health – WDCs will fund this activity as if the student were an FTE on taught modules. The student's APEL may not be registered on a module either because the institutional processes are not established, or perhaps because the student is to be immediately registered on a full-time year programme.

In one institution, 500-600 applicants, usually seeking exemptions from 20 to 60 credits (level 1 or 2) from a combined honours programme, are handled centrally. This is not converted into a module, as it might tip part-time students into a full-time fees category (which would be detrimental to their finances).

In one FEC, APEL (for HE programmes) is worth 10, 30 or 60 credits and is carried out prior to course choice. There is no funding from the Funding Councils, but the student is charged a fee.

6.20 We asked institutions what APEL is not funded. We found that most APEL (involving portfolio development) is already funded under the current arrangements. Modules, whether self-standing or not, (models 1 and 2 above) are funded. Part-participation on existing modules also carries funding (models 4 and 5). Admissions APEL is not generally funded, but generally requires much less effort. In some cases APEL that is not carried out in a module requires significant time, but we found few examples of this. Policies for charging fees for APEL modules differ. The size of module(s) on which APEL is carried out can influence the funding available for the learning support and guidance being provided, but the costs can be same.

6.21 APEL can be considered a valuable way of promoting access to courses. We found one of the most supportive approaches in terms of funding (to the HEI) in a pre-registration nursing course. Students were paid at the same level per FTE for their year 1/level 1 learning by the WDC irrespective of whether they:

- undertook the Year 1 taught course;
- entered directly into Year 2 (as a result of an APEL/APCL procedure);
- needed to come in during Year 1 to fill in gaps;
- were only exempt for three months of the first year.

Processes

6.22 The processes for a formal APEL claim (requiring development of a portfolio or equivalent) involve an Initial discussion/interview, which identifies the scope for APEL (and APCL). Then support from an academic tutor (central unit or departmental) as the student:

- matches experience against learning outcomes and HE level descriptors;
- produces evidence of work (sufficient for verification of the claim and the authenticity of the work). This might include the submission of a discrete piece of written work (reports, drawings, spreadsheets, presentations, in-company projects, etc), or an artefact; the production of documents or other evidence e.g. logbooks or work diaries; and the inclusion of testimonials/witness statements etc;
- this is usually given in a portfolio – where the evidence is cross-referenced to the learning outcomes. It may be supported by a practical demonstration or a formal interview (allowing observation and documentation of the evidence of learning achievement). In this portfolio the student reflects on their experience – itself a learning experience;
- has the resulting portfolio of evidence assessed.

6.23 Academic involvement was described variously by institutions as follows:

a) a one-to-one interview on how to prepare a portfolio
another interview of 45 minutes
feedback on draft portfolio
assessment of final portfolio by two academics

b) contact time 18 hours on the 15- to 20-credit module:
education guidance interviews one-to-one of about 30 minutes
portfolio development tutorial or learning set support: 2 hours
formal assessment of one student including boards: 2 hours
(a total of 4.5 hours)

c) three meetings, each lasting half to one hour.

6.24 In one institution there are three modes on offer: a group module (with instruction in groups of 5 to 10); one-to-one support of three to four hours, similar to a project module; or an open learning package with web-based on-line interaction with a tutor.

6.25 In most institutions APEL is capped under university regulations, which set the maximum number of modules, or credits, at given levels, on which APEL could be given in any one programme. There are also then restrictions on the intermediate qualifications (certificates and diplomas) that can be awarded when an APEL process takes place as part of a degree.

> The number of APEL permitted in awards varied from institution to institution ranging from "no APEL beyond level 1" through to the whole award based on APEL. Both of these are extremes and used by a tiny minority of institutions.
> Johnson (2002)[41]

[41] Johnson, B. (2002) *Models of APEL and Quality Assurance,* SEEC Research.

6.26 APEL is usually a pass or fail. It is rare for it to carry marks. It is not used in the classification of a first degree or distinction/merit on postgraduate awards.

6.27 APEL processes can be centralised or decentralised:

- **centralised**: a central "access/lifelong learning" department receives all applications and supports or accredits APEL applications. Examples include:

  A free-standing module of 15 credits. This results in duplication of quality assurance – a requirement for the central department to process the claim and award the APEL module, then for the academic department (which the student is then joining) to review the portfolio and identify credits from which the applicant is to be APEL-ed (e.g. 120 or 180 credits).

  In a second institution, APEL is initially handled through a central "APEL" module of 10 credits, but the module is always linked to the school or department of the course which is to follow; and there is joint assessment with the school. This has the advantages of consistency (of recognition of similar qualifications); of clarity of criteria and procedures; transparency; and of professionalising the process. However, it requires quite a lot of staff training. There are strong links to negotiated awards and in-company learning, although even here, only 131 are approved each year. The central accreditation and approvals committee handles all applications. Applications must cover more than 30 credits. The APEL can count up to two-thirds of the final award.

- **centrally co-ordinated, but locally delivered**

  One institution has set up a "practitioners' network" who have a "licence to practise" : This is gained by staff through the award of a 30-credit Masters module called "Professional Practice in APEL/APL".

  In another institution students are registered in the department on specific modules, and APEL is related to those modules.

- **decentralised**

  In departments, APEL can be part of admissions procedures, often termed "entry with advanced standing".

6.28 APEL tends to be in isolated pockets even when there is an institutional framework. It tends to be carried out in specific subject areas – e.g. health, social work, teacher education, business, engineering, construction, and learning through work programmes. It is often carried out with APCL.

Cost conclusions

6.29 Costs are unlikely ever to be discipline-specific (although some professions and public sector are the highest users) – the costs of the process will be the same.

6.30 Some examples of costs of a formal APEL process (leading to assessment of a portfolio) are as follows:

> An institution which operates through very formal APEL procedures suggests that a 10-credit APEL module carrying a claim for 50-50 credits costs twice as much in terms of staff time as that of a normal band D 10-credit module.
>
> A broad estimate of costs from another institution, again with formalised and centralised APEL procedures but which in this case are not handled through a module, shows that claims for 20 to 60 credits requires the same input of staff time per student as a 15- to 20-credit module.
>
> The detailed example given above (paragraph 6.23) totalled 4.5 staff hours for one student. This can be compared against 12-14 staff hours required per student on a conventional course per annum (administration and management are excluded from both; assessment is excluded from the latter). The APEL module might comprise one-sixth of the year's credits; but could take about one-third of the time normally taken for a year's conventional teaching.
>
> In a further example, APEL was claimed for 60 credits in health. The APEL process required 6 hours of staff time per student per annum (three meetings of 2 hours each). This is equivalent to a 50-credit module in terms of staff time.

6.31 These generally higher levels of cost were supported by the SEEC research:[42] "It is in fact more resource intensive for the institution (than taking a given module/course)" (and more resource-intensive for the student).

6.32 The higher the claim (in some institutions it can be up to 240 credits), the greater the amount of work by the student on the APEL module (and the staff time in support of this).

6.33 The effort may also depend on the level of course or of the student:

> a student entering a Masters programme has prior learning experience. (S)he receives the documentation at an interview and returns with a beautiful portfolio
>
> vs
>
> a student who finds it difficult to understand the concept of APEL at all.

6.34 It would be possible to see lower levels of costs if:

- groups of formal learning are provided (particularly if APEL is a common entry route to a course);
- support of module delivery is increasingly on email, and not face-to-face – but this is unlikely to reduce staff time required;

[42] Johnson, B. (2001) *Models of APEL and Quality Assurance,* SEEC Research.

- if the procedures were lighter touch e.g. verbal submissions rather than extensive portfolios, but the work must be seen to be of equally high quality as the modules for which exemption is being sought. This is the approach for admission where indirect evidence (testimonials) and demonstrations of learning (interview, based on extended CV), are more heavily relied upon than a portfolio;

- there is a central framework and support (although this can also lead to some duplication of, for example, planning or assessment).

6.35 However, there are overall few opportunities to demonstrate any great economies of scale (as a taught course can), since it is an intrinsically bespoke and labour intensive method for admissions and assessment, focused on one particular student.

In conclusion

6.36 There is a wide range of APEL procedures carried out in institutions. Not all departments in any one institution handle APEL, or all institutions.

6.37 APEL is currently used by many departments as part of their admissions procedures for students – particularly to postgraduate courses or for non-traditional students to undergraduate courses. However, this is commonly a process designed and carried out by each department individually, and often is not much more than an "informed judgement" carried out on a CV or application and perhaps in an interview.

6.38 APEL is used more rarely to grant exemption from specific modules on a programme, or a whole stage (year/level) of a programme. The student's APEL application is considered a learning process in itself, and in some institutions the review of their APEL claim constitutes a (funded) 10-15 credit module. This can be a very costly module (in terms of staff time), particularly if the number of credits claimed is large. In some institutions, the APEL process is carried out for each module for which exemption is being claimed, leading to a closer recognition (in funding) of the costs of handling an APEL process. In health, students undertaking APEL can sometimes be funded (by WDCs) at the same rate as the FTE student who is taking the comprehensive suite of modules.

6.39 There are a few instances of full APEL processes being carried out which do not form part of a module. Direct entry to Year 2 is an example. Costs would be incurred by the department for which there is no funding. This could perhaps be considered a cost of recruitment.

6.40 The volume of APEL in the higher education sector is very small. It is regarded as many as a difficult and different process, especially with the need to ensure comparable quality of the outcome when compared to a traditional teaching process. It does however allow individuals' prior learning (experiential and the full range of certificated learning) to be recognised on entry, and students' subsequent learning time for a qualification potentially to be reduced. If this was to be expanded then any barriers to the increased use of modules to provide a

framework (and funding) for the APEL work would need to be explored. However, the main pre-requisites would be:

- a modular credit-based system;
- an institutional strategy with regards to APEL (in conjunction with APCL), including acceptance in terms of pedagogy, curriculum, and quality, of APEL as a means to fulfil some of the programme's learning outcomes;
- good pedagogic practice to inform this;
- institutional processes and frameworks for handling APEL;
- training available for academics;
- then specific publicity of this option to potential students.

6.41 It is unlikely that such initiatives are best developed in isolation. APCL would be part of the process, and it would be made even more useful if it was part of a process of individualised learning – where gaps in an individual's portfolio could be made up by the most appropriate method, managed through individual learning programmes. Some examples of this are covered in the appendix 5.

7 Part-time study

Introduction

7.1 One of the modes of study considered within this work has been part-time provision – to identify the costs of teaching a part-time (PT) student, over and above a full-time (FT) student. This is currently taken into account in the HEFCE funding method for teaching by a PT premium of 5% (per FTE comprised of PT students).

7.2 PT study covers a wide range of types of provision. Our report only relates to that which involves significant periods of study leading to degrees or other major awards. These courses were generally offered to PT students in parallel with the same type of provision being offered to FT students. We have not looked at costs on very "low intensity" PT provision such as short-courses, summer schools, taster courses etc, where the nature of the student experience, and cost structures, are very different.

7.3 Two approaches could be taken to establishing the additional costs of PT provision in most institutions: marginal, or full. A marginal cost approach might assume that (for example) in an institution that offered both PT and FT provision:

- the estate was primarily designed for study during the day, and any use in the evening might incur some additional costs (e.g. for utilities and security), but that the capital and recurrent costs of depreciation, maintenance etc should be allocated only to the day students;

- where PT students are being taught on equivalent, but separate, courses from FT students, then they will be using the same materials. The costs of these materials could be allocated purely to the FT students if that was the original mode of study;

- if PT students join a course that is run during the day, and that is primarily taken by FT students, then the costs of a lecture (or even a seminar) might not increase due to the extra numbers. On-course assessment and individual or small group learning support time would increase proportionally.

7.4 However, this study is costing all modes and types of provision on a **full-cost basis**. This means that all students are allocated an appropriate part of the full costs of teaching – including estates, the preparation of materials, and delivery time.

7.5 The study is considering what cost levels are different because of the PT nature of a student's study. There is no information available in institutions that can provide this differential robustly. We have therefore carried out the costing in this area at a broad level. The costs should be regarded as indicative rather than precise. We note too that costs have been calculated on figures that often themselves include the additional costs of PT provision, although we have used lower estimates where

appropriate to try to minimise the impact of this.

7.6 We show the impact on costs in two ways. Firstly, the cost may be the same as for an FT student, but should be applied to a person, or body, rather than to an FTE. Secondly, there may be an additional cost because of the nature of the PT provision – this again might be related to headcount, rather than to an FTE.

7.7 This study has been informed by discussions with academics and central service managers in several of the case study institutions – including two institutions with all undergraduate provision provided on a PT basis, an FEC, and one institution with a significant proportion of its undergraduate FT and PT population from "non-traditional" backgrounds. We note that it is difficult to generalise about any student population – there is great diversity of institutions, of disciplines, and of students. We have attempted to reflect this here, but some generalisations have of necessity been made.

Part-time: definitions

7.8 PT students are defined for HEFCE funding (based on the Higher Education Early Statistics Survey, HESES) as students other than those on a full-time or sandwich year of programme of study. For FT students:

- the student is normally required to attend the institution, or elsewhere, for periods amounting to at least 24 weeks within the year of programme of study; and during that time they are normally expected to undertake periods of study, tuition or work experience which amount to at least 21 hours a week;

- an FT fee is chargeable for the year.

An FTE is calculated by comparing either the duration of the course (years of programme of study), or the credit points studied, with an equivalent FT course, or if such a course does not exist, a similar FT course. The total FTE for a part-time course should equal the total FTE per student for an equivalent full-time course.

An FTE must be at least 3% p.a.

(HEFCE 02/40, Annexes E and H)

7.9 A PT premium is currently provided which recognises the "extra costs associated with part-time students – for example administration". The premium is currently calculated as 5% of the unweighted (by price group cost weight, or band) FTE. This means that there has been an implicit assumption that:

- there is no difference in the additional cost (of a PT student) between price groups;

- additional costs of a PT student are deemed to increase as the amount of study done by a student in a year increases.

Patterns of provision

7.10 The material in this section of the appendix relates to all PT students in HE.

7.11 In 2001/02 nearly 40% of all students in higher education were PT. Students were studying on all levels and modes of study:

Mode	% of students studying in that mode [1]	% of PT HE students
higher degree (research)	29.3	4.0
higher degree (taught)	50.1	13.7
other postgraduate	69.0	13.0
total postgraduate	51.3	30.6
first degree	20.3	13.8
other undergraduate	77.1	55.6
total undergraduate	33.8	69.4
total HE students	39.5	100.00

HESA students in higher education institutions: Table A: All students by mode and level of study 2001/02.
[1] PT student total excludes those writing up.

7.12 Nearly all institutions in England teach PT postgraduate students (with the exception of seven colleges of higher education). 90% of institutions teaching at undergraduate level have provision for PT students. The extent of this varies:

% of undergraduate students who are studying PT	Number of institutions (England)
<10%	40
11-20%	21
21-30%	35
31-40%	15
41-50%	10
51-60%	5
61-70%	1
71-80%	1
81-90%	0
>90%	4
total number institutions:	132

Source: HESA Students in HEIs 2001/02, from Table Oa All students by institution, mode of study, level of study, gender and domicile, 2001/02

7.13 Two institutions have only a few FT undergraduate students, and very significant numbers of PT students (Birkbeck College and the OU).

7.14 PT teaching takes place in all disciplines, across the sector as a whole, although

some disciplines have very low PT student numbers in their cohorts. Combined studies, and subjects allied to medicine, account for 41% and 17% of total PT undergraduate students respectively.

7.15 The majority of PT students (63%) are female.[43]

7.16 PT students will be studying at varying rates. A comparison of PT student numbers (headcount) and their FTE numbers gives a conversion of headcount to FTE of 39%: i.e. students are on average studying at a 0.4 FTE rate[44].

7.17 Although the formal (funding) definitions distinguish clearly between PT and FT, these are not so clear at a student level, particularly in institutions where almost all of their students (PT and FT) are in employment during their study. Here, both PT and FT students have non-traditional qualifications, comprise a diverse ethnic mix, and often count towards the widening participation premium. These students often find it more challenging to complete their studies within the FT timescale – and these type of FT students have a higher proportion of resits and retakes than other more traditional FT students. Their pattern of study is often on a PT basis, although they are being funding as FT. The additional costs of this are theoretically taken into account in other funding streams (particularly that of widening participation).

Part-time cost drivers

7.18 We have identified three potential cost drivers for PT students – over and above those that would be experienced for an FT student:

a) administration for a person who is studying;
b) time of study;
c) nature of student.

a) Administration for a person who is studying

7.19 Administration is a broad term that we use to cover the following functions:

- recruitment/advertising;
- application;
- enrolling/registration/fees collection;
- tracking/student records;
- and the support of teaching.

[43] HESA Students in HEIs 2001/02, from Table 1e Part-time undergraduates by qualification aim, domicile, subject area, location of institution and gender 2001/02
[44] From HEFCE: HESA00 2001/02, excluding sandwich students

7.20 PT students are not recruited through the Universities and Colleges Admissions Service (UCAS). The national and schools-based UCAS **publicity and marketing** initiatives (higher education fairs, clearing, etc) are therefore not directly supporting PT students. Much of a university's centralised marketing activities (open days, advertising, etc) are targeted at FT students. Often a department needs to incur specific expenditure to advertise its part-time courses. These courses can be highly specialised, and targeted at specific local employers or markets. Each course has to be sold individually, and the marketing process is much longer than the focused period of marketing for FT provision.

7.21 An institution not recruiting through UCAS might have direct advertising spend of £50 to £100 per student (who is subsequently recruited), in advertising and marketing activities (this estimate is based on a department's spend; and the spend of an institution that does not recruit significantly through UCAS. Another department estimated £160 per (distance learning) student eventually taught. Although this could be deemed to replace the institutional spend, it is more costly per student due to:

- the lower numbers subsequently recruited;
- the heavier involvement of members of academic staff in the recruitment to their PT courses, rather than to their FT courses;
- the lack of reliance on non-university publicity such as HE fairs;
- the need to do it all over again much sooner for PT provision than FT provision.

7.22 Considerable work is required on some PT courses to **liaise with employers** to encourage them to release their employees for day release and to pay their fees. This relationship extends to work with industrial liaison groups, employer-directed modules, other aspects of vocational and professional or industry-focused education, which requires work with external bodies outside that for FT "academic" courses (although the latter will also apply to professional or vocational FT courses as well). This can extend to liaising directly with employers about a student's progress (a similar liaison with parents is very rare with FT students).

7.23 On application, each PT applicant must be processed individually. Many academics interview their PT student applicants, whereas they do not need to interview their FT student applicants (they use the grades they have received). This is subject dependent.

7.24 PT students need more advice, guidance and support on their study pace, pathways, and so on, especially if they are progressing from further education to higher education, or onto a combined honours route. Applicants rejected at interview are often steered to another course (unlike many FT students).

7.25 **Enrolment and registration** procedures in most institutions are designed for FT students (who tend to all arrive in groups in a formalised and structured institutional and departmental process). PT students require much more ad hoc enrolment procedures and timing, with more individual treatment. They can not obtain their ID cards or fill in grant forms etc as part of an efficient "production line" activity. PT students are motivated to attend in the evenings for classes but not for administration such as enrolment. Qualifications must be individually verified –

UCAS and examination boards have carried out this function for most FT students. PT students generally enrol later in the term which complicates planning. One department described PT enrolment as an administrative nightmare. A FT student group of say 100 students can be "processed" over three days. A similar sized PT FTE student group (of say 245 students) can take two months, with considerable emailing, writing, and phoning by the academics and administrators.

7.26 Students need to be tracked for longer – and the same type of **student record** maintained each year, broadly irrespective of size of programme. The cost of registry is driven more by student numbers than by FTEs.

7.27 Maintaining students' records is also more difficult. The academic year does not fit many of these students' study patterns. Many have more study breaks and interruptions in their learning. Tracking PT gaps in study through a record system designed for FT students can be very challenging – this means that it can be more costly to maintain a PT student's record than that of an FT student in terms of departmental administration (clerical and academic). It is made even more difficult because of the lack of on-line enrolment and records systems accessible to students off-campus (although some institutions are developing systems in this area). Often university systems rely on students' presence, and PT students are not around during the day to ask the department office if their paper work has been received, or the records are up-to-date (as FT students do). They ask the person they see, the academic, which involves another person, who is on a higher salary rate.

7.28 **Fees collection** is a function of headcount, not FTE. However, again, collecting fees from students who are not physically around during "a normal teaching day" is more time-consuming, for the academic, for the department administrators, and for credit control in the central finance function.

7.29 The administrative support **during the teaching process** is also more demanding. The student is not there to read the notice board that says their tutorial has been cancelled or moved to another building. Websites are a means of communication, but cannot be relied upon. Students need to be specifically contacted. Students cannot just drop assignments or other work into pigeon-holes – they must find other methods, and monitoring records of this adds to workloads.

7.30 References are often more demanding to write for a PT student. Although FT students receive references, many of those for a PT student include a personal reference as well as an academic reference. They require more time as more needs to be said about the personal and work experience aspects of their education (they often need to justify changing their career).

7.31 Overall, therefore, we have identified a number of features about PT provision which lead firstly to additional administrative costs, and secondly, to administrative costs being driven by headcount rather than FTE. These are in four areas:

Function/cost area	Activities affected	Costs of an FTE student which are incurred on a headcount basis	Additional costs for PT student (headcount)
academic department administration	marketing, application, enrolment, students' records, some of the programme administration	all student related (not course or staff related) administrative tasks of say £100 per student	plus an additional 50% of these administrative costs i.e. £50
academic	as for the administrator	£100 per student	plus an additional 20% for administrative time i.e. £20
non-staff costs	direct advertising spend (in lieu of UCAS)	£100 per student	plus say 50% more than for FT student i.e. £50
central finance and registry	fees collection/credit control; admissions/student records	£100 per student	add 50% to fees collection i.e. £30
		£400 per student	**£150 per student**

7.32 The cost figures should only be regarded as indicative, but they are based on a broad compendium of figures (and estimates) obtained from departments and institutions. Although heavily rounded, the £100 cost identified against each item has been individually calculated.

7.33 This shows that £400 of an FTE costs (13% of a band D student) are driven by headcount, rather than by FTE; and that an additional £150 is incurred for a PT student rather than an FT student (5%). These factors are shown as Differential A in the summary table at the end of this report.

b) Time of study

7.34 Two factors are influenced by the time of study: the size of the cohorts being taught, and any additional estates costs .

7.35 PT students may be studying:

- evenings/Saturdays (e.g. two evenings a week of 3 hours each);
- off-campus (e.g. through e-learning, distance learning or off-campus workplace learning);
- day release on PT courses (e.g. 7 hours a week on-campus);
- during the day on FT courses.

7.36 If PT students are **studying in the evening or at the weekend** then cohort sizes are often lower, and additional estates costs are incurred. Institutions could address cohort sizes by changing to day provision (which would not suit the needs of those students), or by enforcing strict rules on minimum module sizes (however the range of subject options can already be much diminished for evening only pathways). More radical options include moving all students (including FT) to a 9

to 9 day for three days a week (but this has significant implications, including for academic contracts). Alternatively, increasing advertising spend and actions, and better matching of provision with students' needs might address some of the cohort issue. However, many academics to whom we spoke were, despite their recruitment and planning, teaching to evening cohorts that were significantly smaller than those during the day.

7.37 Figures of a PT student intake of 20, vs an FT student intake of 80, were commonly quoted. This would not affect all teaching time, as seminars and small group work is scheduled as well as lectures. An indicative cost can be calculated, to show the magnitude of this different cohort size on teaching costs. Taking a broad model of:

Year 1	2/3 lectures
	1/3 seminars/small group work
Year 2	1/3 lectures
	2/3 seminars/small group work
Year 3	all seminars/small group/individual work

7.38 Then one-third of a course (the lectures) might be delivered to large cohorts. If a student's contact taught time is 12 hours a week, then 4 hours or £120 of lecturer's time might be affected. Over 24 teaching weeks, the cost per PT student might be £150 (£120 times 24 weeks divided by a cohort of 20). The cost per FT student might be £40 (£120 times 24 weeks divided by a cohort of 80). This leads to a differential of around £100 or 4% on a band D student price. This would be FTE related – i.e. lower for a student not taking so many modules.

7.39 A second cost of evening provision is the additional cost of estates: security, reception, and utilities. Most institutions do not have their estates open after 5 pm (one or two buildings may be, particularly the learning resource centre). Opening buildings can amount to 10-20% of estates costs (including depreciation), which themselves are around 10% of the total cost of a student. An institution operating from 9 to 5 might then expect to increase their security and utilities spend by 50% if they open to 9 or 9.30 in the evenings. This would add £25 or 1% to the cost of a PT band D student. Arguably this is also FTE related– i.e. lower for a student not taking so many modules. This might be slightly higher for a band B student, but is unlikely to be significant in terms of the differential.

7.40 Theoretically there are additional costs of support services (counselling, welfare etc), finance (fees), and registry. PT students need these services. However, in practice these are rarely available (or are available very limited hours outside the 9 to 5 day) even in institutions with a majority of PT provision. Libraries (with PC suites) may be more frequently open later than 5 pm, but they are unlikely to have professional staff available. Some institutions are considering moving their PT provision to one building or site to address these problems and to ensure that the whole higher education experience is as good as that for FT students.

7.41 In terms of pay, institutions sometimes incur additional academic pay costs, with supplementary contracts given to their permanent staff to reflect weekend working, or through "buying-in" staff specifically for this teaching. However these should not be regarded as the additional cost of PT provision, as they are a feature of

academic pay conditions and employment.

7.42 The two additional costs of students studying in the evening or at weekends, might therefore be 4% (cohort sizes) and 1% (estates costs). This total of 5% is shown as Differential B on the summary table at the end of this appendix.

7.43 **Off-campus students** are usually (but not always) PT. Their cost structures are different (e.g. there are reduced estates costs) but this is arguably a feature of the mode, rather than the PT nature of the students' learning. Cohort sizes can be lower (or much higher) but again could be considered a factor of their mode (and other reasons) rather than a "PT issue".

7.44 PT students **studying during the day on dedicated PT courses** are generally day release students. These are rare in higher education (they are more common in further education with HNCs and PT HNDs), but there are several models of this provision in the non-traditional modes of delivery, such as foundation degrees or (part of) workplace learning provision. These students would normally again be taught in smaller cohorts than their FT comparators. They would not however incur the additional estates cost.

7.45 PT students studying during the day on FT courses may be taught separately if the FT student numbers are high enough to fill the seminars and lectures, or they may "infill" to the courses (or at least the option courses). In general, they do not incur any additional teaching costs.

c) Nature of student

7.46 Students are provided with normal teaching guidance and support, academic tutor support, and pastoral support.

7.47 In terms of **teaching guidance and support**, it is not clear whether PT students require more help with their study skills (FT students with non-traditional qualifications can also require this). It is likely that there is a greater flexibility of learning routes and variety of assessment methods in PT provision than for FT students. Many PT students may not have the support of their family and schools that FT students have (although many of the latter are also lacking this). The way that different groups of PT students can look at study, coursework and examinations might be very different.

7.48 PT students can, however, need more **academic support, and pastoral support**.

7.49 The characteristics of a mature PT student are much more variable than younger FT students who can be (but are not all) relatively homogenous. They often change what they are studying, and the period over which they are studying, more frequently than a "traditional" school-leaver does. PT students generally have more commitments, with complex personal lives and living environments – involving children, marriages, relatives, employment, health. Their lives are less predictable: their personal circumstances change, and they face upheaval in their studies as a result. They can make more decisions about pathways and routes during their study than an FT student following a degree programme. This

necessitates academic tutor support to guide them through these choices.

7.50 Similarly, these personal challenges lead to issues about completing the current course (be it module or programme) within the required (or planned) timeframe. These students often need to hand in assignments or projects slightly later, or ask for deferral of their assessment, or need to resit. Special arrangements need to be made to bridge gaps in PT study – a student may wish to keep in touch through emails, library or newsletters.

7.51 Not only can these challenges happen more often for a part-time FTE student relative to a "traditional" full-time student; but the longer elapsed time over which they are studying offers more opportunities for change to take place. When problems arise, they can be very significant, and can take a considerable amount of support from academics and student welfare before they are resolved.

7.52 But it does not affect all PT students, and some FT students also need to make high demands on pastoral support because they too are facing particular challenges in their work or personal life. FT students can sometimes require more pastoral support as they are not always as mature or focused on employment. FT students can often find support from their peers (in halls of residence, students union, sports, etc): PT students have to create their own support groups (and are sometimes very proactive in doing so).

7.53 We did not find a formal categorisation of PT (or FT) students that would inform us about their need for pastoral support (young mature career changers, career developers in employment, young retireds, etc). Most academics reported their informal experiences which showed that the demand from their PT students to be greater than that from FT students. However, the reasons given varied (career changers are more motivated but "know their rights" and demand more support; young retireds are interested and self-motivated and also demand their entitlement to support; young professionals developing their careers are juggling commitments, but often have their employer supporting them). Postgraduates will differ depending on the length of gap between their undergraduate and postgraduate study, as well as their motivation for carrying out further study.

7.54 Some academics also commented that as the PT students are not on-campus, they are not around to receive the pastoral support. But they might use other providers such as their employers or their families (depending on the problems they are facing).

7.55 We note, however, that even if the need for support (and take-up of that support) was the same as an FT student, this support would take the same time for each student "head". In one institution a personal tutor entitlement was 4 hours a year for a student: this entitlement is the same for a PT student as for an FT student. This level of support is not uncommon. The costs of pastoral support might be around £100 to £200 for each student, irrespective of credit weighting. This is about 5% of the costs of an FTE student. This is shown as Differential C in the summary table at the end of this appendix.

d) Retention

7.56 We have not included higher attrition or lower retention in the costs of a PT student. However, many academics commented that the retention of PT students was lower. This is very difficult to measure, particularly with the interruptions to learning that are common with PT students. Some could be addressed by pastoral or other support. Much may be a factor of the pressures of working and learning at the same time, or juggling learning with other life commitments.

7.57 If retention is lower then this would add significantly to the total cost of teaching a (fundable) student who completed.

Calculation of the additional cost

7.58 There are two aspects of costs that are affected by the PT nature of provision:

- level – additional costs are incurred over and above that of a full-time student;
- cost driver – some costs relate to the number of bodies, rather than the FTE.

7.59 We identified several factors about PT provision that affect costs and gave indications of the magnitude of these above. In summary these are shown below.

Differential		**Cost driver:** Cost of FTE which are incurred on a headcount basis	**Level:** Additional costs required for PT student (headcount)	**Level:** Additional costs required for PT student (FTE)
A	administration	13%	5% [£150]	
B	cohort sizes (for evening study)			5% [£125]
C	pastoral support	5%	not included	
D	retention			not included
		18%	£150	5%

7.60 This means that for the costs of an FT student in band D (say £3,000), the costs of supporting a PT student for different volumes of study can be broadly estimated as follows:

- for each student (headcount) add the costs that are incurred for all students which are incurred on a headcount basis;
- deduct that part of these costs already in the total cost figure;
- add the extra costs incurred for part-time students only;
- add the extra costs incurred for an evening student.

This is shown on the following table.

	0.4 FTE	**0.7 FTE**
costs which are incurred on a headcount basis	£540 [18% £3000] replacing 18% £3000 * 0.4 i.e. £220 additional cost of **£320**	£540 [18% £3000] replacing 18% £3000 * 0.7 i.e. £380 additional cost of **£160**
additional costs required for PT student (headcount)	**£150**	**£150**
additional costs required for evening PT student (FTE)	5% £3000 * 0.4 **= £60**	5% £3000 * 0.7 = **£100**
additional cost of PT	£530	£410
on FTE cost of	£3000 * 0.4 = £1200	£3000 * 0.7 = £2100
giving a differential % of	**44%**	**20%**

7.61 These differentials are reduced to **39% and 15%** for PT students studying during the day.

7.62 These can only be regarded as indicative as the cost data and cost driver information available in institutions to inform this are very limited. Many students would not need or be able to access the pastoral support (as with full-time students). It would also depend on the subject area (e.g. less advertising would be required for popular courses).

7.63 We note that much of the higher cost of a PT student is included in the total average cost of £3,000. Ideally this average cost should be calculated on a basis that excludes any additional cost from the PT population. However, in effect this means that both the quoted additional cost and the base cost are slightly too high – this is not likely to lead to a significant overstatement of the differential percentage.

7.64 We have not found any consistent or significant difference between the costs of PT students in different price groups nor between that of postgraduates and undergraduates.

7.65 We note that some of the additional administrative costs identified for these PT students will also have been recognised in the differentials calculated for (PT) off-campus students (on e-learning, distance learning and workplace learning courses), in other sections of this report. Similarly the additional costs from reduced cohorts, and pastoral support, would have been recognised where relevant.

In summary

7.66 Part-time covers a wide range of types of provision. Our report only relates to that which involves significant periods of study leading to degrees or other major awards. These courses were generally offered to PT students in parallel with the same provision being offered to FT students. We have not looked at costs on very "low intensity" PT provision such as short-courses, summer schools, taster courses etc where the cost structures can be very different.

7.67 The costs of teaching the types of PT students that we have considered are higher than those of FT students due to three factors:

- administration costs are often higher for a PT student (headcount) than they are for an FT student;
- cohort sizes in evening and weekend study are generally smaller;
- pastoral support can be the same for a part-time student as for a full-time student.

7.68 We have not considered any additional cost arising from any increased attrition amongst PT student cohorts, although we have been told that it exists.

7.69 The costs available for the study were not robust, but an indication of the impact of these three factors on a PT student in price group D gives differentials from that of an FT student of 39% (on the total costs of a 0.4 FTE) and 15% (on the total costs of a 0.7 FTE). Slightly higher differentials could be calculated for students studying in the evening and weekends.

7.70 The level of additional costs would vary by discipline, the type of the student cohort, the links between the part-time and full-time course, and the department's teaching style. These figures should be regarded as an indication of the maximum likely differential, with a lower differential applying to some students and some institutions.

7.71 The cost variations would not generally vary by price group. The differential in band B is therefore likely to be on average half the size of the differential on band D (expressed as a percentage of conventional delivery costs).

7.72 The additional costs of PT provision identified here were in general included as part of each differential calculated on the other modes of study reviewed in this report – they should not be added to the differentials already indicated in the other appendices.

Abbreviations

APCL	Accreditation of prior certificated learning
APEL	Accreditation of prior experiential learning
APL	Accreditation of prior learning
FD	Foundation degree
FEC	Further education college
FT	Full-time
HEI	Higher education institution
ICT	Information and communications technology
MLE	Managed learning environment
OU	Open University
PT	Part-time
SME	Small and medium sized enterprises
UCAS	Universities and Colleges Admissions Service
Ufi	University for Industry
UKeu	UK eUniversities Worldwide
VLE	Virtual learning environment
WBL	Work-based learning
WDC	Workforce Development Confederations (of NHS and non-NHS employers of healthcare workers)
WPL	Workplace learning