

Acknowledgements

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References

- Arnold, J. *et al* (1999) Students' perceptions of Competence Development in Undergraduate Business-Related Courses, *Studies in Higher Education* Vol 24(1) 43-57
- Assister, A. (1994) *Transferable Skills in Higher Education*, London: Kogan Page
- AGR (Association of Graduate Recruiters) (1993) *Roles for Graduates in the 21st. Century*, AGR: Cambridge
- AGR (Association of Graduate Recruiters) (1995) *Skills for Graduates in the 21st. Century*, AGR: Cambridge
- Atkins, M. (1999) Oven-ready and Self-basting; taking stock of employability skills, *Teaching in Higher Education* Vol 4 (2) 267-280
- Auburn *et al* (1994) The placement in the psychology undergraduate curriculum and the transition to employment, *Psychology Teaching Review* Vol 3 (1) 3-7
- Bennett, N. *et al* (2000) *Skills Development in Higher Education and Employment*, SRHE/OU
- Blackwell, A. and Harvey, L. (1999), *Destinations and Reflections: Careers of British Art, Design and Craft Graduates*, Centre for Research into Quality: University of Central England, Birmingham
- Boud, D. & Feletti, G. (1991) *The Challenge of Problem Based Learning*, London: Kogan Page
- Boud, D. and Saloman, N. (2000 ed) *Work-based learning* SRHE/OU
- Brennan, J. and Little, B. (1997) *A review of work-based learning in higher education*, London: Open University / Quality Support Centre

- Brennan, J. *et al* (2001) *The employment of UK graduates: comparisons with Europe and Japan*, HEFCE. Bristol
- Brown, P and Scase, R. (1995) *Changing Corporate Realities*, in Routledge
 Brockbank, A. and McGill, I. (1998) *Facilitating Reflective Learning in Higher Education*, SRHE and Open University Press: Buckingham
- Chance, J. (1994) Integrating transferable skills into disciplines in Jenkins, A. and Wallace, L. (1994) *Developing Student capability through Modular Courses*, London: Kogan Page
- Chisholm, L. (1999) From Systems to Networks: the Restructuring of Youth Transitions, in Heinz, W.R. (ed) *From Education to Work: Cross national perspective*, CUP: Cambridge, UK
- CVCP (Committee of Vice-Chancellors and Principals) (1998) *Skills Development in Higher Education A report commissioned by the CVCP and the DfEE*, CVCP: London
- CBI (Confederation of British Industry) (1999) *Key Skills and Higher Education: Survey Information compared*, London Region Key Skills 'Making Connections' Conference, CBI: London
- CBI (Confederation of British Industry) (1994) *Thinking ahead – ensuring the expansion of higher education into the 21st. century*, CBI: London
- CBI (Confederation of British Industry) (1989) *The Skills Revolution*, CBI: London
- CIHE (Council for Industry and Higher Education) (1996) *Helping students towards success at work*, London: CIHE
- CSU/AGCAS (1997) *Great Expectations*, report commissioned by the Higher Education Careers Service (CSU) and the Association of Graduate Careers Advisory Services (AGCAS), undertaken by the Institute for Employment Research: University of Warwick
- CVCP (1998) *Skill Development in Higher Education*, London. CVCP/DfEE
- Dearing (1997) *Higher Education in the Learning Society*, Report of the National Committee of Inquiry into Higher Education
- DfEE (1999) *Education and Training development agenda: towards 2000*, DfEE: Sudbury
- DfEE (1997) *Advancing by degrees: a study of graduate recruitment and skills utilisation*, DfEE: London
- Drummond, I. (1999) *Managing curriculum change in higher education* London: FDTL
- Drummond, I., Nixon, I. and Wiltshire, J. (1998) 'Personal transferable skills in higher education: the problems of implementing good practice', *Quality Assurance in Education*, Vol 6, no 1, MCB University Press

- Dunne, E. (1997) Higher Education: Core Skills in a Learning Society. Paper presented to ESRC Conference *Towards a Learning Society*, Bristol University
- Dunne, E. (1997) *The development of competences in STEP: an evaluation report*, Exeter: University of Exeter, Dept of Education
- Elias, P., McKnight, A., Purcell, K. and Pitcher, J. (1999), *Moving On: graduate careers three years after graduation*, Manchester: Careers Services Unit (CSU)
- Engeström, Y. (1996a) 'Development as breaking away and opening up: A challenge to Vygotsky and Piaget', *Swiss Journal of Psychology*, 55 126-132
- Engeström, Y. and Gronin, T. (forthcoming) *Transfer and Boundary Crossing* Oxford: Pergamon Press
- Engeström, Y., Engeström, R., and Karkkainen, M. (1995a) 'Polycontextuality and boundary crossing in expert cognition: Learning and problem solving in complex work activities' *Learning and Instruction* 5. 1. pp. 319-366
- Fallows, S. and Steven, C. (ed) (2000) *Integrating key skills in higher education*, London: Kogan Page
- Fallows, S. and Steven, C. Embedding Key Skills for All in Fallows, S. and Steven, C. (ed) (2000) *Integrating key skills in higher education* London: Kogan Page
- Fallows, S. and Weller, G. A Graduate Apprenticeship Scheme in Fallows, S. and Steven, C. (2000 ed) *Integrating key skills in higher education*, London: Kogan Page
- Foster, E. and Stephenson, J. (1998) Work-based Learning and Universities in the UK; a review of current practice and trends *Higher Education Research & Development*, Vol 17 92 155-170
- Foster, E. (1998) Can higher education deliver capability/ Stephenson, J. and Yorke, M. (ed) *Capability and quality in higher education*, London: Kogan Page
- Fulton, O. *et al* (1996) *Work-based learning and its accreditation*, Lancaster: Lancaster University, CSET
- Goldfinch *et al* (1999) Improving Groupworking Skills in Undergraduates Through Employer Involvement, *Assessment & Evaluation in Higher Education* Vol 24 (1) 41-51
- Griffiths, T. (1999) *Key Skills in Higher Education* paper prepared by Department of Education and Professional Development, UCL: University of London
- Guile, D. *Work, Skill and Work Experience: the question of employability in the European knowledge economy* (forthcoming)

- Guile, D. and Young, M. (forthcoming) Transfer and transition in vocational education: some theoretical considerations in Engeström, Y. and Gronin, T. (forthcoming) *Transfer and Boundary Crossing*
- Guile, D. and Griffiths, T. (2001) 'Learning through work experience', *Journal of Education and Work*
- Harvey, L. (2001) Defining and measuring employability, *Quality in Higher Education* Vol.7. (2) 97-111
- Hair, J., Anderson, R., Tatham, R. and Black, W. (1995), *Multivariate Data Analysis with Readings*, New Jersey: Prentice-Hall Inc. (4th edition)
- Harvey, L. and Knight, P. 1996 *Transforming Higher Education*, SRHE/OU
- Harvey, L., Moon, S. and Geall, V. (1997), *Graduates' Work: Organisational Change and Students' Attributes*, Centre for Research into Quality: University of Central England, Birmingham and Association of Graduate Recruiters
- Hattie, J. *et al* (1997) Adventure education and outdoor bound: out-of-class experiences that make a difference *Review of Educational Research* Vol 67(1)43-87
- HEFCE (2001) *Indicators of employment*, Working Paper 21, Bristol: Higher Education Funding Council for England
- HEQC (1997) *The Graduate Standards Programme; Final report*, London HEQC
- Hesketh, A. (2000) Recruiting an Elite: Employer' perceptions of graduate education and training, *Journal of Education and Work* Vol 13 (1) 245-278
- Hillage, J. and Pollard, E. (1998) *Employability: Developing a Framework for Policy Analysis*, London: Department for Education and Employment
- Holmes, L. (2001) Reconsidering Graduate Employability: the 'graduate identity' approach, *Quality in Higher Education*, Vol 7 (2) 111-121
- Hyland, T. (1994) *Competence, Education and NVQs*, London: Cassell
- James, P. (2000) A Blueprint for Skills Assessment in Higher Education, *Assessment & Evaluation in Higher Education* Vol 25 (4) 353-367
- Jenkins, A. and Wallace, L. (1994) *Developing Student Capability Through Modular Courses*, London: Kogan Page
- Jones, B. *et al* (1995) The thick sandwich; still on the menu *Journal of Geography in Higher Education*, Vol 19 (2)189-95

- Keep, E and Mayhew, K. (1996) Economic demand for higher education – a social foundation for further expansion? *Higher Education Quarterly* Vol 50 2) 89-109
- Keep, E. and Mayhew, K. (1999) 'The Assessment: Knowledge, Skills and Competitiveness', *Oxford Review of Economic Policy*, Vol 15. No 1. 1-16
- Keep, E. (1999) UK's VET Policy and the 'Third way': following a high skills trajectory or running up a dead end street? *Journal of Education and Work*, Vol 12, No 3. 323-346
- Kemp, I. And Seagrave, L. (1997) Transferable skills – can higher education deliver? *Studies in Higher Education* Vol 20(4) 1311-1332
- Kiely, J. and Ruhnke, J. (1998) BA Business Studies Degrees: employment experiences of 'sandwich' graduates versus 1 year 'conversion' programme, *Journal of Vocational Education and Training* Vol 50 (4)487-501
- Lave, J. and Wenger, E. (1991) *Situated Learning*, Cambridge: Cambridge Press
- Leckey, J. F. and McGuigan, M. A. (1997) 'Right Tracks — Wrong Rails: the Development of Generic Skills in higher Education', *Research in Higher Education* Vol 38:3, pp 365-378
- Leij, M. *et al* (1997) Group Learning and Group Assessment on undergraduate computing courses in higher education *Assessment and Evaluation in Higher Education* Vol 22 (1) 81-91
- Marton F. & Saljo R. (1997) 'Approaches to Learning' in Marton F, Hounsell D and Entwistle N eds. *The Experience of Learning*, Edinburgh: Scottish Academic Press
- Mason, G. (1998), *Diversity and Change: The Challenges Facing Chemistry Higher Education*, London: Royal Society of Chemistry/Council for Industry and Higher Education
- Mason, G. (1999), *The Labour Market for Engineering, Science and IT Graduates: Are There Mismatches Between Supply and Demand*, Research Report No. 112, London: Department for Education and Employment
- Mason, G. (2001), *Mixed fortunes: graduate utilisation in service industries*, Discussion Paper No. 182, London: National Institute of Economic and Social Research
- Mason, G. (2001) The Mix of Graduate and Intermediate Skills in Britain: what should the balance be? *Journal of Education and Work* Vol 14 (10) 5-27
- McKnight, A. (1999), Graduate employability and performance indicators: first destinations and beyond, in Elias, P., McKnight, A., Purcell, K.

- and Pitcher, J. (1999), *Moving On: graduate careers three years after graduation*, Manchester: Careers Services Unit (CSU)
- Naylor, R., Smith, J. and McKnight, A. (2001), *Sheer class? The extent and sources of variation in the UK graduate earnings premium*, University of Warwick/LSE (mimeo)
- Purcell, K. *et al* (1999) *Working Out? Graduates' early experiences of the labour market*, Manchester: Careers Service Unit (CSU)
- Smith, J., McKnight, A. and Naylor, R. (2000), Graduate employability: policy and performance in Higher Education in the UK, *Economic Journal*, 110: F382-F411
- Toohy, S. (1999) *Designing Courses for Higher Education*, Buckingham: Open University Press (SRHE)
- Tribe, J. (1996) 'Core Skills: A Critical Examination', *Educational Review*, Vol 48:1
- Victor, L. and Boynton, A. (1998) *Invented Here*, Boston: Harvard Business Press
- Westhead, J. (1997) *Students in Small Businesses: an assessment of the 1994 STEP Placement Scheme* Warwick: University of Warwick, SBU
- Wilson, R. *et al* (2000a) *Projections of Occupations and Qualifications 1999/2000* Institute of Employment Research, Warwick University
- Wilson, R. *et al* (2000(b)) *Projections of Occupations and Qualifications 2000/2001* Institute of Employment Research: Warwick University
- Woollard, A. (1995) Core Skills and the Idea of the Graduate, *Higher Education Quarterly* Vol 49 (4) 201-232

Appendix A

Departmental Employability Skills Scores

As described in Chapter 3, on the basis of interviews with university academic staff and careers service managers at the outset of the project, ‘employability skills’ were defined to comprise the following areas of skills and knowledge: Communication, Numeracy, Communications and Information Technology (C&IT), Problem-solving, ‘Understanding World of Work’ and Team-working. In order to derive the departmental-level employability skills scores shown in Chapters 3 and 4, the data gathered in the course of departmental visits were allocated to the following four-point scales:

A. Importance attached by departmental interviewees to employability skills [versus specialist subject knowledge and theoretical understanding] in TEACHING AND LEARNING

Defined as the difference between score given to employability skills LESS score given to subject knowledge/theoretical understanding, where these two dimensions of teaching were ranked by interviewees on the following four-point scale: 4=Very important, 3=Fairly important, 2=Not very important, 1=Not at all important.

4. Average score for employability skills 0.5 points or more above average score for subject knowledge/theoretical understanding
3. Average score for employability skills 0.15-0.49 points above average score for subject knowledge/theoretical understanding
2. Average score for employability skills falls within -0.14 and +0.14 of average score for subject knowledge/theoretical understanding
1. Average score for employability skills falls 0.15 or more points below average score for subject knowledge/theoretical understanding

B. Importance attached by departmental interviewees to SPECIALIST SUBJECT KNOWLEDGE AND THEORETICAL UNDERSTANDING

4=Very important, 3=Fairly important, 2=Not very important, 1=Not at all important.

C. Importance attached by departmental interviewees to TEACHING AND LEARNING of employability skills

4=Very important, 3=Fairly important, 2=Not very important, 1=Not at all important.

D. Importance attached by departmental interviewees to ASSESSMENT of employability skills

4=Very important, 3=Fairly important, 2=Not very important, 1=Not at all important.

E. Student involvement in structured work experience, industry-based projects

4. Average 50% or more of undergraduate students undertake work placements as part of their studies;
3. Average 10-49% of students undertake work placements as part of their studies;
2. Less than 10% of students undertake work placements as part of their studies; some involvement with industry-based project work of different kinds;
1. Less than 10% of students undertake work placements as part of their studies; no involvement with industry-based project work of any kind.

F. Employer involvement in course planning, design, teaching and assessment

4. Some employer involvement in course planning/design, teaching and assessment;
3. Some employer involvement in course planning/design and teaching but not assessment;
2. Some employer involvement in course planning/design but not teaching or assessment;
1. No employer involvement in course planning/design or teaching or assessment.

G. Major innovations in course content, teaching and assessment methods over last ten years with explicit aim of improving graduate employability

4. Wide-ranging efforts to change traditional course content and teaching methods in response to employability skills agenda;
3. Moderate efforts to change traditional course content and teaching methods in response to employability skills agenda;
2. Some minor efforts to change traditional course content and teaching methods in response to employability skills agenda;
1. No evidence of efforts to change traditional course content and teaching methods in response to employability skills agenda.

Scores A-D were based on departmental interviewees' written responses to question sheets of which copies are provided in Appendix D. Scores E-G were based on statistics and other information provided in interviews or later during follow-up enquiries.

For the analysis of the determinants of graduate employment outcomes described in Chapter 4, the departmental-level measures of involvement in employability-skills development were defined as follows:

- Teaching, learning and assessment of employability skills (A+C+D+G);
- Student participation in work experience (E);
- Employer involvement in course design and delivery (F).

A detailed listing of departmental scores on these measures is shown in Tables A1-A5 below.

Given that our departmental data were gathered during research visits in early 2001, it was necessary to review the measures in order to ensure that so far as possible they reflected teaching and learning practices during the period 1996/7 to 2000 when most 2000 graduates were attending university. As described in Chapter 4, this led to appropriate downward adjustments being made for 10 out of the 34 departments which had only recently introduced certain innovations in respect of employability skills teaching, and it was these adjusted measures of involvement in employability skills development which were included in the statistical analysis.

Table A1: Employability skills scores: BIOLOGY departments (undergraduates)

	University:	Old A	Old B	Old C	Old E	Old F	New A	New B	New C	New D
A	Relative importance of employability skills compared to subject knowledge/theoretical understanding	1.0	4.0	4.0	1.0	1.0	1.0	2.0	4.0	2.0
B	Importance of specialist subject knowledge/theoretical understanding	3.8	3.0	2.5	4.0	3.5	4.0	4.0	3.3	3.8
C	Importance of employability skills in teaching and learning	3.2	4.0	3.6	3.4	3.4	3.1	4.0	3.8	3.8
D	Importance attached to assessment of employability skills	2.9	3.0	2.9	3.6	2.6	2.7	4.0	3.4	3.0
E	Student involvement in work experience	1	4	1	1	1.5	3	3	3	1

F	Employer involvement in courses	1	4	3	1.5	1	3	1	4	1
G	Major innovations in course content, teaching & assessment methods	2	4	4	4	3	3	3	3	3

Table A2: Employability skills scores: BUSINESS STUDIES departments (undergraduates)

	University:	Old A	Old B	Old C	New B	New C	New D
A	Relative importance of employability skills compared to subject knowledge/theoretical understanding	4.0	4.0	1.0	4.0	2.0	3.0
B	Importance of specialist subject knowledge/theoretical understanding	2.6	2.5	4.0	3.0	3.5	3.5
C	Importance of employability skills in teaching and learning	3.9	3.6	3.4	3.7	3.4	3.8
D	Importance attached to assessment of employability skills*	3.6	2.9	2.9	3.6	3.6	3.1
E	Student involvement in work experience	3.0	4.0	1.0	4.0	4.0	4.0
F	Employer involvement in courses	2.0	2.0	2.0	3.0	3.0	3.0
G	Major innovations in course content, teaching & assessment methods	3.0	4.0	1.0	4.0	4.0	3.0

* Note: Old A score on (D) estimated due to lack of response to assessment worksheet

Table A3: Employability skills scores: COMPUTER STUDIES / SCIENCE departments (undergraduates)

	University:	Old A	Old B	Old C	Old D	Old F	New A	New B	New C	New D
A	Relative importance of employability skills compared to subject knowledge/theoretical understanding	1.0	3.0	1.0	1.0	2.0	2.0	3.0	2.0	1.0
B	Importance of specialist subject knowledge/theoretical understanding	4.0	3.3	4.0	3.5	3.5	4.0	3.0	3.5	3.8
C	Importance of employability skills in teaching and learning	2.4	3.5	3.3	3.1	3.4	4.0	3.7	3.4	3.4
D	Importance attached to assessment of employability skills*	1.5	3.5	3.1	2.9	3.6	3.9	3.1	3.0	2.5
E	Student involvement in work experience	1.0	4.0	3.0	2.0	1.0	2.0	2.0	4.0	4.0
F	Employer involvement in courses	4.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	4.0
G	Major innovations in course content, teaching & assessment methods	1.0	3.0	3.0	3.0	4.0	3.0	4.0	3.0	2.0

* Note: Old A score on (D) estimated due to lack of response to assessment worksheet

Table A4: Employability skills scores: DESIGN STUDIES departments (undergraduates)

	University:	New A	New B	New C	New D
A	Relative importance of employability skills compared to subject knowledge/theoretical understanding	1.0	2.0	2.0	2.0
B	Importance of specialist subject knowledge/theoretical understanding	4.0	3.5	3.5	4.0
C	Importance of employability skills in teaching and learning	3.8	3.4	3.6	4.0
D	Importance attached to assessment of employability skills*	2.6	2.9	2.9	3.6
E	Student involvement in work experience	4.0	4.0	4.0	3.0
F	Employer involvement in courses	4.0	4.0	4.0	3.0
G	Major innovations in course content, teaching & assessment methods	3.0	4.0	3.0	3.0

* Note: New A and New C scores on (D) estimated due to lack of response to assessment worksheet

Table A5: Employability skills scores: HISTORY departments (undergraduates)

	University:	Old A	Old B	Old C	Old D	Old E	Old F
A	Relative importance of employability skills compared to subject knowledge/theoretical understanding	2.0	1.0	1.0	1.0	1.0	1.0
B	Importance of specialist subject knowledge/theoretical understanding	3.5	4.0	4.0	3.0	4.0	3.5
C	Importance of employability skills in teaching and learning	3.6	3.6	2.9	3.0	2.7	3.1
D	Importance attached to assessment of employability skills	3.4	3.0	2.7	2.7	2.3	2.3
E	Student involvement in work experience	1.0	1.0	1.0	1.0	1.0	1.0
F	Employer involvement in courses	1.0	2.0	1.0	1.0	1.0	1.0
G	Major innovations in course content, teaching & assessment methods	2.0	2.0	1.0	1.0	1.0	1.0

Appendix B:

Telephone Survey Sample Selection Methods and Response Rate

As described in Chapter 5, telephone interviews were carried out with graduates and line managers in 120 establishments between May and August 2001. Our target was 500 20 minute interviews with recent graduates from the 32 university departments visited in the first phase of the study, which would be complemented by the same number of (15 minute) interviews with their line managers. In the event, after expending a great deal of time and effort in tracking down graduates, we only succeeded in interviewing 247 graduates and 210 line managers. After carrying out 18 paired interviews during a pilot survey, this left a main sample for analysis of 192 paired graduates/line managers and another 37 graduates whose line managers could not be contacted for interview in the time available. In order to achieve even this number of interviews, it was necessary to extend the sampling frame to graduates from other universities besides those visited in the first phase of the study. However, we continued to confine the sample to graduates in the five selected subject areas in order to make best use of the subject-specific information on employability skills teaching gathered during university visits.

The initial stage of contacting graduate employers to seek permission for the paired interviews was subcontracted to Research Partnership, with the understanding that contact details of target graduate employers would be supplied by the Careers Services of the universities we had visited (based on First Destination returns). Ideally we would have obtained the names of graduates along with the names of their first employers. However, problems of confidentiality precluded this. In addition, we were reluctant to make the initial contact via the individual graduates because we thought that in many cases it would be difficult for them to broach the question of paired interviews to their line managers.

Although the Careers Services provided every assistance, it turned out that many of the contact details supplied by graduates were incomplete or incorrect. As Table B1 shows, Research Partnership processed some information relating to as many as 9101 different establishments. However, in

spite of systematic searching of Yellow Pages telephone databases, adequate contact details could only be established for 2355 establishments. (This included 483 members of the Association of Graduate Recruiters who agreed to circulate its members with details of the study).

Of these 2355 establishments, just under-two thirds failed to respond and/or provide details of graduate employment in response to repeated contacts by telephone, fax and email. As many as 69% of those that did provide employment details reported that they did not employ any graduates in the selected subjects. This left 227 establishments which did employ such graduates and 61% of these agreed in principle to participate in the study (after securing permission for interviews from at least one graduate and his/her line manager).

Hence, the two main problems in achieving our desired sample size were, firstly, the incomplete nature of employer contact details held in First Destination records and, secondly, the relatively small proportion of employers who in fact employed at least one graduate in one of our selected degree subjects. If we assume that the proportion of outright non-respondents employing at least one such graduate was the same as found among those establishments which did respond and provide information (31%), then the overall positive response rate in Stage 1 of sampling is estimated at 21% of all establishments which were in principle eligible to participate (see Table B1 for details of calculations).

However, from their contacts with employers, Research Partnership staff were convinced that only a very small proportion of non-respondents actually employed any of the graduates in question. Hence, an alternative estimate of the initial response rate (assuming the proportion of non-respondents eligible to participate was only half that among those who did provide information) is approximately 31%. This is not high for a telephone survey, but most telephone surveys do not attempt the difficult task of securing the separate agreement of linked pairs of respondents.

In Stage 2 of the survey, the contact information was supplied to the National Centre for Social Research (NCSR) which succeeded in carrying out full

interviews with as many as 97% of the eligible graduates who had agreed in principle to participate, together with 87% of eligible line managers.

Table B1: Summary details of establishments contacted and sampling response rates

STAGE 1: (Research Partnership)			
A	Total contacts supplied by University Careers Offices and Association of Graduate Recruiters	9101	
B	Total no. of establishments for which contact information could be identified	2355	
C	Total closed / number unobtainable / duplicate establishments	244	
	Sub-total: Total establishments contacted	2111	
	<i>Results:</i>		%
D	Employed graduates in chosen subjects and agreed to participate	138	7
E	Did not employ any graduates in chosen subjects	504	24
F	Did employ some graduates in chosen subjects but refused to participate or provide details by cut-off date	89	4
G	Total failed to respond and/or provide details of graduate employment	1380	65
	Sub-total:	2111	100
H	Total establishments providing information about graduate employment [=D+E+F]	731	
I	Proportion of establishments providing information which employed graduates in chosen subjects (=D+F)/H	0.31	
Alternative estimates of Stage 1 response rates (%):			
1)	Positive responses as % of all establishments who reported employing graduates in chosen subjects [=D/(D+F)]	61%	
2)	Assuming some graduates in chosen subjects employed by 31% of establishments which did not respond or provide information about graduate employment [=D/(D+F+(G*I))]	21%	
3)	Assuming some graduates in chosen subjects employed by 15.5% of establishments which did not respond or provide information about graduate employment [=D/(D+F+(G*I*0.5))]	31%	
STAGE 2: (National Centre for Social Research)			
	Number of graduate / line manager pairs for whom information supplied by Research Partnership	264	
	Paired interviews secured in pilot phase	18	
	Untraceable/ineligible:		
	Graduates	10	
	Line managers	15	
	Line managers not contacted because graduate interview not secured or graduate ineligible/untraceable	10	
	No. of eligible graduates available for contact in main phase of survey	236	
	No. of eligible line managers available for contact in main phase of survey	221	
	No. of eligible graduates interviewed	229	
	No. of eligible line managers interviewed	192	
	No. of establishments where interviews were secured	120	
	Stage 2 response rates (%):		
	Graduates	97%	
	Line managers	87%	
	Establishments	87%	
	Estimated overall response rate at establishment level: 31% X 0.87=	27%	

Appendix C: Supplementary Tables (Chapter 7)

Table 7.13: Graduates' assessments of skills used in workplace

D10. For each of the following, please say how often you are required to do this in your job. Please answer 'often', 'occasionally', or 'not at all'.

		Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
How often does your job require you to...							
a)	... seek out new information?						
	Often	72	82	79	77	80	80
	Occasionally	25	18	21	23	20	19
	Not at all	3	0	0	0	0	2
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
b)	... analyse and interpret statistical data?						
	Often	41	44	35	31	30	40
	Occasionally	31	43	38	38	70	42
	Not at all	28	13	26	31	0	18
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
c)	... tackle problems with no clear solution?						
	Often	63	71	82	69	80	71
	Occasionally	31	24	15	23	20	24
	Not at all	6	5	3	8	0	5
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
d)	... work on your own (without close supervision)?						
	Often	91	89	91	85	90	90
	Occasionally	9	11	9	15	10	10
	Not at all	0	0	0	0	0	0
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
e)	... write reports, evaluations or similar documents?						
	Often	59	54	26	31	55	48
	Occasionally	25	35	68	15	45	39
	Not at all	16	10	6	54	0	13
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
f)	... argue the case for a proposed course of action?						
	Often	47	46	53	54	60	48
	Occasionally	34	44	44	23	40	42
	Not at all	19	10	3	23	0	10
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>99</i>
g)	... make formal presentations to groups?						
	Often	22	25	12	31	15	21
	Occasionally	41	52	56	38	70	52
	Not at all	38	23	32	31	15	27
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
h)	... work in teams or groups?						
	Often	78	67	76	69	75	71
	Occasionally	22	23	21	15	25	23
	Not at all	0	10	3	8	0	6
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>92</i>	<i>100</i>	<i>99</i>

**Table 7.13: (continued)
Graduates' assessments of skills used in workplace**

		Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
i)	... work with members of other teams?						
	Often	53	46	41	46	50	46
	Occasionally	34	44	50	23	45	43
	Not at all	13	10	9	31	0	10
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>95</i>	<i>99</i>
j)	... supervise other staff?						
	Often	25	28	18	15	15	22
	Occasionally	34	35	35	31	50	36
	Not at all	41	37	47	54	35	42
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
k)	... build up contacts outside your organisation?						
	Often	41	54	32	54	75	49
	Occasionally	31	34	50	8	25	35
	Not at all	28	10	18	38	0	16
	<i>TOTAL</i>	<i>100</i>	<i>99</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>99</i>
l)	... explain products or services to clients?						
	Often	31	53	26	38	40	41
	Occasionally	28	38	35	23	35	34
	Not at all	41	9	38	38	25	25
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
m)	... suggest solutions to clients' business problems?						
	Often	22	41	29	23	45	34
	Occasionally	22	39	26	31	35	32
	Not at all	56	20	44	46	20	34
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
		<i>n=32</i>	<i>n=79</i>	<i>n=34</i>	<i>n=13</i>	<i>n=20</i>	<i>n=192</i>

D12 In your current job, how would you describe the tasks you do by computer. Would you say they were.....

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
Very complex (e.g., advanced programming)	0	4	62	23	5	15
Complex (e.g., data analysis or product design)	22	30	24	46	5	26
Moderate (e.g., word processing)	69	63	12	15	85	54
Simpler tasks than this	9	3	3	8	5	4
Non-applicable	0	0	0	8	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
	<i>n=32</i>	<i>n=79</i>	<i>n=34</i>	<i>n=13</i>	<i>n=20</i>	<i>n=192</i>

Note: (a) Total includes 14 graduates classified to 'Other subjects'

Table 7.14: Line managers' assessments of graduate skills used in workplace

J3 Line managers' assessments of importance of the following types of skill or knowledge in doing the type of job done by graduate (%):

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
... computing and IT skills?						
Very important	38	49	88	69	40	54
Quite important	56	42	12	31	45	38
Not very important	6	4	0	0	10	5
Not at all important	0	4	0	0	5	3
Don't know / No information	0	1	0	0	0	1
TOTAL	100	100	100	100	100	100
... other practical or technical skills?						
Very important	31	20	21	38	30	26
Quite important	56	51	68	54	45	54
Not very important	13	19	9	0	20	15
Not at all important	0	8	3	8	5	5
Don't know / No information	0	3	0	0	0	1
TOTAL	100	100	100	100	100	100
... specialist subject knowledge?						
Very important	28	19	29	54	10	24
Quite important	31	39	38	31	25	36
Not very important	38	33	26	15	45	32
Not at all important	3	8	3	0	20	7
Don't know / No information	0	1	3	0	0	1
TOTAL	100	100	100	100	100	100
... problem solving ability?						
Very important	59	53	76	69	60	59
Quite important	31	41	21	31	40	34
Not very important	9	4	3	0	0	5
Not at all important	0	1	0	0	0	1
Don't know / No information	0	1	0	0	0	1
TOTAL	100	100	100	100	100	100
... written communication skills?						
Very important	63	65	32	31	90	60
Quite important	22	32	62	46	10	33
Not very important	16	3	6	15	0	6
Not at all important	0	0	0	8	0	1
Don't know / No information	0	1	0	0	0	1
TOTAL	100	100	100	100	100	100
... verbal communication skills?						
Very important	75	81	41	54	95	73
Quite important	25	16	56	46	5	25
Not very important	0	1	3	0	0	1
Not at all important	0	0	0	0	0	0
Don't know / No information	0	1	0	0	0	1
TOTAL	100	100	100	100	100	100

Table 7.14: (continued)
Line managers' assessments of graduate skills used in workplace

... theoretical knowledge?						
Very important	19	18	24	15	15	18
Quite important	53	39	53	77	45	48
Not very important	28	39	21	0	35	31
Not at all important	0	3	0	8	5	2
Don't know / No information	0	1	3	0	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... a high standard of numeracy?						
Very important	31	34	47	23	40	38
Quite important	50	44	44	15	55	44
Not very important	19	18	9	54	5	17
Not at all important	0	3	0	8	0	2
Don't know / No information	0	1	0	0	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
	<i>n=32</i>	<i>n=79</i>	<i>n=34</i>	<i>n=13</i>	<i>n=20</i>	<i>n=192</i>

Note: (a) Total includes 14 graduates classified to 'Other subjects'

Table 7.15: Line managers' assessments of abilities required by graduates in workplace

J4 Please say how important the following types of ability are in doing the type of job done by (graduate). (Please say very important, quite important, not very important or not at all important.)

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
... the ability to work on your own (without close supervision)?						
Very important	69	61	53	62	65	62
Quite important	31	35	44	31	35	35
Not very important	0	1	3	8	0	2
Not at all important	0	1	0	0	0	1
Don't know / No information	0	1	0	0	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... the ability to make formal presentations to groups?						
Very important	25	33	3	8	25	22
Quite important	41	29	53	38	40	40
Not very important	31	30	41	46	30	32
Not at all important	3	6	3	8	5	6
Don't know / No information	0	1	0	0	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... the ability to work in teams or groups?						
Very important	84	76	79	77	80	79
Quite important	16	22	18	23	20	19
Not very important	0	1	3	0	0	1
Not at all important	0	0	0	0	0	0
Don't know / No information	0	1	0	0	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

Table 7.15: (continued)**Line managers' assessments of abilities required by graduates in workplace**

... the ability to supervise other staff?						
Very important	16	18	9	8	15	15
Quite important	41	29	29	46	25	32
Not very important	41	42	53	31	55	44
Not at all important	3	10	9	15	5	9
Don't know / No information	0	1	0	0	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... the ability to explain products or services to clients?						
Very important	38	43	24	15	50	36
Quite important	28	33	50	54	15	36
Not very important	25	19	15	15	20	19
Not at all important	9	4	6	15	15	7
Don't know / No information	0	1	6	0	0	2
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... the ability to seek out new information?						
Very important	63	59	56	69	70	62
Quite important	25	34	44	31	30	32
Not very important	13	4	0	0	0	4
Not at all important	0	1	0	0	0	1
Don't know / No information	0	1	0	0	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... the ability to argue the case for a proposed course of action?						
Very important	38	51	35	23	65	46
Quite important	34	37	53	69	30	40
Not very important	28	9	9	8	5	11
Not at all important	0	3	3	0	0	2
Don't know / No information	0	1	0	0	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... the ability to suggest solutions to clients' business problems?						
Very important	41	43	41	31	35	40
Quite important	13	37	29	46	35	32
Not very important	41	16	24	15	15	21
Not at all important	6	3	6	8	15	6
Don't know / No information	0	1	0	0	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
	<i>n=32</i>	<i>n=79</i>	<i>n=34</i>	<i>n=13</i>	<i>n=20</i>	<i>n=192</i>

Note: (a) Total includes 14 graduates classified to 'Other subjects'

Appendix D: Interview Schedule Used in Sample University Departments

A: FIRST DEGREE PROGRAMMES

Introductory discussion

1. How would you define 'employability'?

2. Background information:

a) Number of applicants per place	
b) Average A-level score of entrants	
c) Percent of non-A-level entrants	
d) Most recent QA score	
e) Most recent RAE score	

Teaching and learning

3. (a) How many first degree students do you have in this department?

(b) What is the average size of class in your:

i) lectures	
ii) seminars	
iii) tutorials	

4. Can you give each item on this list a score of 1-4 to indicate how important it is in Teaching and Learning on your first degree programmes.

Employment Enhancing Activity	<i>Very important</i>	<i>Fairly important</i>	<i>Not very important</i>	<i>Not at all important</i>
Specialist subject knowledge				
Theoretical understanding of the subject				
Development of practical and/or technical skills				
Development of key skills – communication skills				
Development of key skills – numeracy				
Development of key skills – literacy				
Development of key skills – C & IT				
Development of key skills – problem solving				
Understanding of the world of work				
Development of team working capabilities				
Development of capability for self-management				
Development of effective learning				
Anything else you would like to include in this list				

[Additional: Also ask about course content designed to encourage business awareness and commercial understanding]

5. Have there been any major innovations in your courses or teaching styles over the past ten years that have had the explicit aim of improving the employability of your graduates?

[Probe: How far have they moved from a traditional model of lecturing/ student note-taking/ tutorial assistance/ terminal examinations? What impact has there been on course planning, recruitment of students and delivery of courses?

6. Can you give each item on this list a score of 1-4 to indicate how important it is in *assessing* students on your first degree programmes.

Employment Enhancing Activity	<i>Very important</i>	<i>Fairly important</i>	<i>Not very important</i>	<i>Not at all important</i>
Specialist subject knowledge				
Theoretical understanding of the subject				
Development of practical and/or technical skills				
Development of key skills – communication skills				
Development of key skills – numeracy				
Development of key skills – literacy				
Development of key skills – C & IT				
Development of key skills – problem solving				
Understanding of the world of work				
Development of team working capabilities				
Development of capability for self-management				
Development of effective learning				
Anything else you would like to include in this list				

7. Have there been changes in recent years in assessment methods to reflect that students have developed employability skills during their degree in recent years?

[Probe: How far have they moved away from a traditional model of assessment? Do they offer students formal accreditation of skills development within their degree? Are employability skills assessed either formatively or summatively – where formative means to ‘inform’ the students but not counting towards their degree while summative means final assessment which normally counts towards the degree.]

8. To what extent have you encouraged students to take stand-alone courses teaching employability skills in the department or elsewhere in the university?

[Probe: What is the mix of embedded and stand-alone employability skills courses?]

9. What training or staff development activities have academic staff in this department taken part in to help them develop an appreciation of graduate employability issues?

Employer involvement and work experience

10. In what ways, if any, are employers involved in

a) course planning?	
b) course design?	
c) teaching	
d) assessment	

11. What percentage of your first degree graduates on the course have undertaken any of the following activities in recent years?

a) Sandwich courses?	
b) Work experience / work-based learning?	
c) Industry-based projects?	
d) Work specifically undertaken to meet licence to practise requirements?	
e) Work specifically undertaken to meet other occupational requirements?	

12. To what extent does this department / faculty / University

- a) offer recognition for employability skills students have developed prior to enrolling for their degree?

PROMPT:

Employment prior to entering university
 Travel
 Holiday work
 Part-time work during degree studies

- b) offer recognition for employability skills students have developed through activities undertaken during their degree?

Employability initiatives

13. Has this department been involved in any recent initiatives, external to the university or from within the university, aimed at increasing the employability of graduates? Describe your experience with these initiatives.

Prompt External
Internal

Concluding discussion

14. Do you try to prepare graduates to use their specialist knowledge, skills or subject understanding in employment? How?

[Probe: In what ways do they try to help students to learn how to apply academic skills and knowledge in different contexts?]

15. Have you, and your staff, found it harder to develop some employability skills than others?

[Probe: Are certain key skills harder to develop in 'embedded' courses than in 'stand-alone' or 'parallel' courses?]

16. Are there any other ways in which you consider being a [*name of subject*] student at this University enhances employability?

[Probe re: extracurricular activities.]

17. Are there any issues we haven't touched on which you think are relevant to the employability of graduates?

18. Can we have the names and addresses of any employers known to you who have recruited any of your graduates in the past three years?

B: TAUGHT POSTGRADUATE COURSES

Background

1. How would you define 'employability' in relation to your taught postgraduate courses?
2. What type of taught postgraduate courses do you offer?

Prompt: Subject?

Level (i.e., Masters? Advanced Diplomas? Other?)

3. How many full time and part time students are there on your taught postgraduate courses?

Full-time	
Part-time	

Demand for courses

4. What indicators of demand were identified in starting new courses in recent years?
[Probe: Students or employers or a combination of both?]
What information do you have on why students take these courses?
5. What information do you have on why students take these courses?
6. What do the courses aim to add to students' first degrees?
7. How do the courses relate to students' current or previous work experience?
8. What are the main sources of funding for taught Masters students?

Teaching, learning and assessment

9. Can you give each item on this list a score to indicate how important it is in Teaching and Learning on your taught postgraduate programmes.

<i>Employment Enhancing Activity</i>	<i>Very important</i>	<i>Fairly important</i>	<i>Not very important</i>	<i>Not at all important</i>
Extending their first degree subject knowledge				
Learning a subject different from their first degree				
Theoretical understanding of the subject				
Development of practical and / or technical skills				
Development of key skills – communication skills				
Development of key skills – numeracy				
Development of key skills – literacy				
Development of key skills – C & IT				
Development of key skills – problem solving				
Better understanding of the area in which they are working				
Development of team working capabilities				
Development of capability for self-management				
Development of effective learning				
Take responsibility for continuing professional development				
Anything else you would like to include in this list				

10. Have there been any major innovations in your taught postgraduate courses or teaching styles over the past ten years that have had the aim of improving the students' success in employment?

11. How are the taught Masters courses assessed?

Employer involvement, work experience and career development

12. What percentage of your taught postgraduate students have undertaken any of the following activities in recent years as part of their courses?

a) Work experience / work-based learning?	
b) Industry-based projects?	
c) Modules offered by the dept to support students' employability?	
d) Work specifically undertaken to meet licence to practise requirements?	
e) Work specifically undertaken to meet other occupational requirements?	

13. In what ways, if any, are employers involved in

a) course planning?	
b) course design?	
c) teaching	
d) assessment	

14. Do you have any direct evidence of career enhancement as a result of taking your courses?

Careers Offices

1. Please can we have the names and addresses of all the employers who have recruited graduates, or shown an interest in recruiting graduates of any of the relevant subjects.
2. What involvement has the Careers Office had in planning, delivering or assessing undergraduate or taught postgraduate courses in the department of:

a) Biology	
b) Business studies	
c) Computer studies/sciences	
d) Design	
e) History	

3. What provision does this university make for the enhancement of the employability of its graduates other than through regular departmental teaching? What improvements/initiatives would you like to see?
4. What is the Careers Office's specific contribution to this provision?
5. Roughly what proportion of First-degree graduates and Postgraduates take advantage of the services the Careers Service offers? Does this vary greatly by subject?

First-degree graduates	
Postgraduates	
Does this vary greatly by subject	

6. Roughly what proportion of First-degree graduates and Postgraduates take advantage of the services the Careers Service offers after they have graduated from the university? Does this vary by subject?

First-degree graduates	
Postgraduates	
Does this vary greatly by subject	

7. Have you had any relevant feedback from any employer about the employability of any graduates from:

a) any of the relevant subjects
b) any graduates from other subjects in this university
c) in relation to the contribution that Careers Office makes to enhancing graduate employability

[Probe: May we have any reports relating to this feedback]

8. Are you aware from your contacts with employers whether the employability skills they are seeking are in line with the skills the university is trying to develop? Are there any new demands for employability skills that are surfacing? Are these specific to certain type of employers (e.g. multinationals, certain sectors of industry or certain regions of the UK?)