

## Chapter 5: Graduates' Career Progress and Line Managers' Recruitment Criteria

### 5.1 Graduates' current employment and labour market histories

As described above, the great majority of graduates were employed in service industries, in particular, business services (e.g. technical testing and analysis services employing biology graduates) and computer services (employing over half of the computing graduates in the sample). About 15% of graduates worked in manufacturing sectors (including printing and publishing).

In spite of the relatively small numbers involved, the sectoral distribution of graduates by subject area is plausible – for example, biology and business studies graduates were more likely to work in manufacturing than graduates in the other three subject areas (Table 5.1).

**Table 5.1: Sectoral distribution of sample graduates**

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)	
Employment by sector:							
Business services (excluding computer services)	28	30	3	15	40	24	
Computer services	3	4	53	46	5	15	
Health and social work	13	5	6	0	5	6	
Printing, publishing and reproduction of recorded media	0	5	3	8	15	5	
Other services	19	32	18	0	25	24	
Other manufacturing (excluding printing/ publishing)	16	14	3	8	0	10	
Other industries	16	1	3	0	5	5	
No information	6	9	12	23	5	10	
	TOTAL	100	100	100	100	100	
		<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'

The same applies to the occupational distribution. Computing and biology graduates were the most likely to be in professional occupations (for example, scientists; programmers and software engineers). Just under half of business studies graduates and three-quarters of the few design graduates were in associate professional occupations. In total some 81% of all

graduates were classified to associate professional level or above. The remainder were in administrative, secretarial and other occupations less commonly associated with degree-holders (Table 5.2).

Business, computing and history graduates were fairly evenly spread across small, medium-sized and large establishments. However, the majority of biology and design graduates were employed in workplaces with fewer than 100 people (Table 5.3).

**Table 5.2: Occupational distribution of sample graduates**

	<b>Biological sciences</b>	<b>Business studies</b>	<b>Computer studies</b>	<b>Design studies</b>	<b>History</b>	<b>TOTAL (a)</b>
Occupational distribution:						
Managers and senior officials	9	11	6	0	10	10
Professional occupations	53	18	68	0	30	33
Associate professional occupations	28	49	9	77	35	38
Administrative/secretarial staff	3	11	3	0	20	8
Other occupations	0	1	3	0	0	2
No information	6	9	12	23	5	10
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
	<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 5.3: Employment distribution of sample graduates by size of establishment**

	<b>Biological sciences</b>	<b>Business studies</b>	<b>Computer studies</b>	<b>Design studies</b>	<b>History</b>	<b>TOTAL (a)</b>
Workplace size distribution:						
Under 25 employees	22	28	15	62	20	26
25 to 99 employees	44	13	32	23	30	24
100 to 499 employees	25	27	32	8	25	26
Over 500 employees	9	30	21	8	25	22
No information / non-applicable	0	3	0	0	0	2
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
	<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'

Just over two-thirds of sample graduates had started work with their current employer within six months of completing their university studies. About 28% of them had worked for another employer for three months or more before starting work with their present organisation (Table 5.4).

Across all five subject areas an average 11% of graduates had been unemployed for three months or more before starting work with their current employer. However, the reported experience of unemployment is markedly lower for business and computing graduates than for graduates in the other three subjects.

The number of design graduates in the sample is too small to attach statistical significance to the unemployment rate shown for them in Table 5.4. However, in the case of history graduates' above-average experiences of unemployment and work with other employers, it is plausible that – as graduates in the least overtly vocational of the five subjects – they may take longer on average to settle down in stable employment.

Some 98% of sample graduates now work full-time and only 5% are in temporary positions. Biology graduates were slightly more likely to be in temporary employment than graduates in the other four subjects.

**Table 5.4: Indicators of graduates' early labour market experiences**

	<b>Biological sciences</b>	<b>Business studies</b>	<b>Computer studies</b>	<b>Design studies</b>	<b>History</b>	<b>TOTAL (a)</b>
% started with current employer within six months of completing university studies	69	70	76	62	45	68
% in paid employment with another employer for three months or more before starting work with current employer	28	25	21	31	45	28
% unemployed for three months or more before starting work with current employer	16	8	9	23	20	11
% now working full-time	100	96	100	100	100	98
% currently in temporary employment	9	4	3	0	5	5
	<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'

## 5.2 Line managers' recruitment criteria

Only 36% of line managers thought that having a degree enabled the graduates to do their current jobs 'much better' than non-graduates, and as many as 77% thought that a non-graduate was 'very likely' or 'quite likely' to be able to do the jobs in question (Table 5.5).

Indeed, three-quarters of line managers said that their organisations would be prepared in principle to appoint a non-graduate to those jobs and two-thirds of those managers said that the salary payable to non-graduates would be the same as graduates.

However, this willingness in principle to consider non-graduates for jobs currently held by graduates was largely offset by responses to other questions. For example, just under half of line managers 'agreed strongly' that a degree was a good indicator of individual 'potential to carry on learning as the job progresses' and another 47% agreed with this statement 'to some extent' (Table 5.6). Similar proportions agreed that 'attending university helps people to develop inter-personal and social skills' and over two thirds agreed either strongly or to some extent that 'a degree is the best indicator of mental ability'.

These more positive assessments of what degrees signify were reflected in responses to a series of questions about the recruitment criteria actually applied in employee selection processes. Some 41% said that having a degree was a 'very important' criterion for selection and a further 36% said it was 'quite important' (Table 5.7). These proportions applied to jobs held by graduates in all five subject areas under consideration.

By contrast, there was much more variation in responses to a question about the importance of graduates having studied a particular subject. In general, the line managers of computing, design and biology graduates were more likely to regard subject knowledge as important than line managers of graduates with degrees in business studies and history.

With the exception of jobs held by history graduates, line managers attached greater importance to subject knowledge than to the class of degree or A-level grades.

The reputations of particular universities and departments also appeared to rank quite low among recruitment criteria with the possible exception of jobs held by design graduates; however, the numbers of design graduates/line managers in the sample are too small for this difference to be statistically significant.

**Table 5.5: Line managers' responses to questions about the recruitment of graduates versus non-graduates**

K1 What difference do you think having a degree makes to the way that (graduate) does his/her job?  
Would you say it enables him/her to do the job...

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
Much better	50	27	50	31	45	36
A little better	31	51	38	54	40	46
A little worse	0	0	0	0	0	0
Much worse	0	0	0	0	0	0
No difference	16	20	6	8	10	15
Don't know / No information	3	3	6	8	5	4
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

K2 Would your organisation allow a non-graduate to be appointed to the sort of job done by (graduate)?

Yes	72	80	82	62	70	78
No	28	19	18	38	25	21
Don't know / No information	0	1	0	0	5	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

K3 Would the salary be lower for a non-graduate than for a graduate?

Yes	25	23	35	0	20	24
No	41	52	44	62	40	48
Don't know / Non-applicable	34	25	21	38	40	28
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

K4 How much lower?

<10% lower	3	5	3	0	5	4
10-20% lower	19	11	18	0	10	14
21-50% lower	3	5	3	0	5	4
>50% lower	0	0	0	0	0	0
Don't know / Non-applicable	75	78	76	100	80	79
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

K5 How likely is it that a non-graduate could do this job?

Very likely	38	41	29	31	30	37
Quite likely	34	38	38	38	55	40
Not very likely	19	13	26	8	10	15
Not at all likely	9	8	3	23	0	7
Don't know / No information	0	1	3	0	5	2
<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 5.6: Line managers' responses to questions about the usefulness of degrees**

J5 Thinking about your organisation's experience of employing graduates in the type of position held by (graduate), please say for each of the following statements whether you agree strongly, agree to some extent or disagree.

	<b>Biological sciences</b>	<b>Business studies</b>	<b>Computer studies</b>	<b>Design studies</b>	<b>History</b>	<b>TOTAL (a)</b>
1. 'A degree is a good indication of potential to carry on learning as the job progresses.'						
Agree strongly	53	44	47	31	55	46
Agree to some extent	47	49	50	54	35	47
Disagree	0	4	3	15	10	5
Don't know / No information	0	3	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>
2. 'A degree is the best indicator of mental ability.'						
Agree strongly	19	13	6	8	15	12
Agree to some extent	56	58	65	54	60	58
Disagree	25	27	29	38	25	29
Don't know / No information	0	3	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>
3. 'Attending university helps people to develop inter-personal and social skills.'						
Agree strongly	59	43	56	54	30	46
Agree to some extent	34	42	41	38	55	43
Disagree	6	13	3	8	15	9
Don't know / No information	0	3	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 5.7: Recruitment criteria applied by line managers**

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
Line managers' assessments of importance of following factors in recruiting for position held by graduate (%):						
1. having a degree?						
Very important	50	42	38	31	45	41
Quite important	31	30	47	46	45	36
Not very important	16	19	12	0	10	15
Not at all important	3	8	3	23	0	7
Don't know / No information	0	1	0	0	0	1
TOTAL	100	100	100	100	100	100
2. the subject of a degree?						
Very important	28	10	26	54	5	18
Quite important	34	46	50	15	25	39
Not very important	28	27	18	8	55	27
Not at all important	9	15	6	23	15	15
Don't know / No information	0	3	0	0	0	1
TOTAL	100	100	100	100	100	100
3. the class of a degree, for example, whether it is a First or a 2.1?						
Very important	6	6	3	0	10	6
Quite important	53	39	53	15	40	42
Not very important	34	30	35	46	40	34
Not at all important	6	22	9	38	10	17
Don't know / No information	0	3	0	0	0	0
TOTAL	100	100	100	100	100	100
4. grades at A-Level?						
Very important	3	4	0	0	20	5
Quite important	38	43	24	15	20	34
Not very important	53	29	47	54	40	39
Not at all important	3	23	29	15	20	20
Don't know / No information	3	1	0	15	0	2
TOTAL	100	100	100	100	100	100
5. the reputation of the university the candidate attended?						
Very important	9	8	9	0	0	6
Quite important	25	30	29	46	25	30
Not very important	53	35	35	38	60	41
Not at all important	13	25	26	15	10	22
Don't know / No information	0	1	0	0	5	1
TOTAL	100	100	100	100	100	100
6. the reputation of the specific department in that university?						
Very important	0	3	3	0	0	2
Quite important	31	18	26	38	10	21
Not very important	47	48	35	31	55	45
Not at all important	22	29	32	31	30	30
Don't know / No information	0	3	3	0	5	2
TOTAL	100	100	100	100	100	100
	n=32	n=79	n=34	n=13	n=20	n=192

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

#### 5.4 The role of graduate work experience before and during studies

A set of questions on the types of previous work experience sought by line managers established a clear order of priority (Table 6.8).

Over two-thirds of line managers regarded sandwich placements during university studies or 'other relevant work experience' as very or quite important criteria for filling the jobs held by graduates. Even in the case of jobs held by history graduates, six out of ten line managers displayed an interest in job candidates having relevant work experience.

As many as 52% of all line managers in the sample also said that 'work experience in any field' was very or quite important, suggesting that almost any type of employment could be expected to enhance the development of sought-after transferable skills. However, the importance attached to non-relevant work experience was less in the case of jobs held by computing and design graduates than for jobs held by graduates in biology, business and history.

Since a large majority of graduates had acquired work experience of one kind or another before leaving university (Table 6.9), there is likely to have been a large number of 'good matches' on this criterion between graduates and employers in our sample.

About a third of graduates had worked full-time for more than three months even before entering university – however, only one in four of these graduates regarded this early work experience as directly relevant to their current jobs.

Some 41% had experience of work placements with an employer as part of their studies and three-quarters of these graduates had undertaken placements of six months or more. Subject differences are important here, with the proportions reporting work experience of this kind ranging from 57% in computing and 47% in business studies to zero in history. Some 40% of computing and business graduates said that this work experience had been relevant to their current job, far higher than in the other three subjects. Indeed, one in five computer studies graduates had actually done their student work placements *with* their current employer. These findings confirm the importance of subject-related differences in any evaluation of the development of employability skills in higher education.

Other types of work experience such as term-time working and vacation work were also important. Just over half of all sample graduates reported doing paid work during term-time



and as many as 86% engaged in paid work during vacations. One in five biology, business and computing graduates said their term-time and/or vacation work had been relevant to their university studies.

**Table 5.8: Line managers' assessments of different kinds of student work experience**

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
Line managers' assessments of importance of following experiences when recruiting for the type of position held by graduate (%):						
	<i>Percent of all line managers</i>					
1. previous work experience at your organisation?						
Very important	6	8	18	15	20	10
Quite important	25	23	24	15	20	24
Not very important	56	49	38	46	25	45
Not at all important	13	19	21	23	35	20
Don't know / No information	0	1	0	0	0	1
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
2. any work experience as part of a university course, such as sandwich placement?						
Very important	13	18	6	15	10	15
Quite important	72	46	53	54	35	50
Not very important	16	29	38	15	25	26
Not at all important	0	6	3	8	30	8
Don't know / No information	0	1	0	8	0	1
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
3. other relevant work experience?						
Very important	22	23	12	23	25	22
Quite important	50	53	56	38	35	49
Not very important	28	22	32	31	35	27
Not at all important	0	1	0	8	5	2
Don't know / No information	0	1	0	0	0	1
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
4. work experience in any field?						
Very important	6	6	6	15	10	7
Quite important	59	51	29	23	45	45
Not very important	34	37	56	54	35	41
Not at all important	0	5	9	8	10	6
Don't know / No information	0	1	0	0	0	1
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
	<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 5.9: Graduates' involvement with work experience prior to starting work with current employer**

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
	<i>Percent of all graduates</i>					
% worked full-time (30 hours-plus) for more than three months before starting university	16	33	35	8	45	32
Relevance of pre-university full-time work to current job:						
Very relevant	6	4	3	0	0	4
Quite relevant	0	3	12	0	10	4
Not very relevant	3	9	3	0	10	7
Not at all relevant	6	18	18	8	25	17
Not applicable	<u>84</u>	<u>67</u>	<u>65</u>	<u>92</u>	<u>55</u>	<u>68</u>
<b>Sub-total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
% did work experience with an employer as part of university course:	25	57	47	31	0	41
Total time spent on work experience while at university (%):						
Less than one month	0	1	0	15	0	3
1 month, less than 6 months	3	5	6	8	0	6
6 months or more	22	51	38	8	0	32
Not applicable	75	43	53	69	100	59
No information	<u>0</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Relevance of work experience to current job (%):						
Did work experience with current employer	0	9	21	0	0	8
Worked for different employer but experience very relevant to current job	6	13	6	8	0	8
Quite relevant	6	18	12	8	0	12
Not very relevant	0	11	0	15	0	6
Not at all relevant	13	6	6	0	0	6
Not applicable	75	43	53	69	100	59
No information	<u>0</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Paid work as student which was not arranged as part of course:						
% doing paid work during term-time	50	52	53	54	40	52
% doing paid work during vacation	84	84	85	85	90	86
% doing paid work either during term-time or vacation	88	86	88	85	90	88
Was any term-time or vacation paid work relevant to university studies? (%)						
Yes	22	20	21	8	10	18
No	66	66	68	77	80	70
Not applicable	<u>13</u>	<u>14</u>	<u>12</u>	<u>15</u>	<u>10</u>	<u>13</u>
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
	<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'

## **5.5 Graduates' increasing responsibilities**

Half of all sample graduates had only been with their current employer for 12 months or less and another 28% had only been in place for 1-2 years (Table 5.10).

Nonetheless, a third of graduates had formal responsibility for supervising other employees and two-thirds of them reported having had a significant increase in responsibilities since joining their present organisations. These promotions were not commonly associated with changes in job title but in two out of three cases they had been accompanied by pay increases.

Business studies graduates stand out with regard to these indicators of career progress, with 43% responsible for supervising others and 77% having had a significant increase in responsibilities.

The likelihood of assuming increased responsibilities was expected to be correlated with the length of time individual graduates had been working for their current employers, and this is borne out in Chapter 8 where we assess the extent to which different measures of graduates' career progress are associated with the acquisition of employability skills during their university studies.

**Table 5.10: Proportions of graduates with responsibility for supervising other people and with increased responsibilities since joined present organisation**

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
Started work with current employer (%):						
Before July 1998	3	6	3	0	0	5
July 1998-June 1999	16	22	12	8	10	16
July 1999-June 2000	22	27	21	54	40	28
From July 2000	59	44	65	38	50	51
No information	0	1	0	0	0	1
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
% with formal responsibility for supervising others	19	43	29	8	30	32
% with significant increase in responsibilities since joined present organisation	56	77	56	62	80	69
% with significant increase in responsibilities since joined present organisation, reflected in change of job title	22	39	18	15	40	31
% with significant increase in responsibilities since joined present organisation, reflected in pay increase	41	53	29	46	45	45
	<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'

## Chapter 6: The Development and Utilisation of Graduate Skills and Knowledge

### 6.1 Extent of under-utilisation of graduate skills

About one in five graduates reported that their skills and knowledge were ‘too high’ for the jobs they were doing. Rather unsurprisingly, this problem was most common among graduates classified to administrative/secretarial and other occupations below associate professional level. However, even in professional occupations, some 18% of graduates apparently regarded their skills and knowledge as under-utilised in some way.

Recent evidence suggests that for many graduates such under-employment may be transitional in nature, although the careers of the individuals concerned may suffer long-lasting effects compared to graduates who have never been under-employed (Elias, McKnight et al, 1999).

As in the wider population of graduates, a large majority (72%) of sample graduates regarded their skills and knowledge as ‘about right’ for the jobs they were doing. And roughly two-thirds of all graduates considered that their current job made considerable use of *either* subject knowledge *or* other skills and (non-subject) knowledge developed at university *or both* sets of skills and knowledge.

The proportions of graduates reporting considerable use of subject knowledge in their current jobs ranged from 69% in design studies and 65% in computing down to 20% in history. Although we cannot place much weight on findings applying to the small number of history graduates in the sample, it is interesting to note that graduates in this subject who were not using subject knowledge in their jobs were above average in acknowledging the use of other (generic or transferable) skills developed at university.

**Table 6.1: Graduates’ assessments of extent of under-utilisation of skills**

A. Analysed by subject area

D11 Do you think your level of skills and knowledge is....

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
too low for the job you're doing	16	0	15	0	0	6
about right	63	72	65	85	85	72
too high	22	28	21	15	15	22
TOTAL	100	100	100	100	100	100
	<i>n</i> =32	<i>n</i> =79	<i>n</i> =34	<i>n</i> =13	<i>n</i> =20	<i>n</i> =192

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

**Table 6.1: Graduates' assessments of extent of under-utilisation of skills (continued)**

B. Analysed by occupational group

	Managers	Professionals	Associate professionals	Other occupations	No information about occupation	TOTAL (b)
D11						
Do you think your level of skills and knowledge is....						
too low for the job you're doing	0	11	3	5	11	6
about right	79	71	78	53	63	72
too high	21	17	19	42	26	22
TOTAL	100	100	100	100	100	100
	<i>n=19</i>	<i>n=63</i>	<i>n=72</i>	<i>n=19</i>	<i>n=19</i>	<i>n=192</i>

**Table 6.2: Graduates assessments of use of subject knowledge in current job**

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
D1 Does your current job make direct use of your undergraduate degree subject?						
Yes	41	56	65	69	20	51
No	59	43	35	31	80	48
Don't know / No information	0	1	0	0	0	1
TOTAL	100	100	100	100	100	100
D2 Do any of the other skills and knowledge you gained during your undergraduate degree help you to do your current job? Do they help...						
A lot	41	46	38	62	70	46
A little	56	51	59	31	30	49
Not at all	3	3	3	8	0	5
Don't know / No information	0	1	0	0	0	1
TOTAL	100	100	100	100	100	100
SUMMARY OF D1/D2 RESPONSES:						
% of graduates reporting <i>either</i> direct use of subject knowledge <i>or</i> a lot of use of other skills and knowledge developed at university <i>or both</i> categories of skill/ knowledge use						
	53	68	71	77	75	66
D4 Do any of the skills and knowledge you gained during your Masters degree/ postgraduate diploma help you to do your current job? Do they help...						
A lot	3	5	12	0	5	6
A little	3	1	6	0	5	3
Not at all	6	1	0	0	0	2
Not applicable	88	92	82	100	90	89
TOTAL	100	100	100	100	100	100
	<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'

## **6.2 Skills and knowledge emphasised by university departments: graduate perceptions**

With regard to the development of employability skills at university, graduate responses indicated several important differences between degree subjects.

While some 93-96% of graduates said that their courses had placed ‘very strong’ or ‘quite strong’ emphasis on subject knowledge and high academic standards, the proportion responding dropped to 71% in the case of ‘skills you might use in a job such as communication or team-working’. Business studies graduates reported the highest degree of emphasis in this latter area and also on gaining practical workplace experience and on ‘business awareness’ (for example, being taught by people with business experience). History ranked lowest on all these measures but Table 6.3 also points to a relative absence of ‘studies related to real-life work situations’ and business awareness on biology courses.

This is confirmed by the pattern of responses to supplementary questions on the amount of time graduates in different subjects had spent on activities specifically designed to enhance employability skills. For example, while 42% of business studies graduates and 26% of computing graduates said that they had done a lot of work ‘based on the real-life problems of a business or other organisation’, only a very small proportion of biology, design and history graduates said the same (Table 6.4).

In the case of ‘project work as part of a group or a team, the equivalent proportions ranged from 25% in history to 59% in computing, 66% in biology and 89% in business studies. History departments also ranked lowest in the provision of other types of ‘key skills courses designed to improve, for example, communication, problem-solving or IT skills’ However, in the case of computing graduates, the proportion of students who had spent a lot of time developing their oral presentation skills is notably low compared to the other four subjects.

To some extent these subject differences are associated with differences between departments in pre-1992 ‘Old’ Universities and colleges and those in New Universities and colleges (Tables 6.5-6.6). In a previous study Purcell et al (1999) reported clear evidence of more explicit attention being paid to employability skills in New Universities than in Old ones. In our sample all design graduates and three-quarters of business studies graduates had attended New Universities or colleges. Conversely, 85% of history graduates had attended Old Universities. In the case of biology the New: Old split was 56:44 while computing graduates were split exactly 50:50.

**Table 6.3: Graduate assessments of factors emphasised by university teaching staff**

D7 Please say how strongly teaching staff on your undergraduate degree course emphasised each of the following. Please say very strongly, quite strongly, not very strongly or not at all.

	<b>Biological sciences</b>	<b>Business studies</b>	<b>Computer studies</b>	<b>Design studies</b>	<b>History</b>	<b>TOTAL (a)</b>
...knowledge of your subject?						
Very strongly	63	44	50	54	90	55
Quite strongly	38	52	44	38	10	41
Not very strongly	0	3	6	8	0	3
Not at all strongly	0	0	0	0	0	0
Don't know	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>
...high academic standards?						
Very strongly	41	32	56	38	75	43
Quite strongly	50	61	38	54	20	50
Not very strongly	9	6	6	8	5	7
Not at all strongly	0	0	0	0	0	0
Don't know	0	1	0	0	0	1
...being able to work on your own?						
Very strongly	41	34	38	54	55	42
Quite strongly	47	52	47	38	40	46
Not very strongly	13	11	9	0	0	9
Not at all strongly	0	3	3	0	5	2
Don't know	0	0	3	8	0	1
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
...developing skills you might use in a job, such as communication or teamworking?						
Very strongly	31	44	32	46	20	37
Quite strongly	44	39	26	15	30	34
Not very strongly	16	14	35	38	20	21
Not at all strongly	9	3	6	0	30	8
Don't know	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>
...relating your studies to real-life work situations?						
Very strongly	0	32	18	38	0	21
Quite strongly	41	41	35	38	25	36
Not very strongly	50	27	35	15	20	31
Not at all strongly	9	1	12	8	55	13
Don't know	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>
...gaining practical workplace experience?						
Very strongly	22	41	32	23	0	30
Quite strongly	9	18	21	23	0	15
Not very strongly	38	27	24	38	35	30
Not at all strongly	28	15	24	15	65	26
Don't know	3	0	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>
...business awareness (for example, being taught by people with business experience)?						
Very strongly	3	32	21	38	0	20
Quite strongly	19	34	12	23	0	23
Not very strongly	47	28	44	15	30	33
Not at all strongly	28	6	24	23	70	22
Don't know	3	0	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 6.4: Graduate evaluations of time devoted to employability-skills enhancing activities, analysed by subject area**

D6 Please say how much time you spent doing each of the following as part of your studies for your (undergraduate/postgraduate) degree. Please say 'a lot', 'a little' or 'not at all'. How much time did you spend...

	<b>Biological sciences</b>	<b>Business studies</b>	<b>Computer studies</b>	<b>Design studies</b>	<b>History</b>	<b>TOTAL (a)</b>
... doing work based on the real-life problems of a business or other organisation?						
A lot	3	42	26	8	0	24
A little	47	54	56	62	10	49
Not at all	50	4	18	31	90	27
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... doing projects as part of a group or team?						
A lot	66	89	59	38	25	67
A little	28	9	41	62	60	29
Not at all	6	3	0	0	15	4
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... on Key Skills courses designed to improve, for example your communication, problem-solving or IT skills?						
A lot	44	44	38	46	10	39
A little	44	46	41	46	40	43
Not at all	13	10	21	8	50	18
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
... making oral presentations of your work to groups of people?						
A lot	41	72	32	92	65	60
A little	56	24	56	8	25	34
Not at all	3	4	12	0	10	6
<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 6.5 Distribution of graduates by degree subject and type of university**

	Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
Pre-1992 Universities	56	24	50	0	85	40
New Universities and colleges	44	76	50	100	15	60
Total	100	100	100	100	100	100
	<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 6.6 Graduate evaluations of time devoted to employability-skills enhancing activities, analysed by type of university**

	Old Universities	New Universities	TOTAL (a)
... doing work based on the real-life problems of a business or other organisation?			
A lot	11	33	24
A little	41	54	49
Not at all	49	13	27
TOTAL	100	100	100
... doing projects as part of a group or team?			
A lot	49	78	67
A little	43	20	29
Not at all	8	2	4
TOTAL	100	100	100
... on Key Skills courses designed to improve, for example your communication, problem-solving or IT skills?			
A lot	22	50	39
A little	47	41	43
Not at all	30	9	18
TOTAL	100	100	100
... making oral presentations of your work to groups of people?			
A lot	43	72	60
A little	49	24	34
Not at all	8	4	6
TOTAL	100	100	100
	<i>n=76</i>	<i>n=116</i>	<i>n=192</i>

In order to derive useful summary variables relating to employability skills teaching, we carried out a factor analysis of graduates' responses to two sets of questions:

1. The amount of time spent undertaking various activities during undergraduate studies (D6);
2. The degree of emphasis placed on various objectives and activities by university teaching staff (D7).

In the case of D6 responses, the analysis extracted one factor with an eigenvalue in excess of unity which explained 48% of the total variation of D6 variables. As Table 7.7 shows, all four variables loaded strongly on the factor (D6F1), which is readily interpretable as an indicator of the time spent by graduates on explicitly employability-related activities.

**Table 6.7: Pattern of factor loadings deriving from factor analysis of graduates' responses to questions D6a-D6b**

		D6F1
	Time spent during studies on:	
D6a	Real-life business problems	0.64
D6b	Projects as part of group or team	0.75
D6c	Key Skills courses, e.g. communication, problem-solving, IT	0.71
D6d	Oral presentations	0.65

Note: Analysis carried out on responses from 222 graduates (i.e. including some for whom no interviews were carried out with paired line managers)

A similar analysis of D7 responses extracted two factors with eigenvalues in excess of unity which explained 57% of the total variation of D7 variables. Both factors were clearly interpretable (without any rotation being carried out) as summarising the emphases placed in degree courses on the following characteristics:

D7F1 – Employability skills, e.g. communication and team-working skills, business awareness (plus emphasis on work experience)

D7F2 – Traditional academic skills, e.g. subject knowledge / high academic standards / students working on their own

As Table 6.8 shows, all seven variables loaded on at least one factor and no variables loaded significantly (0.4 or higher) on more than one factor.<sup>1</sup> The uniqueness of variables (the percent of variance not explained by the factors) was worryingly high (0.68) in only one case – D7c (‘being able to work on one’s own’) – which loaded at a 0.31 level on the employability skills factor as well as at 0.47 on the traditional academic skills factor. Intuitively, this cross-loading is not surprising given the fact that being able to study in a self-reliant manner is both a traditional requirement in university education and a quality emphasised in more recent discussion of employability skills. Hence, we believe both the new factors are meaningful and warrant retention.

**Table 6.8: Pattern of factor loadings deriving from factor analysis of graduates’ responses to questions D7a-D7g**

		D7F1	D7F2
	Emphasis placed by university teaching staff on:		
D7a	Subject knowledge	0.20	0.81
D7b	High academic standards	0.16	0.79
D7c	Working on own	0.31	0.47
D7d	Job-related skills, e.g. communication and team-working	0.74	-0.14
D7e	Studies related to real-life work situations	0.80	-0.17
D7f	Workplace experience	0.70	-0.14
D7g	Business awareness	0.75	-0.12

Note: Analysis carried out on responses from 222 graduates

As expected, the two indicators of intensity of employability skills teaching – D6F1 and D7F1 – were highly correlated with each other ( $r=0.61$ ). Both were also positively correlated with graduates having attended a New University ( $r=0.48$  and  $r=0.39$ , respectively). Conversely, there was a weaker negative correlation ( $r=-0.22$ ) between the traditional academic skills variable (D7F2) and attendance at a New University.<sup>2</sup> These findings offer further support for an assessment that, on balance, New University departments are likely to be more explicitly focussed on employability skills teaching than are Old University departments. However, the degree of correlation is not overwhelming and, as described in Chapter 3, there are many exceptions to the rule. Furthermore, as noted above, the main differences between Old and New Universities tend to derive from the different mixes of subjects taught in each type of institution. These issues will be explored further through multivariate analysis in Chapter 8.

<sup>1</sup> This is the significance level suggested by Hair et al (1995: 385) for factor loadings with a sample size of roughly 200.

<sup>2</sup> Note that these correlations are not greatly altered if attention is confined to the 192 graduates for whom paired interviews with line managers were achieved.

### **6.3 The acquisition and use of employability skills**

In order to explore the extent to which employability skills developed in higher education match those sought by employers, a series of questions were posed to graduates and line managers which focussed on the following types of skills:

- Identifying and accessing information sources;
- Computing and IT;
- Handling numerical data;
- Problem-solving;
- Oral presentation;
- Written and verbal communication;
- Working on one's own without close supervision;
- Working in a team;
- Building up networks of professional contacts;
- Understanding clients' business problems;
- Understanding inter-cultural differences between people.

The questions were:

1. Graduates: how much had their university education helped them to develop these different employability skills? (D9)
2. Graduates: how often in their current jobs were they required to carry out various activities which would draw on these skills? (D10, D12)
3. Line managers: how did they assess the importance of these skills for graduates in their current jobs? (J3)
4. Line managers: what types of skill, if any, did graduates lack when they first started employment with their current organisations? (J4)

### 6.3.1 Skills developed during university studies

When asked about employability skill areas in which they had benefited from their university education, graduates gave the highest ratings to working without close supervision – 81% of all graduates said they had been helped ‘a lot’ in this respect – and information handling and processing (75%). Other high-rating skill areas included problem-solving, written communication and team-working (Table 7.9).

In general the proportions of business studies, biology and design graduates giving credit to their university education for the development of employability skills were higher than was the case for history graduates (whose courses had evidently placed less emphasis on the development of numeracy, problem-solving and team-working skills) or computing studies graduates (who gave a relatively low rating to the development of verbal and written communication and oral presentation skills on their courses). This finding about computing courses is consistent with interview evidence from our visits to computer science departments where we heard of problems with some computing graduates lacking interest in gaining the communication and inter-personal skills needed to complement their technical knowledge (see Section 2.1.1 above).

Apart from apparent weaknesses of this kind in subject-specific areas, the main skills which had not been developed at university (according to graduates’ own reckoning across all five subject areas) were those required for professional network-building and understanding clients’ business problems.

**Table 6.9: Graduates’ evaluations of university help in developing employability skills**

D9. Please say how much your university education helped you to develop the following skills. Please answer ‘a lot’, ‘a little’, or ‘not at all’.

		Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
How much did university help you to develop skills in...							
a)	... identifying and accessing information sources?						
	A lot	84	76	65	54	80	75
	A little	16	23	26	38	20	22
	Not at all	0	1	9	8	0	3
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
b)	... computing and IT (Information Technology)?						
	A lot	66	53	79	62	30	59
	A little	31	43	18	38	50	36
	Not at all	3	4	3	0	20	5
	<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

**Table 6.9: (continued)****Graduates' evaluations of university help in developing employability skills**

		Biological sciences	Business studies	Computer studies	Design studies	History	TOTAL (a)
c)	... handling numeric data?						
	A lot	78	42	65	15	15	47
	A little	19	51	29	38	45	40
	Not at all	3	8	6	46	40	14
	TOTAL	100	100	100	100	100	100
d)	... problem solving?						
	A lot	75	67	82	85	45	70
	A little	25	29	15	8	45	27
	Not at all	0	4	3	8	10	4
	TOTAL	100	100	100	100	100	100
e)	... oral presentation?						
	A lot	50	78	38	69	60	63
	A little	44	18	56	31	35	33
	Not at all	6	4	6	0	5	4
	TOTAL	100	100	100	100	100	100
f)	... written communication?						
	A lot	72	77	38	69	95	70
	A little	28	19	53	23	5	26
	Not at all	0	4	9	8	0	4
	TOTAL	100	100	100	100	100	100
g)	... verbal communication?						
	A lot	47	71	29	69	65	58
	A little	44	24	65	31	35	37
	Not at all	9	5	6	0	0	5
	TOTAL	100	100	100	100	100	100
h)	... working on your own without close supervision?						
	A lot	81	80	65	92	100	81
	A little	16	19	29	8	0	17
	Not at all	3	1	6	0	0	2
	TOTAL	100	100	100	100	100	100
i)	... working in a team?						
	A lot	69	87	62	62	40	72
	A little	28	13	35	38	50	26
	Not at all	3	0	3	0	10	2
	TOTAL	100	100	100	100	100	100
j)	... building up networks of professional contacts?						
	A lot	9	14	9	23	10	12
	A little	44	46	50	38	45	46
	Not at all	47	41	41	38	45	42
	TOTAL	100	100	100	100	100	100
k)	... understanding clients' business problems?						
	A lot	3	25	12	54	0	17
	A little	22	59	56	8	15	45
	Not at all	75	15	32	38	85	39
	TOTAL	100	100	100	100	100	100
l)	... understanding inter-cultural differences between people?						
	A lot	19	37	24	23	40	32
	A little	31	46	44	31	50	41
	Not at all	50	18	32	46	10	28
	TOTAL	100	100	100	100	100	100
		<i>n</i> =32	<i>n</i> =79	<i>n</i> =34	<i>n</i> =13	<i>n</i> =20	<i>n</i> =192

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

Further analysis showed a high degree of correlation between graduates' responses to Question D9 on the extent to which they considered their university education had helped them to develop various kinds of employability skills. Accordingly, we carried out a factor analysis of these responses which yielded four different factors with eigenvalues in excess of unity, which in total explained 56% of the variation of the 11 variables to hand. Given the degree of correlation among the variables, an oblique rotation method (Promax) was then used in order to aid with the interpretation of factors. This yielded a new set of four factors with distinctively different variable loadings (see Table 6.10) which could be interpreted as summarising the emphases placed in degree courses on the following characteristics:

D9F4 – Oral presentation, verbal communication and team-working skills;

D9F5 – IT, numeracy and problem-solving skills;

D9F6 – Network-building; understanding clients' business problems; inter-cultural understanding (all involving – though not confined to – 'external interactions' outside the individual's present workplace);

D9F7 – Information processing and written communication skills; capacity to work independently (all traditional academic skills as well as sought-after employability skills)

In this case all the variables loaded on at least one factor and no variables loaded significantly (0.4 or higher) on more than one factor. The uniqueness of variables (the percent of variance not explained by the factors) only exceeded 0.5 for three out of the eleven D9 variables.

**Table 6.10: Pattern of factor loadings deriving from factor analysis of graduates' responses to questions D9a-D9l**

(Table shows loadings of 0.4 or higher)

	D9F4	D9F5	D9F6	D9F7
Extent to which university helped develop skills in:				
D9a ... identifying and accessing information sources				0.63
D9b ... computing and IT (Information Technology)		0.65		
D9c ... handling numeric data		0.76		
D9d ... problem solving		0.65		
D9e ... oral presentation	0.83			
D9f ... written communication				0.76
D9g ... verbal communication	0.73			
D9h ... working on your own without close supervision				0.54
D9i ... working in a team	0.63			
D9j ... building up networks of professional contacts			0.75	
D9k ... understanding clients' business problems			0.70	
D9l ... understanding inter-cultural differences			0.66	

No. of graduates: n=228



Correlation analysis using these summary variables showed a highly plausible set of relationships between graduates' assessments of the extent to which they felt their university education had helped them to develop employability skills and their responses to earlier questions about the time spent on related activities and emphasis given by teaching staff to employability skills (Table 6.11). Three of the skills development variables are positively correlated with the time/emphasis given to such skills. The exception is the variable summarising the help received by graduates in developing information processing and written communication skills which, as noted above, are as much traditional academic skills as they are employability skills.

**Table 6.11: Correlations between summary variables of time spent on and staff emphasis given to employability skills, and graduates' assessments of the extent to which employability skills had been developed by their university education (N=222)**

	D6F1	D7F1	D7F2	D9F4	D9F5	D9F6	D9F7
D6F1 Time spent on employability skills-related activities	1.00						
D7F1 Staff emphasis on employability skills	0.62	1.00					
D7F2 Staff emphasis on subject knowledge and traditional academic skills	-0.18	0.00	1.00				
D9F4 Development of presentation, verbal and team-working skills	0.53	0.44	0.00	1.00			
D9F5 Development of IT, numeracy and problem-solving skills	0.27	0.27	-0.04	0.07	1.00		
D9F6 Development of 'external interaction' skills	0.38	0.47	-0.04	0.21	0.21	1.00	
D9F7 Development of information processing and written communication skills	-0.17	-0.03	0.29	0.10	-0.08	0.10	1.00

### 6.3.2 Comparison of skills developed at university with skills required in employment

The information gathered in the paired interviews enabled detailed comparisons to be carried out, firstly, of graduates' evaluations of the skills developed at university and those required in employment and, secondly, of graduates' and their line managers' evaluations of job skill requirements.

Summary scores (averages) were calculated for each type of employability skill developed at university and for the skills required in graduates' current jobs. The results shown in Table 6.12 suggest that – for many graduates across all five subject areas – the emphasis placed on different kinds of employability skill during their university courses was broadly in line with skill requirements (as they perceive them) in their current jobs.<sup>3</sup>

<sup>3</sup> The detailed responses underlying Table 7.12 are shown in Appendix C, Tables 7.13-7.15.

However, two areas of discrepancy stand out. Firstly, presentation skills are perhaps not so widely used in graduates' current jobs as might be thought from the emphasis placed on them in many university departments. Secondly, there are signs of job skill requirements not being met in those areas which graduates themselves recognised as not being well developed at university, namely, the skills and competences needed to build up contacts outside graduates' current organisations and to suggest solutions to clients' business problems. Here there are some subject-related differences with, for example, newly-qualified graduates in history and biology much less likely to be equipped with the level of skills required in their present jobs to tackle clients' business problems than business, computing and design studies graduates.

More striking discrepancies emerge when line managers' evaluations of job skill requirements are brought into consideration (Table 6.12, Part 3). Across the sample as a whole the average skill ratings assessed by graduates only equate to those of line managers in three areas of skill: ability to seek out new information; problem solving ability; and ability to work on one's own without supervision. In all other employability skill areas, the line managers' average ratings exceed those of graduates and do so in most cases by a substantial amount (by 0.3 points or more on the 1-3 point scale in use): numeracy, written communication skills, formal presentation skills, team-working skills, computing/IT skills and the ability to identify solutions to customers' business problems.

In a number of skill areas, the managers' evaluations of job skill requirements also exceed graduates' ratings of the extent to which their university education had helped them to develop employability skills (Table 6.12, Part 1). The ratings are broadly comparable in four areas – identifying information sources, written communications, problem-solving and working independently – and in the case of presentation skills the importance attached to them in universities apparently exceeds their ranking by managers. However, the development of employability skills in universities (as reported by graduates) is rated below managers' evaluations of skill requirements in the areas of numeracy, verbal communication, team-working, computing/IT and understanding clients' business problems.<sup>4</sup>

---

<sup>4</sup> Note that, in order to compare line managers' and graduates' evaluations of job skill requirements, it was necessary to convert the four-point scale applied to managers' responses to a three-point scale akin to that used in questions to graduates (see Tables 7.13-7.15). The broad conclusion about managers' skill requirement ratings exceeding those of graduates in a large majority of skill areas survives a sensitivity test in which the managerial response of 'quite important' is given a weight of 2.25 points instead of 2.5 as shown in Table 7.12. In our judgement the response 'quite important' must be weighted above the responses 'occasional' and 'a little' which have been given weights of 2 points in the calculation of summary scores for graduates' responses.

More detailed consideration of line managers' skill requirements (Appendix B, Table 6.14) shows that – with the exception of jobs filled by history graduates – high levels of employability skills are often sought in conjunction with specialist subject knowledge and 'other practical and technical skills' apart from computing. Computing and IT skills are naturally ranked highest for jobs held by CS graduates but are regarded as either very or quite important by large majorities of managers of graduates in all four other subject groups as well. Managers of computing graduates seem to accord less importance to written and verbal communication skills than do managers of other types of graduates but still only 3-6% of managers of CS graduates rank such skills below 'quite important'.

Overall, the employability skills ranked highest by line managers are:

- Ability to work in teams or groups (79% 'very important');
- Verbal communication (73%);
- Ability to work on one's own (62%);
- Written communication (60%);
- Problem-solving (59%);
- Computing and IT skills (54%).

In summary, our survey responses point to large differences between, on the one hand, managers' evaluations of job skill requirements and, on the other hand, graduates' assessments of the skills they use and the extent to which their university education helped them to acquire such skills.

The subjective nature of the data underlying the above calculations is evident and our findings must be regarded as no more than suggestive. Where managers' and graduates' assessments of skill requirements for particular jobs are in conflict, a substantial amount of qualitative research (perhaps even ethnographic research) would be required to reach a judgement as to who is better-informed.

We now go on to examine in detail, firstly, the extent to which discrepancies between line managers' and graduates' assessments of skill requirements is actively reflected in employer dissatisfaction with the skills graduates bring with them when they start in employment; and secondly, the extent to which employers have provided different kinds of training in an effort to develop skills which are deemed to be 'missing'.

**Table 6.12: Summary of graduates' and line managers' responses regarding employability skills developed in university and required in current jobs**

**GRADUATES' EVALUATIONS OF HOW MUCH THEIR UNIVERSITY EDUCATION HELPED THEM TO DEVELOP EMPLOYABILITY SKILLS**

Scores: 3=A lot; 2=A little; 1=Not at all

Survey question	Type of employability skill:	Average scores by subject area:					TOTAL (a)
		Biological sciences	Business studies	Computer studies	Design studies	History	
1 D9a	... identifying and accessing information sources	2.8	2.7	2.6	2.5	2.8	2.7
2 D9c	... handling numeric data	2.7	2.3	2.6	1.7	1.8	2.3
3 D9d	... problem solving	2.8	2.6	2.8	2.8	2.4	2.7
4 D9h	... working on your own without close supervision	2.8	2.8	2.6	2.9	3.0	2.8
5 D9f	... written communication	2.7	2.7	2.3	2.6	3.0	2.7
6 D9g	... verbal communication	2.4	2.7	2.2	2.7	2.7	2.5
7 D9e	... oral presentation	2.4	2.7	2.3	2.7	2.6	2.6
8 D9i	... working in a team	2.7	2.9	2.6	2.6	2.3	2.7
9 D9j	... building up networks of professional contacts	1.6	1.7	1.7	1.8	1.7	1.7
10 D9k	... understanding clients' business problems	1.3	2.1	1.8	2.2	1.2	1.8
11 D9b	... computing and IT (Information Technology)	2.6	2.5	2.8	2.6	2.1	2.5

**GRADUATES' EVALUATIONS OF THE EXTENT TO WHICH EMPLOYABILITY SKILLS ARE REQUIRED IN THEIR CURRENT JOBS**

Scores: D10 questions: 3=Often; 2=Occasionally; 1=Not at all

D12 (computer usage): 3=Very complex/complex; 2=Moderate; 1=Simpler than moderate tasks

Survey question	Type of employability skill:	Average scores by subject area:					TOTAL (a)
		Biological sciences	Business studies	Computer studies	Design studies	History	
1 D10a	... seek out new information	2.7	2.8	2.8	2.8	2.8	2.8
2 D10b	... analyse and interpret statistical data	2.1	2.3	2.1	2.0	2.3	2.2
3 D10c	... tackle problems with no clear solution	2.6	2.7	2.8	2.6	2.8	2.7
4 D10d	... work on your own (without close supervision)	2.9	2.9	2.9	2.8	2.9	2.9
5 D10e	... write reports, evaluations or similar documents	2.4	2.4	2.2	1.8	2.6	2.4
6 D10f	... argue the case for a proposed course of action	2.3	2.4	2.5	2.3	2.6	2.4
7 D10g	... make formal presentations to groups	1.8	2.0	1.8	2.0	2.0	1.9
8 D10h	... work in teams or groups	2.8	2.6	2.7	2.5	2.8	2.6
9 D10k	... build up contacts outside your organisation	2.1	2.4	2.1	2.2	2.8	2.3
10 D10m	... suggest solutions to clients' business problems	1.7	2.2	1.9	1.8	2.3	2.0
11 D12	...level of computer usage	2.1	2.3	2.8	2.5	2.1	2.3

**LINE MANAGERS' EVALUATIONS OF THE EXTENT TO WHICH EMPLOYABILITY SKILLS ARE REQUIRED IN GRADUATES' CURRENT JOBS**

Scores: 3=Very important; 2.5=Quite important; 1.5=Not very important; 1=Not at all important.

Survey question	Type of employability skill:	Average scores by subject area:					TOTAL (a)
		Biological sciences	Business studies	Computer studies	Design studies	History	
1 J4f	... the ability to seek out new information	2.7	2.7	2.8	2.8	2.9	2.7
2 J3h	... a high standard of numeracy	2.5	2.4	2.6	2.0	2.7	2.5
3 J3d	... problem solving ability	2.7	2.7	2.9	2.8	2.8	2.7
4 J4a	... the ability to work on your own (without close supervision)	2.8	2.7	2.7	2.7	2.8	2.8
5 J3e	... written communication skills	2.7	2.8	2.6	2.4	3.0	2.7
6 J3f	} ... verbal communication skills } ... the ability to argue the case for a proposed course of action } ... the ability to explain products or services to clients	2.9	2.9	2.7	2.8	3.0	2.8
J4g		2.4	2.6	2.5	2.5	2.8	2.6
J4e		2.3	2.4	2.2	2.2	2.3	2.4
7 J4b	... the ability to make formal presentations to groups	2.3	2.2	2.1	2.0	2.3	2.2
8 J4c	... the ability to work in teams or groups	2.9	2.8	2.9	2.9	2.9	2.9
9 Not asked	...the ability to build up contacts outside your organization	na	na	na	na	na	na
10 J4h	... the ability to suggest solutions to clients' business problems	2.2	2.5	2.4	2.4	2.3	2.4
11 J3a	... computing and IT skills	2.6	2.6	2.9	2.8	2.5	2.7
		n=32	n=79	n=34	n=13	n=20	n=192

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

