

## Skills and attributes developed by psychology undergraduates: ratings by undergraduates, postgraduates, academic psychologists and professional practitioners

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*The question of graduate skills and attributes is increasingly central in higher education. In addition, the specification of both subject-specific and generic skills for each discipline was part of Quality Assurance Agency's (QAA) benchmarking exercise. This paper reports what skills and attributes are well developed in a psychology degree, through the ratings of four pertinent groups. Fifty student skills and attributes (derived from the QAA Graduate Standards Programme) were rated on a five-point scale by undergraduates (n = 30), postgraduates (n = 42), academic psychologists (n = 20) and professional practitioners (n = 18). Each person was asked to rate how well a psychology degree promoted the development of each skill/attribute. Factor analysis yielded three higher order groupings which were labelled: (i) thinking skills (including interpreting and evaluating information, testing hypotheses, critical reasoning); (ii) self-management skills (including time management, self-discipline, organising.); and (iii) corporate management skills (including managing people and resources, negotiating, networking). Analysis of variance showed that thinking skills were rated highest across all groups, followed by self-management skills. Corporate-management skills were rated as least well developed. However, skill development in general was considered just above average (rated 3.54 on a 5 point scale). For the most part, academics and practitioners rated skill development lower than the student groups. Academics rated thinking skills and professional practitioners rated self-management skills significantly lower than the student groups. All groups agreed that 'corporate-management skills' were least well developed in psychology undergraduate courses. The implications of these results for curriculum development, for developing awareness of skills and attributes and for communication between the different groups are discussed.*

### SKILLS DEVELOPMENT IN HIGHER EDUCATION

The language of skills development is now firmly embedded in discourses about the aims and goals of UK higher education. The Dearing Report (1997) clearly outlined what it called key skills – communication (both oral and written), numeracy, using communication and information technology (ICT), and learning to learn – as objectives for higher education, alongside the traditional knowledge and skills associated with disciplinary or subject-based enquiry. This emphasis on skills can be traced back, at least in part, to the Enterprise in Higher Education Initiative in the early 1990s (Enterprise in Higher Education, 1989). This initiative sought to increase the relevance of UK higher education curricula to the world of work and originated from dissatisfactions expressed by UK employers about graduate skills. The purpose of the original initiative, and subsequent innovations, was to create graduates who are more conscious of the likely demands and challenges of the world of work and who are more prepared for work in terms of their personal and interpersonal skills and attributes. The Graduate Standards Programme (HECQ, 1997) raised questions not only about the standards of degree programmes but also about the more general skills and attributes which all graduates should attain. This concept of 'graduateness' – what graduates should typically know and be able to do – led

to the development of subject benchmarks for all disciplines in UK higher education (e.g. Psychology Subject Benchmark Statement, QAA, 2002). It should be noted that this shift away from the supremacy of disciplinary knowledge in higher education has not gone uncontested (e.g. Barnett, 1994).

Although there is some agreement, at least at the policy level, about the importance of skills in higher education teaching, it is not always clear what range or pool of skills should be included or how best they can be conceptualised. Bennett, Dunne and Carre (2000) point out that even the terms used to refer to skills are constantly changing – transferable skills, core skills, generic skills and key skills. In a wide-ranging discussion of skills development in higher education and employment, they settle for the term 'generic' skills as it is less likely to be confused with the use of the term 'core', as in core disciplinary skills, and does not bring with it the debates about transfer, as in transferable skills.

There have been several attempts to impose some organisation and structure on graduate skills. For example, in the Graduate Standards Programme, attempts were made to amalgamate lists of skills and attributes from different sources. The 50-item list that forms the basis for the current study originates from that source and was developed by the Hertfordshire

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Integrated Learning Project in 1997 (QAA, 1998, see Appendix 5). This list was itself drawn up from a range of other sources. The items were grouped into six skill categories, which were:

- self-management and learning (e.g. time management, self-assessment, self-discipline);
- intellectual (e.g. critical thinking, analysing, problem solving);
- communication (e.g. speaking, writing, presenting);
- research (e.g. formulating hypotheses, using research methodologies, information handling);
- practical/technical (e.g. laboratory, fieldwork, psychomotor co-ordination); and
- interpersonal (e.g. teamwork, leadership, assertiveness).

This list is one of the most comprehensive available and the Dearing list looks rather impoverished in contrast. While the six categories do have some face validity, their conceptual underpinning is not articulated nor have the groupings been tested empirically.

In another attempt to impose some coherence on the domain, Bennett *et al.* (2000) developed a framework of generic skills that included four groups:

- management of information (e.g. use appropriate sources of information, use ICT, handle large amounts of information);
- management of task (e.g. identify key features, conceptualise issues, set and maintain priorities);
- management of self (e.g. manage time effectively, set objectives, priorities, standards, take responsibility for own learning); and
- management of others (e.g. carry out agreed tasks, respect the views and values of others, work productively in a cooperative context).

This framework is underpinned by interviews and extended discussions with staff and students involved in teaching and learning generic skills.

While there is some overlap between these two frameworks, we are inclined to agree with Bennett *et al.* (2000) that the domain of generic skills is 'theoretically threadbare' and rarely reflects the perceptions of those who are most intimately involved in their teaching and learning. There is considerable scope for both conceptual and empirical analysis, especially within disciplinary areas.

### SKILLS IN THE PSYCHOLOGY UNDERGRADUATE CURRICULUM

For almost 20 years there has been discussion about the opportunities for skills development within the psychology undergraduate curriculum. Many writers have advanced the argument that a psychology degree has unrivalled capacity to develop skills (e.g. Arnold, Newstead, Donaldson, Reid and Dennis, 1987; Hayes, 1989, 1996; Radford and Rose, 1989) and there is a growing literature to show the variety of ways in which this can be done (e.g. Anderson and Soden, 2001; Colman, 1996; Falchikov and MacLeod, 1996; Hine, Gollin, Ozols, Hill and Scoufis, 2002; McGuinness,

1994; Reddy and Hill, 2002; Wrennall and Forbes, 2002). Hayes (1996) points to 13 different types of skill or knowledge that a psychology student is likely to acquire by graduation. She argues that what makes psychology distinctive is the sheer number of skills it facilitates. Hayes' list includes being literate and numerate, acquiring ICT skills, information gathering, research and measurement skills, higher order analysis, critical evaluation and problem solving skills, the ability to adopt multiple perspectives, to be interpersonally and environmentally aware and to be pragmatic. Many of these skills have been highlighted in the Psychology Subject Benchmark Statement (QAA, 2002).

Settling on a list or framework of skills is only the first step. The next step on the road to skill development is skill awareness by both students and academic staff. This awareness must not only include an appreciation of students' current level of skills but when they are acquiring new ones. Students themselves, and others, often fail to recognise that they have acquired these skills or do not value them. Hayes (1996) points out that many of the skills and knowledge acquired in psychology degrees become internalised and automatised to a point where students fail to see that they have acquired them. Consequently, in employment situations, like interviews, psychology students do not promote their skills or market themselves sufficiently. In short, psychology graduates need to be more aware of their range and level of skills if they are to market them effectively. This phenomenon of the implicit nature of generic skills and the failure of students to recognise and promote their own skills is widely recognised in higher education. Making skills explicit and highlighting them as important learning outcomes is perhaps one of the potentially positive outcomes of the skills discourse in higher education. Much remains to be done to create an appropriate educational dialogue to maximise communication between students, academic staff and others, and to sustain skills development.

In conclusion, the purpose of the current study is threefold. Using factor analysis, the first purpose of the study was to investigate the domain of generic skills by examining ratings on the 50-item list originally developed for the Graduate Standards Programme, in an attempt to empirically identify higher order structures. The second purpose was to find out if some skills were perceived as better developed than others in a psychology degree. In other words, despite general beliefs about the capacity of psychology degrees to develop a range of skills, was there any agreement about the skills that were well developed in practice? The third purpose was to compare the ratings of different groups with a stake in psychology undergraduate education – students currently studying psychology (undergraduates), those who had recently graduated (postgraduates), academics who were currently teaching undergraduates, and practitioner psychologists who select students onto postgraduate courses, who supervise students on placements or who mentor recently qualified professional psychologists. As well as comparing the general level of skills

development rated by each group, the purpose was to identify any discontinuities or discrepancies due to the differing perspectives from which the groups viewed the undergraduate degree.

## METHOD

### Participants

There were four participant groups: 30 undergraduate psychology students (19 females and 11 males), 42 psychology postgraduates (17 males, 25 females), 20 academic psychology staff (6 females, 14 males) and 18 professional practitioners in psychology (6 males, 12 females). Therefore a total of 110 participants took part in the study. The undergraduates, postgraduates and academics were drawn from two university psychology departments in Northern Ireland that teach undergraduate psychology degrees (both accredited by the British Psychological Society). The postgraduates were attending either a postgraduate course in clinical psychology, occupational psychology, educational psychology, or applied psychology or were PhD research students. These graduates had studied for their undergraduate psychology degree in various institutions throughout the UK and the Republic of Ireland. The 18 practitioners were randomly sampled from the list of Northern Irish chartered psychologists, excluding those permanently employed by an academic institution. Most were clinical psychologists. All the participants cooperated voluntarily.

### The skills questionnaire

Fifty skills listed in each questionnaire were taken directly from the Hertfordshire Integrated Learning Project (HILP) Draft Graduate Skills Menu as published in QAA guidance for writing programme specifications (Appendix 5, QAA, 1998). The items from that list were drawn from a variety of sources. A full list is included in the appendix to this paper.

### Design

A principle components factor analysis was initially carried out on the ratings to produce higher order sets of skills. Three factors emerged and three subscales from the initial questionnaire were created and their internal reliability assessed.

A two-way mixed ANOVA was then conducted on the mean ratings for the subscales. The between variable was 'group' with four levels (undergraduate, postgraduate, academic and practitioner). The within variable was 'skill set' at three levels (thinking skills, self-management skills and corporate management skills). The dependent variable was the rating from 1-5.

It should be noted that the student groups were not asked to assess themselves directly. Rather, they made a general evaluation about a psychology degree. Nevertheless, it can be reasonably assumed that the students were making their judgements based on (or close to) their own experience. In contrast, the academics and the practitioners were probably not rating based on the memory of their own experience of undergraduate study, but rather on their experience of teaching current cohorts of undergraduates

(academics) supervising recent postgraduates on professional placements or mentoring junior professional colleagues (practitioners).

### Procedure

One hundred and seventy-five questionnaires in total were distributed; 30 to undergraduate students (opportunity sample, 20 from one university and 10 from another), 70 to postgraduates (42 returned), 40 to academic staff (20 returned) and 35 to professional practitioners (18 returned). The undergraduates were approached in person and asked to participate. The postgraduate questionnaires were distributed via academic co-ordinators. Academic staff were first notified of the study by email then questionnaires were placed in their mail trays. Practitioners received their questionnaires by post to their work address with an accompanying letter and a stamped reply envelope. The participant task was to rate all 50 skills listed. Students were asked, 'How good do *you think* your undergraduate psychology degree was at promoting the development of each skill and attribute?'. Academics and practitioners were asked the same question except that the phrase 'your undergraduate psychology degree' was changed to 'an undergraduate psychology degree'. Participants rated each skill or attribute on a five-point scale – 1 ('extremely poor'), 2 ('poor'), 3 ('average'), 4 ('good'), 5 ('extremely good').

### Results

The results are presented in two sections. In the first section the 50 ratings scales are factor analysed to identify higher order structures in the data set. In the second section, comparisons are made between skill sets, and between groups, using analysis of variance.

### Factor analysis

Suitability of the data for factor analysis was checked, as there were less than 200 participants. The Kaiser-Meyer-Olkin measure of sampling adequacy ( $k = .79$ ,  $n = 110$ ) and Bartlett Test of Sphericity ( $b = 3300$ ,  $n = 110$ ,  $p < .001$ ) both suggested strong suitability of the data for factor analysis. From the scree plot, three factors were identified accounting for 41% of the variance. Table 1 summarises the information from the varimax rotated 3-factor analysis.

Forty-one of the 50 skills loaded above 0.40 on three factors. These were interpreted as:

- thinking skills - TS (characterised by high loading items such as interpreting and evaluating information, testing hypotheses, formulating hypotheses, critical reasoning, analysing);
- self-management skills – SMS (characterised by items such as time management, being self-disciplined, being organised, presenting to audiences); and
- corporate management skills - CMS (characterised by the items: managing people and resources, negotiating, being adaptable, networking, empathising).

**Table 1**

Skill sets of items and their respective factor loadings					
Factor 1		Factor 2		Factor 3	
Thinking skills (TS)	Load	Self management skills (SMS)	Load	Corporate management skills (CMS)	Load
Interpreting and evaluating information	.81	Time management	.75	Managing people and resources	.73
Testing hypotheses	.81	Self-discipline	.71	Negotiating	.73
Formulating hypotheses	.75	Organising	.68	Adaptability	.67
Critical reasoning	.75	Speaking	.57	Networking	.59
Analysing	.74	Presenting to audiences	.57	Empathising	.58
Information gathering	.72	Self-confidence	.57	Leadership	.57
Evaluating	.71	Responsibility	.55	Giving and receiving feedback	.55
Information handling	.67	Presenting research	.47	Teamwork	.55
Using research methodologies	.64	Referencing	.47	Non-verbal communication	.52
Referencing	.60	Memorising and recalling	.43	Assertiveness	.51
Writing	.50	Self-assessment	.40	Fieldwork techniques	.47
Summarising	.49			Self-reflection	.44
Questioning	.49			Active learning	.42
Synthesising	.47				
Computing	.41				
Numeracy	.41				
Problem working	.41				

Nine skills did not load above 0.40 on any factor. These were a mixture of skills and attributes that were not judged to be relevant to a psychology degree perhaps stated at a very general level (e.g. literacy, creating). Nevertheless, there were some items that might be seen as conceptually related to the identified factors but which did not load highly (laboratory skills, decision making, career awareness, active listening). Only one item (referencing) loaded on more than one factor.

Three subscales were generated for further analysis. TS had 17 items ( $\alpha = .92$ ), SMS had 11 items ( $\alpha = .85$ ) and CMS had 13 items ( $\alpha = .87$ ).

### Group and skill set comparisons

Overall, the mean rating for skills was 3.54 ( $SD = .49$ ), indicating that the raters, irrespective of skill set or group, rated the skill levels between average and good.

The ratings for each skill set were normally distributed. Thinking skills were rated highest overall ( $M = 3.86$ ,  $SD = 0.54$ ), followed by self-management skills ( $M = 3.51$ ,  $SD = 0.57$ ), followed by corporate management skills ( $M = 3.26$ ,  $SD = 0.60$ ). There was a significant within subjects main effect of skill set,  $F(2, 212) = 65.90$ ,  $p < .001$ . *Post hoc* tests (Bonferroni) indicated that all these means differed significantly from one another.

There was also a significant main effect of group,  $F(3, 106) = 4.57$ ,  $p < .01$ . The groups were ranked as follows: the undergraduates rated their psychology degree highest for skills development ( $M = 3.72$ ,  $SD = 0.42$ ), followed by graduates ( $M = 3.69$ ,  $SD = 0.46$ ), academics ( $M = 3.40$ ,  $SD = 0.58$ ) and practitioners ( $M = 3.35$ ,  $SD = 0.35$ ). The biggest differences were between the student groups (undergraduate and postgraduate) and the academic/professional psychologists. *Post-hoc* tests (Tukey) showed significant differences between practitioners and both student groups ( $p < .05$ ) and a close to significant difference between academics and both student groups ( $p = .06$  and  $p = .09$ ). There were no other significant differences. The ratings for each group were normally distributed.

The more interesting pattern of results was revealed through the significant interaction between skill sets and group,  $F(6, 212) = 2.35$ ,  $p < .05$ . Table 2 shows the means for the subgroups and Figure 1 illustrates the pattern of the interaction.

Several features of the interaction should be noted. All groups rated TS highest, and the rank order identified in the main effect (TS, SMS and CMS) remained true for both student groups and for the academics. The professional psychologists rated SMS lower than CMS (not significantly, see below). Simple main effects were

**Table 2**

Mean ratings for skill sets for each of the four groups.

Rating Group	Thinking Skills (TS)	Self Management Skills (SMS)	Corporate Management Skills (CMS)	Mean Group Totals
Undergraduates (30)	3.99	3.75	3.42	3.72
Graduates (42)	4.00	3.70	3.38	3.69
Academics (20)	3.60	3.47	3.13	3.40
Practitioners (18)	3.83	3.11	3.12	3.35
Mean skill set Totals (110)	3.86	3.51	3.26	3.54

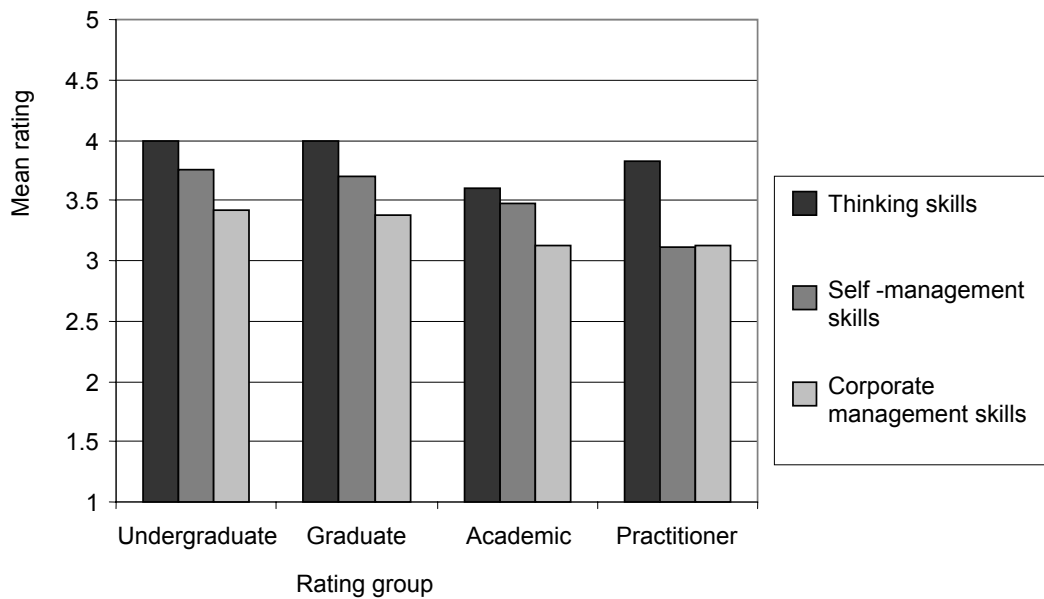
analysed for skill sets within each participant group. For undergraduates, a statistical effect of skill set was revealed ( $p < .001$ ) and pairwise comparisons showed that there were statistical differences between all sets of skills,  $TS > SMS > CMS$ . Similar analysis for postgraduates ( $p < .001$ ) showed a slightly different statistical pattern,  $TS > SMS = CMS$ . For academics, the only statistical difference was between  $TS > CMS$  ( $p < .01$ ) and for practitioners the pattern was  $TS > SMS = CMS$  ( $p < .001$ ).

Simple main effects for skill sets across groups showed that academics rated TS significantly lower than did graduates ( $p < .05$ ) and close to significance for undergraduates ( $p = .07$ ). Patterns for the other sets of

skills were different. For SMS, the practitioners rated them significantly lower than the two student groups ( $p < .001$  and  $p < .001$ ), while for CMS there were no statistically significant differences between the groups. All groups rated CMS relatively low.

**DISCUSSION**

This study invited 110 participants to evaluate how well a psychology degree promoted the development of 50 different types of skill. The skills were taken from a list considered appropriate for 'graduateness', as discussed in the Higher Education Quality Council (HEQC) Graduate Standards Programme (1997). All



**Figure 1**

Mean ratings for skill sets for each of the four groups

participants had direct experience of studying for a psychology degree. The undergraduate students were in their final year of undergraduate study and the postgraduate students were all recent graduates, graduating within the past five years. It should be remembered that all groups were rating how well the skills were developed in a psychology degree programme. In particular the students were not rating their own individual level of skills development.

With regard to the first objective of the study, the factor analysis not only imposed some empirical order on the pool of skills analysed but a recognisable conceptual structure also emerged. The skills that loaded on the factor labelled thinking skills included those that had been grouped in the HILP analysis as 'intellectual skills' and 'research skills' and in Bennett *et al.*'s (2000) framework as 'management of information' and 'management of tasks'. For psychology degrees these skills merged and cohered into a construct that we called thinking skills. The skills that were labelled as 'self-management skills', and loaded on a single factor in the current analysis, drew on both HILP's 'self-management' and 'communication' categories and were easily aligned with 'management of self' in Bennett's framework. The third factor, labelled as 'corporate management skills' was easily mapped onto 'interpersonal skills', in the HILP analysis and 'management of others' in Bennett's framework. No distinctive technical/practical factor emerged for psychology undergraduate degrees. Thus the three-factor structure simplified the data set considerably and made conceptual links with frameworks constructed in other ways. It also yielded subscales that were robust in terms of internal reliability.

The second and third purposes of the study asked what skills were rated as being most developed in psychology degrees and did views differ across groups? All groups rated the group of skills, which clustered together statistically and were labelled as TS, highest. The mean rating was 'good' (3.86 on a five point scale).

Each group identified thinking skills as most developed compared to the other types of skills – it was first in rank order for all participant groups. There was some agreement then that the core thinking skills usually associated with 'thinking like a psychologist' and included in this list – evaluating information, formulating and testing hypotheses, critical reasoning, using research methodologies – were reasonably well developed in psychology undergraduate degrees. Referring to the recent Psychology Subject Benchmarks (2002), these skills are included under subject specific skills. Perhaps not surprisingly, academics were not as enthusiastic as other groups about how well these skills were developed and rated them lower ( $M = 3.60$ ).

Views about the development of self-management skills in a psychology degree – including time management, self-discipline and self-organisation, making presentations and being self-confident – were more mixed. Overall ratings were just below average ( $M =$

3.51) and there was more divergence of opinion among the groups. The practitioners' ratings were lowest ( $M = 3.11$ ) and the biggest difference in perception emerged between the practitioners and the undergraduates ( $M = 3.75$ ). Again, referring back to Psychology Subject Benchmarks, these skills are generally identified under generic skills.

For the group of skills labelled as corporate management skills, the ratings were just below average ( $M = 3.26$ ) with very little divergence between the groups (group means ranged from 3.12 to 3.42). These are the skills that are most valued by employers – the ability to get along with colleagues, to manage people, to be adaptable to changing demands, to network, to work as a team, to give and receive feedback and so on (Harvey, Moon and Geall, 1997). With the exception of working in groups, there is very little mention of these types of skills in the psychology benchmarking document. Of course, these are the skills that are most difficult to promote in traditional academic psychology degrees without giving students either direct exposure to work related environments or very good simulations.

What then are the implications of these findings for psychology undergraduate education?

Of course, no skills were objectively assessed in this study and the inferences drawn rely on evaluations by students and others who are in close contact with students and graduates from psychology degrees. The sample is also relatively small and geographically confined. Nevertheless, there are messages for undergraduate educators.

Firstly, the three-component skills framework to emerge from this study – thinking skills, self-management skills and corporate management skills – might be used in a variety of ways. It would be useful for auditing skills development on specific degree programmes. It provides an empirically derived framework for promoting and developing skills, particularly with regard to the capacity and opportunities within a psychology degree to develop both subject specific and generic skills. In other words, the framework could be used to test more precisely the claims that psychology does have an unrivalled capacity for skills development. Lastly, it can be used as an assessment framework, both for developing objective assessment tasks and for student self-assessment.

The second feature of the study that might be useful for educators has to do with collecting viewpoints from different stakeholders. This 'alternative viewpoint' analysis can be used as the basis for communication among different stakeholders and for awareness raising. Also, attention needs to be drawn to the perceived low level of corporate management skills development reported by all stakeholders in this study. In times of competitive graduate employment, psychology graduates need to have as varied and extensive a skills kit as possible, if they are to successfully compete in the graduate job market.

In future research, the questionnaire might be useful to make comparisons between psychology students at

different stages in their undergraduate studies, or between students on a programme with a specific emphasis on work related learning, or between men and women. In addition, the instrument does provide a method for making comparisons between students who are studying different disciplines and where different skill sets might emerge. In sum, in a modest way the technique begins to ground the conceptual analysis and development of generic skills into the disciplinary practices of teachers and learners.

Finally, despite the opportunities for skills development in psychology degrees, considerable work remains to be done to raise awareness about skills, to map out an appropriate range of skills for psychology students and to optimise communication among the main players.

### REFERENCES

- Anderson, T. and Soden, R. (2001). Peer interaction and the learning of critical thinking skills. *Psychology Learning and Teaching*, 1, 37-43.
- Arnold, J., Newstead, S. E., Donaldson, M. L., Reid, F. J. M. and Dennis, I. (1987). Skill development in undergraduate psychology courses. *Bulletin of the British Psychological Society*, 40, 469-472.
- Barnett, R. (1994). *The limits of competence: knowledge, higher education and society*. Buckingham: Society for Research in to Higher Education (SRHE) / Open University Press.
- Bennett, N., Dunne, E. and Carre, C. (2000). *Skills development in higher education and employment*. Buckingham: SRHE / Open University Press.
- Colman, A. M. (1996). Teaching presentation skills to undergraduates: students' evaluations of a workshop course. *Psychology Teaching Review*, 5, 75-82.
- Dearing, R. (1997) *Higher education in the learning age*. London: Department for Education and Employment (DFEE).
- Enterprise in Higher Education. (1989). *Key features of the enterprise in higher education initiative proposals 1988-89*. London: Enterprise in Higher Education Training Department Group.
- Falchikov, N. and McLeod, L. (1996). Using psychology in the community: developing transferable skills. *Psychology Teaching Review*, 5, 63-74.
- Hayes, N. (1989). The skills acquired in psychology degrees. *The Psychologist*, 2, 238-239.
- Hayes, N. (1996). What makes a psychology graduate distinctive? *The European Psychologist*, 1, 130-134.
- Harvey, L., Moon, S. and Geall, V. (1997). *Graduates' work: organisational change and students' attributes*. Birmingham: The University of Central England, Centre for Research into Quality.
- Higher Education Quality Council (HEQC). (1997). *Graduate standards programme final report: Volume 1 The report*. London: HEQC.
- Hine, A., Gollin, S., Ozols, A., Hill, F. and Scoufis, M. (2002). Embedding information literacy in a university subject through collaborative partnerships. *Psychology Learning and Teaching*, 2, 102-107.
- McGuinness, C. (1994). Staff and student development: A mixed model. In I. Sneddon and J. Kremer (Eds.), *An enterprising curriculum: teaching innovations in higher education*. Belfast: Her Majesty's Stationery Office (HMSO), pp. 115-132.
- Quality Assurance Agency (1998). *Guidance for writing programme specifications*. London.
- Quality Assurance Agency (2002). *Psychology subject benchmark statements*. London.
- Radford, J. and Rose, D. (Eds.). (1989). *A liberal science: Psychology education, past, present and future*. Buckingham: SRHE / Open University Press.
- Reddy, P. and Hill, R. (2002). Learning outcomes and assessment strategies for a psychology sandwich placement year. *Psychology Teaching Review*, 10, 102-111.
- Wrennall, M. and Forbes, D. (2002). 'I have learned that psychology is linked to almost everything we do.' Developing and evaluating the impact of a work-based learning module in an undergraduate psychology programme. *Psychology Teaching Review*, 10, 98-101.

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## **APPENDIX**

Here is the list of words used to describe the skills and attributes in the questionnaire, drawn from the Hertfordshire Integrated Learning Project. (QAA, 1998, Appendix 5):

Active learning, active listening, adaptability, analysing, assertiveness, career awareness, computing, creating, critical reasoning, decision making, empathising, evaluating, fieldwork techniques, foreign language abilities, formulating hypotheses, giving and receiving feedback, graphical communication, information gathering, information handling, interpreting and evaluating information, laboratory skills, leadership, literacy, managing people and resources, memorising and recalling, negotiating, networking, non-verbal communication, numeracy, organising, presenting research, presenting to audiences, problem working, psychomotor co-ordination, questioning, referencing, responsibility, self-assessment, self-confidence, self-discipline, self-reflection, spatial awareness, speaking, summarising, synthesising, teamwork, testing hypotheses, time management, using research methodologies, writing.