

{Draft

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Generic competencies in the 'generalist' courses in higher education

Employment-related competency

Employment-related competencies are coming onto the higher education agenda (DEET 1992). TAFE and industry training are reforming along competency standard lines. More than 20 professions - many prepared in higher education, such as engineering and nursing - are also developing a competency-based approach to training and certification (Heywood 1992). The term 'work-related competency' is subject to debate, but is mostly defined and measured either as the capacity to perform particular work-related tasks, or as the broader attributes underlying successful work. In the professions, the National Office of Overseas Skill Recognition (NOOSR) regards competency as the combination of attributes, such as knowledge, abilities, skills and attributes, underlying specified aspects of successful professional performance (Gonczi, Hager and Oliver 1990). The emphasis on employment-related competency is part of a broader process of reform designed to make the Australian economy more internationally competitive. The objective is to establish more effective and equitable relations between education and work. Similar changes are taking place in many advanced countries. In the United States, the Department of Labour has defined five basic competencies and a three-part foundation of skills and personal qualities needed for job performance (SCANS 1992). All American schools are expected to adopt the SCANS framework, and it is recommended that employers use it in their 'human resource' programs.

Following the recommendations of the Finn Committee (1991), the Mayer Committee (1992) has formulated generic employment related competencies applicable to both schools and TAFE. The Mayer 'Key Competency Strands' cover areas such as communication, analytical skills and problem solving [see box next page]. The Mayer competencies could affect higher education in two ways: in student selection, and in the use of the generic competencies approach in relation to higher education itself.

The question of generic competencies arises in relation to all courses of study in higher education, but has a particular relevance in the generalist courses in the social sciences, arts/humanities and natural sciences, which are not specific to any profession apart from the academic profession.

There has been much discussion about the employability of generalist graduates.

This paper is about the relationship between the generalist courses and graduates' work, and the possible use of the notion of generic competencies.

Employment of generalist graduates

33.4 per cent of the 1990 graduate cohort were from the arts, humanities, social sciences, natural sciences and mathematics (not including applied sciences and technologies). Another 17.8 per cent came from the 'generalist vocational' courses in business studies (DEET 1991: 73). Generalist subjects such as maths are also foundational to many professional courses. The connection between generalist education and work is not clearcut. This

has been variously perceived as both a strength and a weakness of generalist courses. Johnes (1989: 66-67) notes that a fifth of generalist graduates 'drift into their first job or enter it by default'. The employment destinations of generalist graduates are heterogeneous, particularly those from arts/humanities/social sciences. The Graduate Careers Council says that of the 1990 first degree graduates in the Arts/Humanities/Social Sciences in full time employment in 1991, 39 per cent were in government and 45 per cent in private industry. Significant groups were clerks, welfare workers, managers/administrators, teachers, journalists, librarians, researchers, sales workers. Mathematicians and scientists concentrated more in specialisms such as research, computing and science teaching, plus smaller groups in teaching and management [see box]

Generic competencies

In strict dictionary terms, 'generic competency' means the broader class or

set within which particular competencies are grouped - a kind of super-competency containing all the specific competencies. However, in education policy 'generic competency' usually takes a more restricted meaning. The Mayer Committee understood generic competencies as attributes that are common to different areas of work, It believed these attributes can be measured in general terms - that generic competencies are transferable, and separable from both academic knowledge (which is measured by academic assessment) and specific occupational competencies (measured by occupational standards assessment). Thus it assumed problem solving in welding was essentially similar to problem solving in banking, and that the general capacity to solve problems could be specifically identified by schools.

The opposing argument is that such attributes are both knowledge-bound and context-bound. Problem solving in physics is different to problem solving in history, and both are different to problem solving in the BHP personnel department. The Mayer Competencies do not encompass the variety and depth of higher education, including postgraduate programs.

One approach is to focus on the community's expectations of graduates, so that the definition of generic competency becomes context-specific, even employer-specific. Nigel Norris defines generic competency as the broad cluster of attributes required to perform effectively at the required level, across the full range of situations (Norris 1991: 332-333).

In the literature on higher education and employment, a vast number of generic competencies have been identified. These include:

Cognitive attributes: logic, quantitative thinking, orderly thinking, generalising and synthesising abilities, verbal and written communication, reflective and critical thinking, lateral thinking, the capacity to identify underlying assumptions, curiosity, imagination.

Knowledge-centred attributes: command of/ability to access knowledge, breadth of knowledge, grasp of knowledge systems, capacity to upgrade knowledge, capacity to create new knowledge, capacity to use knowledge, capacity to conceive knowledge required, capacity to build on previous

knowledge and experience.

Work context: ability to conceive issues and problems relevant to work requirements, capacity to treat new situations as problematic and 'solve' them, quick and efficient responses, following through a project from design to execution to evaluation and review. Capacity to discuss issues in a group, capacity to respond sensitively to others, to relate with others from different backgrounds and experience, diplomacy. Entrepreneurial flair.

Some meta-attributes: independent thinking, capacity for unsupervised initiative, self-management. Creativity. Judgement. Leadership. Confidence. Working to instructions. Flexibility, adaptability. Critical thinking (Baldwin 1991: 13-14). Procedures for monitoring quality sometimes focus on such meta-attributes, but they are difficult or impossible to measure (HEC 1992).

Generic competencies are often understood differently at work, compared to higher education (Candy and Crebert 1991: 576-578), but in both spheres there are frequent references to communication skills, and flexibility. The Queensland University of Technology's 'Writing across the curriculum' project emphasises 'access to employment and subsequent opportunities for promotion within the workplace are closely linked to an individual's ability to write and communicate ... content is crucial but it changes frequently; communication skills are a constant which enable the individual to adapt to change' (Mulcahy 1992).

Likewise the September 1992 Business/Higher Education Round Table survey of the Chief Executive officers of major companies, Educating for excellence, says 'we can predict that future graduates will need to be adaptable, able to accept responsibility and authority, able to work with and under others, able to embrace change and new experiences, and be tolerant and accepting of different values (BHERT 1992: 15).

How higher education sees generic competencies

The competency movement was influential in the United States during the 1970s, and a small number of higher education institutions specifically developed competency based liberal education programs (Ewens 1979: 160-

198). There are no Australian parallels, but for many generalist academics - especially in the humanities and social sciences - the relationship between higher education and employment is an important practical issue. There is often a real ambivalence, however. Meredyth notes these courses provide 'a range of desirable vocational capabilities including data analysis, computer, archival, proof-reading and media production skills, familiarity with clear writing, close reading and explication, confidence in verbal expression and communication, problem solving and collaborative and independent working practices'. But this is undermined by disclaimers that the real goals of the humanities are different, 'fostering scholarly identity, critical inquiry and personal cultivation' (Meredyth 1991: 119). Vocational and academic attributes are often polarised. Many academics argue that the formation of personal attributes in these courses cannot be made specific to employment, or any other 'extrinsic' purpose, and to

understand the generalist disciplines in this way is to violate their nature (Hunter 1991). The opposite claim is that any and every attribute formed in higher education can be defined and measured in terms of employability.

In between, some assert that the generalist disciplines can be understood both as academic knowledge and as vocational competence - while others argue that while these disciplines form general and transferable attributes useful in the workplace, this role is 'indirect' rather than direct, and cannot be readily measured (Hunter 1991: 11-12).

Approaches to the employment-education relationship vary by discipline, and also by institution. One British study found most History academics saw little need to defend History as an area worthy of study. There was a strong belief that 'training to adjudicate between different versions of events and handling and making sense of a mass of material prepared students well for the world of work where skills training best belongs' (Boys et al 1988: 22). Some academics emphasise the role of generalist courses in training students for leadership (Woditsch 1987: 50). For example:

'When we analyse what makes a good leader, administrator, organiser, planner or problem solver we come up with a list of skills and attributes which an arts education can be very good at providing - skills such as analytical thinking, cause and effect reasoning, conceptualisation, intellectual and emotional empathy (seeing other sides to a problem), communicating ideas to others, and maturity of judgement' (Hart 1989: 64).

The tension between an emphasis on graduate flexibility and an emphasis on leadership (even while each contains the other) illustrates one of the basic issues in this debate - whether to conceive competencies in terms of the needs of employers, or in terms of maximum expectations of students. Only a small proportion of today's generalist graduates will enter senior management positions in the public service and the corporate world. The Oxbridge model of social leadership training in generalist courses continues to be influential, but many graduates do not become social leaders.

There is less discussion of generic competencies in relation to science courses. Dunn, Kennedy and Boud (1980) identified a broad range of skills produced in science, including the ability to design experimental procedures, to write reports and to retrieve information. They noted that while the skills of graduate scientists are often used outside the discipline of science, there have been few attempts to assess these skills separately from academic assessment, and called for better teaching and testing of report writing skills (Dunn et al 1980: 239, 243).

How employers see generic competencies

Major employers have developed their own systems for translating the preparation of graduates into occupationally useful attributes. For example the Commonwealth Public Service, the major single employer of graduates, has developed its own competency-based system [see box]. Westpac also uses a competency-based system for in-house training, incorporating 'attitudes, beliefs and behaviour as well as skills and knowledge'

(Matchett 1992: 22).

Apart from the famous example of liberal arts graduates at AT&T [see box]

there is some other evidence for the proposition that employers often prefer generalist graduates because they are broad and adaptable. It depends which employers' opinions are tapped, but the major company CEOs surveyed by the Business/Higher Education Round Table say that today's graduates receive 'a more balanced education' and are 'far more multi-dimensional'. More strikingly, they say that 'training specifically for a job is not seen to be the prime role of a university' (BHERT 1992: 5, 11). Workforce 2000, another survey, finds that managers are deficient in 'leadership, human relations and communication competencies', and that there was an urgent need to supply leadership skills to those whose basic training had been technical rather than generalist (BCA 1992: 27). Candy and Crebert (1991) find that employers want graduates who can acquire new skills and new knowledge, conceive problems and resolve them, and who display 'adaptability, critical and lateral thinking', attributes forming a solid base for in-house training. They note that these attributes are often latent in higher education, rather than explicit. BHP's Priestly (1992) suggests that in science more emphasis should be placed on communication skills. Weil and Emanuel (1992: 129) find that employers 'often find graduates lacking in problem-solving skills and unable to communicate accurately and effectively' and call for less emphasis on the training of research scientists, more on 'the general needs of employment and the broader development opportunities that can be offered by a scientific training'.

The intersections between education and work

In considering how to improve the relationship between higher education and work, the points of intersection between the two spheres are crucial. What is the role played by Careers and Appointments Services, and work experience? What systems do employers use in recruiting graduates and identifying their competencies? Do employers really know what graduates can do? What systems do employers use in inducting graduates and helping them make the transition to work? Do graduates build on what they already know, and can already do - or do employers (as some anecdotes suggest) tell them to forget everything they learned at university and start again?

There has been little research on these matters to date. Meredyth notes that in the private sector significant resources are often put into training graduate staff - partly to create more and different skills, partly to create company-specific attitudes and values (Meredyth 1991: 169-170). However, 'the short term lack of productivity of the new graduate during the transition of the new graduate from university to workplace is clearly regarded as a cost to be avoided' according to the Business/Higher Education Round Table survey. 'Some of our biggest employers do not employ new graduates' (BHERT 1992: 12). This is a serious problem, and one goal of policy could be to seek the minimisation of this productivity loss. Stephenson and Weil (1992) have developed the notion of capability as the bridge between what students learn and what graduates are required to do:

'Capability ... is developed as much by the way students learn as by what they learn. If students 'have experience of being responsible and accountable for their own learning, within a rigorous and interactive environment', they will develop confidence in their ability to take effective and appropriate action, to explain what they are about, to live and work effectively with other people, and to continue to learn from their own experiences' (Stephenson 1992: 2-3).

Knowledge and competency

The relationship between generalist studies and work can be strengthened without compromising either. Nevertheless, competency reform in the generalist courses is problematic, because knowledge is at the core of the generalist courses, and that knowledge is always discipline-specific. Indeed, in the humanities/social sciences, it is the very approach to knowledge that fashions graduate flexibility. As Daniel Bell said in 1968:

'When a subject is presented as received doctrine or fact, it becomes an aspect of specialisation and technique. When it is introduced with an awareness of its contingency and the conceptual frame that guides its organisation, the student can then proceed with the necessary self-consciousness that keeps his mind open to possibility and to reorientation' (quoted in Woditsch et al 1987: 50).

It is argued by the Higher Education Council that what distinguishes the graduates is 'a properly educated grasp of the nature of knowledge, its development, its limitations, its applications, its life expectancy and the hypothetical nature of much of what passes for knowledge'. The AVCC emphasises the role of universities in teaching students 'that they themselves are creators of knowledge' (HEC 1992: 10, 39 and 71).

Yet the main concept of generic competencies so far developed (the Mayer Key Strands) is knowledge-poor, because it aims for a single system of competency measurement across the disciplines. Trying to define what academic disciplines have in common has important spin-offs - it facilitates interdisciplinarity, and cross-disciplinary co-operation (BHERT 1992: 15). But the problem is that either the generic competencies will be too general - in which case they will elude measurement - or they will be too specific, eliminating the possibility of a common approach.

The separation of knowledge and competency poses another problem. In the workplace it may not matter if most of the specific knowledge is set aside - the new knowledge required of graduates may well be different. But if competency-based assessment becomes important inside higher education then there is a danger that a focus on work-related competencies may weaken the academic program, the worst fear of liberal educators. The knowledge and the intangible attributes not captured as competencies might fall off the end of an agenda dominated by competency assessment.

Conclusion

The complexity of higher education needs to be recognised. This does not mean that the generalist courses should necessarily become islands of 'non-

competency', separate from the rest of education, or that the transition from generalist courses to work should not be addressed.

What it does suggest, perhaps, is that if generic competencies such as communication skills are assessed, the assessment should be discipline-specific, rather than common across all disciplines, and separated from the normal academic program. Ideally, generic competencies should be assessed close to the real work situation, and linked to employers' recruitment and induction strategies.

Apart from competency assessment, there are other ways to make the relationship between generalist courses and employment more explicit and effective. Some issues for consideration are whether higher education should be providing more or different information for employers, whether the 'employability' implies changes to teaching and learning, and - just as important - how employers can make more effective use of the attributes already possessed by graduates when they start their first job.

Some of these issues are presently being investigated in a research project on 'Generic competencies in higher education', conducted by the University of Melbourne Centre for the Study of Higher education on behalf of DEET.

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[Box 1: Graduate employment by occupation]

WHERE THE GENERALIST GRADUATES GO

Occupations of first degree graduates

Main occupations	Humanities	Social Sciences	
(full-time work)	(%)	(%)	(%)
Computer professional	-	-	
28.6			
Welfare work	-	17.3	
-			
Actuary			
16.5			
Clerk	15.4	13.5	
4.0			
Management/Admin.	12.6	10.0	-
Teaching	8.8	10.8	
8.4			
Journalism	6.5	-	
-			
Maths/Stats	-	-	
6.2			
Sales etc.	6.2	5.9	
-			

Library work	5.4	-
-		
Business professional	5.4	-
7.5		
Research	5.0	8.4
5.9		
Public relations	5.0	-
-		
Other	29.7	34.1
22.9		
TOTAL	100	100
100		

First degree graduates in full-time employment only (in these fields of study, the largest single group of graduates, not shown here, went on to further full-time study.) The table does not cover graduates in Visual and Performing Arts, Languages, and Psychology, and includes only those occupations where more than 5 per cent of graduates are employed.
Source: Graduate Careers Council of Australia (1992).

[Box 2: The Mayer competencies]
MAYER COMMITTEE'S GENERIC COMPETENCIES

The Mayer Committee was established in October 1991 by the combined Ministers responsible for education and training in Australia, meeting as the Australian Education Council (AEC) and the Ministers of Vocational Education, Employment and Training (MOVEET). The Committee was chaired by Eric Mayer, former Chief Executive Officer of National Mutual and Chair of the Business/Higher Education Roundtable. The main outcome of the Committee's work, currently being considered nby the AEC and MOVEET, is its definition of the generic competencies developed in education as seven 'Key Competency Strands':

- * Collecting, analysing and organising ideas and information;
- * Expressing ideas and information {communication};
- * Planning and organising activities [includes self-management];
- * Working with others and in teams;
- * Using mathematical ideas and techniques;
- * Solving problems;
- * Using technology [including the capacity to do so in new situations].

The Committee defined three performance levels for each competency, thus providing 21 reporting points to measure individual achievement. It said 'the Key Competencies' are generic in that they apply to work generally rather than being specific to particular occupations or industries'. While the Strands were developed in the first instance as employment-related, the Committee saw them as having other applications as well: 'the competencies are not only essential for effective participation in work but are also essential for effective participation in other social

settings. The Key Competencies also have use and value for young people entering further vocational education and training and higher education' (Mayer 1992: 5).

[Box 3: Competencies in the CPS]
COMPETENCIES INSIDE THE PUBLIC SERVICE

Core competencies for Senior Commonwealth Public Service Officers

- * Understand and deal with context;
- * Achieve results;
- * Lead and manage people;
- * Manage change;
- * Demonstrate personal effectiveness.

Each of these core competencies is defined in more detail. For example 'Achieve results' reads as follows:

Results refer to the achievement, within defined resources, of APS, organisational, program and project goals/objectives.

2.1 Use knowledge of the context to identify risks, opportunities and strategic results for the future.

2.2 Use strategic and operational planning processes to set goals and strategies.

2.3 Develop plans with specific objectives which are measurable, achievable, relevant and timely.

2.4 Plan and negotiate resource requirements.

2.5 Ensure strategies are responsive to client needs and meet accountability requirements.

2.6 Gain relevant acceptance and support for objectives and strategies.

2.7 Manage financial and physical resources effectively to implement strategies.

2.8 Use management information systems to monitor performance and results against objectives, review risks and adjust plans and/or strategies as necessary.

Source: Commonwealth Public Service Commission, drafted August 1991

[Box 4: Liberal arts graduates at AT&T]
LIBERAL ARTS GRADUATES BEST FOR AT & T

'Robert E. Beck's 1981 study 'Career patterns; the liberal arts in Bell system management' summarises findings based on longitudinal studies of the Basic Human Resources Research Group at AT & T.

'These show that, at the beginning of their careers with AT & T, humanities and social science majors were superior in administrative skills (including organising, planning, decision making and creativity) to majors in business and engineering. On all three dimensions of leadership skills - leadership skills, oral communication skills, and forcefulness of personal impact -

the humanities and social science majors were again clearly ahead. 'Even after twenty years the humanities and social science majors continued to demonstrate the best overall performance in administrative skills, interpersonal skills, verbal ability, and advancement motivation. They were also seen as having greater middle-management potential than either business or engineering majors. In fact, 46 per cent of humanities and social science majors were seen as having that potential, compared with 31 per cent of business majors and 26 per cent of engineering majors' (Woditsch et al 1987: 50).

References

- Anderson, D. et al (1992), Higher education and the competency movement: implications for tertiary education and the professions, proceedings of a conference on 3 June 1992, ANU Centre for Continuing Education.
- Baldwin, The Hon. P., Minister for Higher Education and Employment Services (1991), Higher education: quality and diversity in the 1990s, Australian Government Publishing Service (AGPS), Canberra.
- Boys, C.J., Brennan, J., Henkel, M., Kirkland, J., Kogan, M., and Youll, P.J. (1988), Higher education and the preparation for work, Higher Education Policy Series 4, Jessica Kingsley Publishers, London.
- Business Council of Australia, with Towers Perrin and Cresap Australia Pty. Ltd. (BCA 1992), Workforce 2000.
- Business/Higher Education Round Table (BHERT 1992), Educating for excellence, Commissioned Report No. 2, September, BHERT, Melbourne.
- Candy, P. and Crebert, R. (1991), 'Ivory tower to concrete jungle', Journal of Higher Education, Vol. 62, No. 5, pp. 570-592.
- Carmichael, L., Chair of Council (1992), The Australian vocational certificate training system, Report of the Employment and Skills Formation Council, National Board of Employment, Education and Training, Canberra.
- Department of Employment, Education and Training, DEET (1991), Selected higher education statistics 1991, AGPS, Canberra.
- Department of Employment, Education and Training, Higher Education Division (DEET 1992), 'Competency Standards', Higher Education Series, Information Paper Number 1, August.
- Dunn, J., Kennedy T. and Boud, D. (1980), 'What skills do science graduates need?', Search Vol. 11, Nos. 7-8, pp. 239-242.
- Ewens, T. (1979), 'Analysing the impact of competency based approaches on liberal education', in G. Grant and Associates, On competence, Jossey-Bass Publishers, San Francisco, pp. 160-198.
- Finn, B., Chair of Committee (1991), Young people's participation in post compulsory education and training, Report of the Australian Education Council Review Committee, AGPS, Canberra.
- Gonczi, A., Hager, P. and Oliver, L. (1990), Establishing competency-based standards in the professions, NOOSR Research paper No. 1, AGPS, Canberra.
- Graduate Careers Council of Australia, GCCA (1992), Graduate destination survey 1991, GCCA, Melbourne.

Hart, D., 'The importance of the liberal arts to education: an historian's perspective', in A.M. Gibbs (ed.), *The relevance of the humanities*, Occasional Paper No. 8, pp. 61-81, Australian Academy of the Humanities, Canberra.

Heywood, L., with Gonczi, A. and Hager, P. (1992), *A guide to the development of competency standards for professions*, N00SR Research Paper No. 7, AGPS, Canberra.

Higher Education Council of the National Board of Employment, Education and Training, HEC (1992), *The quality of higher education: discussion papers*, AGPS, Canberra.

Hunter, I. (1991), 'Personality as a vocation: the political rationality of the humanities', in I. Hunter, D. Meredyth, B. Smith and G. Stokes, *Accounting for the humanities*, Griffith University, pp. 7-66.

Johnes, G. (1989), 'Graduate employment: some new evidence', *Higher Education Review*, Vol. 21, No. 2, pp. 63-71.

Matchett, S. (1992), 'Quietly banking on competency', *Australian Higher Education Supplement*, 12 August, p. 22.

Mayer, E., Chair of Committee (1992), *Employment related key competencies: a proposal for consultation*, Mayer Committee, Melbourne.

Meredyth, D. (1991), 'Personality and personnel: rationales for the humanities', in Hunter et al, *op cit*, pp. 117-189.

Mulcahy, M. A. (1992), 'Reviving the lost art of communication', *Australian Campus Weekly*, 8 October, p. 11.

Norris, N. (1991), 'The trouble with competence', *Cambridge Journal of Education*, Vol. 21, No. 3, pp. 331-341.

Priestly, A., Manager BHP Education, Training and Personnel Services (1992), *An integrated approach to education and training*, speech delivered

in Melbourne, 9 September.

Secretary's Commission on Achieving Necessary Skills, U. S. Department of Labour (SCANS 1992), *Learning a living: a blueprint for high performance*, Washington.

Stephenson, J. and Weil, S. (1992), *Quality in learning: a capability approach to higher education*, Kogan Page, London.

Weil, S. and Melling, D. (1992), 'Capability through humanities and social sciences', in J. Stephenson and S. Weil, *op cit*, pp. 104-126.

Woditsch, G., Schlesinger, M. and Giardina, R. (1987), 'The skilful Baccalaureate: doing what liberal education does best', *Change*, November/December, pp. 48-57.

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