

# GENERIC SKILLS: EVALUATING THE LEVEL OF GENERIC SKILLS DEVELOPMENT IN THE CURTIN UNDERGRADUATE CURRICULUM

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## ABSTRACT

This paper describes an evaluation of the level of generic skills development in the Curtin University of Technology/undergraduate curriculum undertaken by the author in 1998-99. The paper discusses some of the issues surrounding the development of generic skills or attributes in tertiary education, as well as methodological considerations faced in implementing this study.

## INTRODUCTION

What is the purpose of university undergraduate education as we begin the twenty-first century? Should we be preparing students for the world of work or should we be equipping them with a sound academic grounding in a particular discipline? Should we be teaching them a range of generic, transferable skills or attributes which will better prepare them for the unknown future which they face? Or should we, indeed, be attempting to do all of these things simultaneously?

Curtin has committed itself to the development of "graduates who embody the University's values and are equipped for careers in their chosen fields" (Curtin University of Technology, 1997, p 3; and Curtin University of Technology 1998, p 7).

There is now ample evidence that employer organisations and other stakeholders require universities to provide students with a broad education which equips them with valued generic skills or attributes. A need was perceived, therefore, to ascertain to what extent such skills were being developed in Curtin University graduates. As a result, the Curriculum Enhancement Project was established in order to provide the information required to facilitate the process of curriculum improvement in regard to student acquisition of valued generic attributes. The project was concerned with more than 'generic skills', since it addressed values and attitudes, as well as skills. For this reason, the term 'generic attributes', which is considered a broader term, was used for this study.

### Objectives of the study

The project had the following objectives:

- to examine the extent to which breadth of education is included in relevant Curtin curriculum policies and documents;

- to assess the extent of systematic coverage of generic skills or attributes across the Curtin curriculum;
- to suggest ways of improving the development of generic attributes in Curtin graduates.

## ISSUES SURROUNDING GENERIC SKILLS OR ATTRIBUTES

### Generic skills or attributes and the role of the university

The issue of generic attributes in undergraduate education is inextricably bound up with issues surrounding the role of the university, as we know it, and particularly its future role as we move into the twenty-first century. The debate seems to move between two major orientations: an instrumental and economic one, which argues that university education should prepare graduates for the workforce; and a more liberal one, which posits that undergraduates need to be prepared to contribute more broadly to cultural and social development, including their own personal development. Candy, et al (1994), in their study of lifelong learning, take the view that not only are these orientations not mutually exclusive but, indeed, both are necessary for continuing learning throughout life. Reid (1996) also supports Candy's view, arguing that while we cannot ignore the economic rationalist agenda altogether, we cannot let it alone shape the content and thrust of university courses; the duty of universities is "to be responsive, but not subordinate, to current socio-economic needs" (p 142).

Barnett (1997) argues that the issue has arisen because of larger social, economic and cognitive changes that have occurred, particularly in the second half of this century. Competence, for example, argues Barnett, is not a new concept for universities; it is just that in the past it has tended to

mean engagement in a particular kind of cognitive or academic tradition. Now the meaning has changed, and competence is oriented towards the world of work. Barnett warns us, however, that "a danger with the current lurch in the direction of operational competence is that our conception of higher education will be narrowed, with students just being expected to take on the capacities for immediate responsiveness" (p 37). Neither approach is appropriate, he maintains, for the unknowable future which students face. In an age of radical change and uncertainty, what students require are cognitive, personal, and interpersonal capacities ('meta-abilities') that will enable them to handle such change.

Massification of tertiary education has also brought with it concerns about maintaining standards and quality, with institutions being held to account for 'student outcomes'. The policy dilemma is that we want more and more diverse people to have access, while at the same time maintaining the quality of what is provided with shrinking public funds (McNair, 1997; Clanchy & Ballard, 1995). One way of doing this (in the UK), suggests McNair (1997), is to re-shape undergraduate degrees to largely address generic or common core skills within a set discipline – with a first degree being perhaps shorter in length than currently – and a second and more specialised qualification which could be taken 'end-on' or pursued later in life. While this idea may sound radical, the fact is that many graduates do not gain employment directly related to their first degree discipline and that, in any case, much of the knowledge gained in first degrees quickly becomes obsolete.

In Australia, the move from elite to mass education is considered to have occurred largely in the decade from 1987 to 1996, a time during which, Rosenman (1996) argues, Australian higher education was 'coaxed' into meeting vocational aims or largely preparing young people for the world of work. One result of this is that universities continue to be assessed according to the employment rates of their graduates. This has in turn led to a focus on the core skills or competencies regarded as necessary by employer and professional organisations, at the expense, some would say, of more intellectual and less instrumentally specific education (Rosenman, 1996).

An interpretation that is now emerging, according to Rosenman (1996), is one which attempts to reconcile the two opposing views of the purposes of tertiary education: that is, the development of the 'educated' person versus the 'highly employable' graduate. This interpretation "takes an integrated approach to the purpose of an undergraduate education, one which seeks the production of

citizens who are both educated and employable and can be characterised as lifelong learners in both their personal and work lives" (Rosenman, 1996, p 27).

### **Which generic attributes can a university teach?**

Clanchy and Ballard (1995) argue that the university is not able to teach 'universal generic' attributes, in that attributes are not context-free; indeed, attributes can only be developed within the acquisition of a body of knowledge. Secondly, say the authors, although certain personal attributes such as 'tolerance' and 'integrity' may be highly desirable, it is doubtful if the modern Western university is set up to teach them. What the modern university can do, they argue, is to teach certain generic intellectual skills and attitudes (such things as a critical approach to knowledge and respect for the ownership of knowledge), and satisfy standards of entry to the professions.

According to Clanchy and Ballard (1995) the generic skills and attitudes that characterise a university education are, thinking (and reasoning) research (including methods of enquiry and management of information) and oral and written communication. These need to be developed within what they call the different 'sub-cultures' of disciplines. They conclude by emphasising the fact that generic skills are more easily developed in small group interaction rather than in lecture-style settings and that, therefore, a serious attempt at developing such attributes must be accompanied by appropriate resource allocation.

### **How can generic attributes be taught and assessed?**

There seems to be general agreement that generic attributes or skills need to be incorporated into courses, or else, among other things, students will not take them seriously (Candy, 1997; Hodgkinson, 1998; Clanchy & Ballard, 1995; Rosenman, 1996). One interesting development from the USA is the incorporation of generic attributes into 'service learning'. Service learning, as developed at the University of Pennsylvania (Harkavy, 1992; Sommerfeld, 1996) is built on the idea of developing the skills in units related to one's undergraduate course while contributing a 'service' to society. Service learning includes direct traditional service (such as volunteer activities) and academically-based public service (where real community problems are researched and solutions sought). For example, students studying for a teaching degree might do some volunteer teaching in the community or students studying environmental science might work on a community

project. The programs in service learning developed at the University of Pennsylvania are carefully designed and assessed.

Different approaches have been tried for the assessment of generic attributes. Clanchy & Ballard (1995) allude to the danger of a 'checklist' approach to generic attributes, warning that a checklist may have a place in a service station, but not in a university. Examples of assessment include allocation of specific marks to them in unit assignments and other tasks (rather than examinations), and the development of student portfolios or 'profiles' (Jenkins, et al 1994), although the latter development is in the embryonic stage. In some areas, performance assessment has worked well (Malimane, 1999). And there seems to be no easy answer to the issue of how to assess and balance generic attributes or skills achievement against academic achievement (Chance, 1994). Other issues relating to assessment and reporting of generic attributes are examined in some detail by Cummings (1998).

The words of Pope (1994) may be useful in that they sum up some important conditions for the effective development of generic attributes in students:

"To be successful, effective and genuinely empowering [in developing generic attributes] course design:

- must fully integrate the definition, development and assessment of skills into subject-specific practice;
- must not have generic skills tacked on as a parallel or additional system;
- must be flexible enough to encourage genuine variety and plurality of student- and subject-centred skills and knowledges;
- must not attempt to impose a standardised – and still less uniform- list of requisite skills and knowledges for all students, regardless of their individual needs and interests and the distinctive natures of their subjects;
- must encourage critical, reflexive and transformative education – as opposed to blandly 'transferable skills', and blindly instrumental knowledges; and
- must not, therefore, let the 'training' tail wag the 'educational' dog" (p 75).

### **SOME METHODOLOGICAL CONSIDERATIONS OF THE CURTIN PROJECT**

The above issues, as well as Curtin internal issues, were kept in mind when this project was undertaken.

The large scope of the Curtin project posed some methodological problems. The 'Curtin curriculum' is vast, covering well over 5,000 units (a large proportion of which are for undergraduate courses) within five Divisions (Business, Engineering & Science, Health Sciences, Humanities, and Muresk Institute of Agriculture). These units are taught by some 40 Schools and Departments, offering a very large number of undergraduate courses. Then, of course, even if all courses could be examined in some depth, there are sometimes differences between what is stated or overt curriculum, and the reality of the classroom and lecture theatre. Furthermore, courses can be attempting to impart certain generic attributes but may not measure (or have ways of measuring) whether such attributes have indeed been developed by students. Thus the project could have operated at various levels of depth – each with different time, effort, and resource implications. These different 'levels' could be described as follows:

- Level 1: a 'scoping study' of what is available in Curtin literature and documentation, including central, Division, School, and Department documents and course outlines,
- Level 2: an in-depth examination of course materials and unit outlines,
- Level 3: interviews with staff and students and observation at lectures and tutorials,
- Level 4: assessment of students' generic skills or attributes development.

As a first step, a reference group with wide representation from across the university was established. Among other things, the reference group ensured that the project was both manageable and feasible. Since the project aimed to encompass *all* university undergraduate courses, it was obvious that only some of the above could be done within the given time frame and with only one part-time researcher. The committee initially advised the researcher to operate mainly at Level 1. However, it was soon evident that this would be insufficient to give even a superficial picture of the situation within the university and the researcher was given permission to interview Heads of School and other relevant staff. The interviews provided a more complete picture of the situation in regard to generic attributes than was possible by simply examining relevant documentation. As well, some unit outlines and courses were examined in some depth, so that some work was carried out at Levels 2 and 3 as well as Level 1.

### **The project attribute areas**

While employers, governments and tertiary institutions agree that undergraduate education, as

well as conveying a body of knowledge, should develop generic skills or attributes, it is not always easy for all concerned to agree upon which core attributes should be developed. Moreover, not only is there much confusion about terms used in the debate, but people's understanding of the same terms can be quite different (Guthrie, 1993). And although such differences might not be marked they do, nevertheless, cause some confusion in discussion about generic skills or attributes (see, for example Clanchy & Ballard, 1995; Cummings, 1998; Sinclair, 1997).

Deciding which attributes to examine could have been very time consuming. However, the parameters for this aspect of the study had already been established; the project brief limited the study to the particular skills and attribute *areas* outlined in the Curtin Teaching and Learning Plan (1997-2000), namely:

- history/ philosophy of science/ technology,
- communication skills,
- use of technology, including information literacy,
- critical thinking,
- work-related skills,
- ethics (and sense of service and social justice),
- sensitivity to Aboriginal and Torres Strait Islander issues and perspectives,
- sensitivity to cross-cultural and international perspectives.

For the purposes of this study, an oral definition of the above attributes was provided to interviewees during oral interviews.

### Data gathering

The project began in March 1998 and was completed in early 1999. Data for the study were gathered in a variety of ways, including the following:

- a literature review was undertaken in the area of generic skills or attributes,
- a selection of unit outlines (from a 'typical' undergraduate degree in each Division) and other course materials were examined,
- a 'scoping study' (or review) was undertaken to examine the extent of inclusion of generic attributes in existing Curtin policies and documents, including the 1998-99 Curtin University Handbooks, project reports, Curtin policies and procedures, course publicity materials and the 1997-98 Curtin Annual Reports,

- interviews were held with almost all Heads of School or their nominee. The interviews were semi-structured and lasted for between 30 and 60 minutes,
- information from an ethics teaching survey undertaken in 1998 by the University Ethics Committee was analysed and incorporated into the report,
- other relevant information was also obtained from the University Quality Office evaluation of responses by Curtin students to the Course Experience Questionnaire (CEQ) administered by the Graduate Careers Council of Australia.

Information from the above sources was collated and analysed, and a draft report was written and submitted to the reference group for their consideration in March 1999. All those who had been interviewed were also invited to provide comments on the draft report before final editing.

## FINDINGS OF THE CURTIN PROJECT

### Presenting the findings

A vast amount of data was gathered during the course of this project. One of the major considerations was how to present the findings in a way which would make the report accessible and useful. Various possibilities were considered, including

- presenting a university-wide picture by attribute area,
- presenting a Divisional picture by attribute area,
- presenting a School picture by attribute area,
- presenting course case studies with any of the above.

After some consideration, it was decided to present the bulk of the findings by attribute area within each Division and to draw some university-wide conclusions at the end. Although case studies for some courses might have been desirable, this would have meant going to a deeper level than was possible within the time frame and available resources. Instead, it was decided to include, throughout the report, examples of good practice which the researcher discovered in the course of the study.

### The situation at Curtin

The results of this study indicate that the project attribute areas are addressed to varying degrees

across the university and that, indeed, significant developments have been made in some areas. However, development is not even across the university and some attributes require much greater attention.

Some concern was expressed by some respondents about first-year courses with large numbers of units and half units crammed with content, where it is difficult to see how generic attributes could be developed. Although there did not seem to be large-scale support for a common first year in each Division (with the exception of Curtin Business School), there does seem to be some support, and a clear case for, at least some common first year units.

There also appears to be a need to allow more flexibility than is currently available within certain courses (particularly in the Sciences, Engineering and some of the Health Sciences courses) in order to allow for more breadth. Several respondents indicated that the demands of professional bodies for certain content to be included militated against this. However, professional bodies and employer groups have expressed quite clearly that they require the development of generic attributes, and some have suggested changes to several Curtin Schools which allow for electives (e.g. School of Electrical Engineering) and for the inclusion of broader aspects (e.g. knowledge of Aboriginal issues for WA School of Mines).

Finally, with the applied nature of many Curtin courses, there is plenty of scope for development in the area of 'service learning'. This would accord very well with Curtin's mission to develop "responsive and responsible links with the wider community, emphasising service, practical relevance, social justice and ethical behaviour" (Curtin University of Technology, 1998).

## Recommendations

The report makes six recommendations to address the above issues. Recommendations refer to

- the development of a policy regarding the inclusion, teaching, assessment and other issues relevant to graduate attributes at Curtin,
- a review of existing curriculum by Divisions with a view to introducing greater breadth and flexibility; establishing at least some common first year units; and enhancing efficiency and effectiveness in teaching and learning,

- a review of processes and pro-formas for the approval of new and existing units or courses to indicate how generic attributes are addressed,
- the development and implementation of relevant professional development activities for staff,
- the development of specific measures to address the communication skills of all students,
- the establishment of pilot projects to trial 'service learning' strategies.

## CONCLUSION

There is some indication that graduate attributes will increasingly be seen and be used as a measure of success in undergraduate education by government and other funding bodies, by employers, and by students themselves. Generic attributes should not be regarded as something new or extra. They have always been taught, perhaps under the guise of 'academic study skills' when classes were smaller, and where smaller groups also meant tutorials could be used more easily to develop critical thinking and communication skills, for example. While massification of education and economic concerns continue to put pressure on universities to opt for easy solutions (such as mass lectures), indications are that this will not produce quality nor the development of generic attributes. On the other hand, mass lectures *in conjunction with* small tutorials (20 students or less) – where students have the opportunity for individual attention – might work well in areas where large numbers of students undertake common units.

It is hoped that this study has served to shed some light on the status quo in regard to the development of generic attributes in the Curtin curriculum and will continue to raise discussion around issues inherent in the teaching, development and assessment of generic attributes.

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