Developing Generic Attributes in a Pre-service Primary Teacher Education Course

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Abstract

This paper discusses the initial stages of a learning and development project at Queensland University of Technology (QUT), Brisbane, Australia. The Faculty of Education's Teacher Practitioner Attributes (TPA) research team are investigating the embedding of generic attributes within Bachelor of Education degrees.

Generic Attributes

Changing life and work environments have led to a decline in permanency of employment within industrialised societies. The new millennium calls for portfolio workers with transportable skills. Skills and work practices heavily bound to one context are no longer considered as currency; employers are calling for generic attributes to be identified. Within education there has been debate as to whether 'generic attributes,' 'competencies' or 'standards' need to be identified.

The paper will focus on how technological literacy was embedded in the Bachelor of Education course and formed one focus of the TPA project. It examines initial findings from the project, contrasting data from graduating elementary pre-service teachers with that of a key academic working in the technological literacy area.

Background Information

The first stage of the project was to establish what 'generic attributes' were to be targeted. QUT (2000) had identified a set of generic attributes for all of its graduates, regardless of discipline. These 21 attributes were listed under three headings: Knowledge/problem-solving (9 attributes), Ethical/attitudinal (6) and Social/relational (6). The Faculty of Education, QUT (2000a) had identified an additional set of 20 attributes under the same headings. The largest employer of Queensland teachers, Education Queensland (1999) had a draft set of twelve professional standards for its teachers. On a national level, the Federal Government (National Project on the Quality of Teaching and Learning 1996) had issued a set of generic capabilities for beginning teachers.

After cross matching of these 'attributes,' 'capabilities,' and 'standards' (Greishaber, Healy, Hoepper, Irving, Stokes and Hobart 2000) the decision was made that the number of attributes nominated in any of these lists was too large to be effectively tracked. Six major attributes were isolated as being important for developing in the education course—discipline knowledge, ethics and responsibility, communication, designing and problem-solving, literacies, and interpersonal skills.

The projects debates were informed by a key research document, *Generic capabilities of Australian Technology Network university graduates* (Bowden, Hart, Kelly, Trigwell and Watts 1999), QUT being one of the five universities involved in the research. In the report the Teaching and Learning Committee of the Australian Technology Network identified three reasons for the inclusion of generic attributes into higher education courses:

- the historic role of universities to produce leaders of society who have a greater role in their community than mere discipline expertise;
- the production of life-long learners with capabilities to face an unknown future; and
- employer expectations of a larger set of capabilities than discipline knowledge.

The report noted that an essential part of this was the need for tertiary students to be metacognitive in their approach to learning, aware of their strengths and areas that needed developing, and in determining how each aspect of course delivery contributed to their skill-set.

Initial Data Collection

To establish benchmark data a survey of graduating pre-service teachers was administered to a randomly selected group of 22 students (approximately 10% of the cohort). The pre-service teachers were asked to rate their preparation on the six teacher practitioner attributes using a four-point scale. This preparation was on two dimensions—their confidence level, and how their studies had contributed to this confidence. Qualitative data was also collected where the pre-service teachers were asked to identify which units of study had aided their development in the attributes. They were also encouraged to write comments to elaborate. (The list of questions and rating scale is embedded in Table 1.)

Figure 1: Pre-service Teacher Rating of Confidence in Using the TPAs when Beginning Teaching
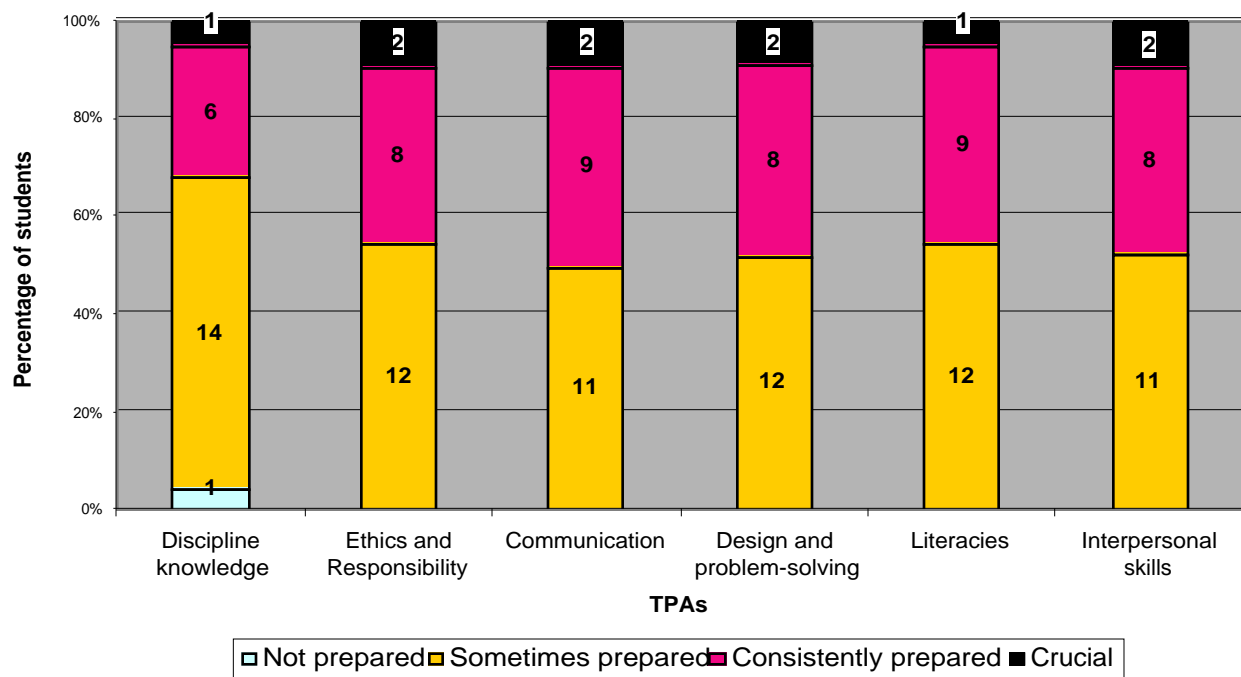

Figure 2: Pre-service Teachers' Perception of How Their Sudies Had Contributed to Their Acquisition of the TPAs

Figure 1 displays that this group of pre-service teachers felt confident in their ability to use the six attributes when they began teaching. The pre-service teachers felt most confident of their interpersonal skills, although some commented that communication with parents and students had not been developed in their studies. The pre-service teachers felt least confident in their discipline knowledge, perhaps indicating the complexity of a primary teacher's role of teaching eight subject areas. The course structure necessarily covered all eight areas, with the pre-service teachers undertaking five additional units in a chosen discipline major.

Figure 2 shows pre-service teacher perception of how well their course had contributed to the acquisition of these attributes. The qualitative comments, some of which are highlighted in Table 1, elaborate where the pre-service teachers perceived their attribute acquisition had been developed, often citing part-time work or general life experiences as being as important as course study.

Figures 1 and 2 indicate that the pre-service teachers were aware that their studies had only partially contributed to the development of these attributes. Interestingly, many pre-service teachers separated their

practica experiences from their university studies, although the practica were arranged by QUT and part of the study program.

> *Courses at uni have covered all areas of the teaching curriculum yet it is mainly in the practical setting that most of the real contextual learning takes place. Uni hasn't really taught me how to teach but taught me the skills that form part of being an effective teacher. How to actually teach, be part of a classroom and conversing effectively with parents and other teachers was learnt and refined during practice teaching experiences.* (Student 21)

The comments from this pre-service teacher uphold the claims put forward by the Australian Technology Network (ATN) (Bowden *et al.* 1999). They contended that there were four qualitatively different levels of generic attribute attainment:

Scoping: identifying purpose and need for attribute;
Enabling: acquisition of skill level to meet need;
Training: professional focus;
Relating: ability to understand and act appropriately in a variety of contexts.

In this schema they identified that the attributes needed to be exercised within a variety of professional contexts. Student 21 has noted that it was whilst on practicum experience the three other levels of attribute development enabled the relating level to occur.

Differing Perceptions

The elaborations on the surveys indicated that the pre-service teachers felt that in some cases their preparation had not developed some key skills. Interviews with academic staff brought different perceptions of this. Table 1 compares the perception of one academic with a collation of elaborations from the pre-service teacher data.

The comments in Table 1 highlight a disparity between the perceptions of the academic and those of the graduating students as to how their study had contributed to the development of the attributes. This may be a transfer issue, an interpretation of the attribute, or merely poor recall.

Tracking the Development of Technological Literacy

Within QUT the Faculty of Law has already begun a process of embedding generic attributes within their units. In the outline of selected units the generic attributes targeted are identified. In 2001 22 units in the Bachelor of Education will identify where the teacher practitioner attributes are addressed within the units (Faculty of Education 2000b).

Example from the Bachelor of Education (Primary)

The academic quoted in this paper joined the research team for a number of reasons. Firstly, she taught in the core unit responsible for contributing to the development of technological literacies in Semester 1 of the course. She also taught in a final semester elective unit that extended technological literacy for graduating pre-service teachers. Secondly, as a primary teacher not long out of the classroom she already identified during interaction with pre-service teachers where teacher practitioner attributes would contribute to their professional lives. Thus she claimed that the TPAs were already being identified as they were developed within the program. However, as Table 1 showed, the research data indicate that this was not apparent to the pre-service teachers.

The following description tracks part of the technological literacy embedded into the discipline technology unit of the Bachelor of Education (Primary) course (Semester 1) and a curriculum elective (Semester 8).

Technological and Information Literacy to Meet Information and Communication Needs

- Within the foundation technology unit of the Bachelor of Education unit pre-service teachers presented an individual oral aided by a word-processed Over Head Transparency. This 3 minute oral was assessed on 6 criteria—publication, referencing, presentation skills, time management and content of oral as measured by the SOLO Taxonomy (Biggs 1996). This assessment was formative and did not contribute to final assessment grades. (*Enabling*)
- Within the technology curriculum elective groups pre-service teachers used *PowerPoint* to construct a 5 minute seminar presentation designed for a parent audience. (*Training*)

Teacher Practitioner Attribute	Academic Response	Graduate Response
I know enough in my chosen discipline areas to teach specific knowledge and skills to my students:	The pre-service teaches undertake a major (5 units) in a Key Learning Area of their choice, as well as a foundations and curriculum unit in each KLA, within English and Mathematics. In my discipline area (ICT) the major gives them more PD than practising teachers have ever had!!	• I feel that uni has given me the basis but it is only when doing prac that I realise that I know enough. (S11) • I feel this skill will mainly develop as I plan teacher and learning experiences for the classroom. (S13)
I will be able to work ethically and responsibly within education industries:	In the foundations ICT unit ethics is one of the five main themes. ICT use in schools is the place to start establishing ethical habits and understandings and email use and Internet access at university require that pre-service teachers know how to behave ethically on-line. Throughout their course copyright issues play a large part of their study.	• A good base foundation of ethics was developed through discussions in prac tutorials. (S4) • This was dealt with at prac but there were not specific subjects that dealt with this area. (S12) • I think you develop work ethics and responsibility by having a demanding, consistent workload which requires organisation and time management. (S19)
I will be able to communicate effectively with my students, other teachers and parents in oral, written and electronic forms:	In Semester 1 pre-service teachers are required to present a 3 minute oral to their tutorial group, aided by a technologically produced OHT. The tutors model an oral and the tutorial group discuss presentation and publication skills. These skills are developed in other units with varying requirements - use of Powerpoint, group seminars *etc.*	• Oral presentations helped tremendously with confidence. (S3) • Various part-time jobs have helped me develop my self-confidence and communication skills. (S17) • I think our oral literacy skills need developing more. We have never been taught the skills of good oral speaking. (S19)
I will be able to solve teaching problems and make effective plans:	In the technology curriculum unit pre-service teachers are introduced to a number of problem-solving schema which they apply to learning tasks. I am not sure how well these can be applied to teaching problems, though. Sound in theory but difficult in practice I suspect.	• Actually being faced with real problems on prac was the best and most relevant experience. These situations helped me make effective plans. (S7) • As a mature aged student life experience has enhanced these skills. (18)
I will be able to find, evaluate and use information and resources both creatively and skilfully as an effective teacher:	One of the main aims of the discipline technology unit is to skill pre-service teachers entering university to find resources. Their second assessment item requires them to find different types of resources (print and electronic) and develop an understanding of databases and search engines. They also learn how to evaluate websites and educational multimedia software.	• Ideas more from other student teachers than uni subjects. (S15) • Are we taught how to find good resources? More often it is having to hunt them down in the library. I have become an expert at using catalogues, searching ERIC, Internet *etc.* for my own purposes. (S19)
I will be able to work both independently and as a productive member of a teaching team, including parents and community members:	In their first long prac in 3rd year the pre-service teachers work in pairs. This is a really good introduction to team work. Whilst on prac some pre-service teachers do interact in various ways with parents I don't think that it is a course requirement. Certainly before going on prac pre-service teachers are encouraged to conduct a situational analysis that includes school documents and artefacts that alert students to school culture and community members.	• Re: parents and community members, my life skills will serve me here as I feel QUT studies have neglected this area (S1) • The team teaching experience was an excellent idea and should continue (S3)

Table 1: Different Perspectives on How the Course Addresses Aspects of the TPAs

Introduction of a Portfolio

The Australian Technology Network report (Bowden *et al.* 1999) identified five key elements of assessment to promote successful implementation of embedding generic attributes into courses. These included both implicit and explicit assessment procedures:

- implicit assessment within subjects through performance of content-related assessment tasks;

- explicit assessment within subjects through performance of content-related assessment tasks;

- implicit assessment across subjects through joint planning with staff and other students of future learning activities;

- explicit assessment across subjects through some assessment task in which the student reveals understanding of the relation between process and context in the practice of generic capabilities;

- explicit assessment of the graduating student's capacity to communicate the progress they have made in developing to the relational level of the required generic capabilities.

Assessment issues are becoming increasingly complex at tertiary level. Funding cutbacks have led to an increased workload for academic staff and an increase in the employment of part-time academic staff. How the attainment of the TPAs is to be monitored and accredited is still to be decided.

QUT is currently investigating the establishing of electronic portfolios where all QUT students display their level of attainment to prospective employers (Heron 2000). This process would replace the disparate portfolios currently being developed in several curriculum areas within the Bachelor of Education (Primary) course. It may well be that the TPAs form the basis of the portfolio for these pre-service teachers. The 2001 study of 22 students within the Bachelor of Education course will develop a greater understanding of the issues involved in monitoring the development and assessing the attainment of teacher practitioner attributes within the course.

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