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The enhancement of generic attributes through assessment tasks and reflective learning

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Generic graduate attributes have been recognised as targeted outcomes of degree courses in Australian Universities. A common challenge is how to address these in explicit ways that are relevant to both students and their field of study. Another challenge is that unless students are encouraged to become aware of the kinds of generic attributes they have acquired and their level of development of these, they will focus on the performance of a particular task and corresponding marks or grades, rather than skills that they acquired that can be applied to other situations. This paper shows how, in a first semester unit of the Bachelor of Teaching course, these challenges were addressed. The unit incorporated an innovative assessment task that was constructively aligned with reflective learning activities to promote meta-cognitive awareness of how specific graduate attributes were attained. The assessment task was used to obtain data to analyse students' development of the generic attributes of *communication skills*, *problem-solving skills*, and *social responsibility*. Outcomes of this analysis will be reported along with students' examples of these generic attributes. A model and rationale for unit design that effectively embeds generic attributes into assessment tasks will also be presented.

Introduction

This paper reports on the outcomes of a research project that was supported by a University of Tasmania (UTAS) Teaching Development Grant for 2007. The purpose of this study was to investigate the incorporation of generic attributes into reflective assessment tasks, in an attempt to heighten students' awareness of these in their development as reflective practitioners. A further aim was to ascertain the meaning students gave to the particular attributes of *communication skills*, *problem-solving skills*, and *social responsibility*, at this early stage of the Bachelor of Teaching (BTeach) degree. This will be reported in a subsequent paper. A model of unit design is presented, which incorporates assessment tasks aimed at generating greater awareness in students of their development of generic attributes.

Since the "quality" audits in the early 90's, there has been an increasing scrutiny on the ability of higher education to promote in its graduates skills and attributes that are relevant to a "flexible, adaptable workforce as we move into the twenty-first century" (Kemp & Seagreaves, 1995, p. 315). These are described generally as "... skills, knowledge and abilities of university graduates, beyond disciplinary content knowledge, which are applicable to a number of contexts" (Barrie, 2004, p. 262). The naming of these skills has spread across

terms such as ‘generic attributes’, ‘graduate qualities’, ‘generic skills’, ‘core capabilities’, ‘personal competencies’ and ‘transferable skills’. Such terms are often used interchangeably, but not without contention and the criticism that insufficient theoretical work has been conducted on their conceptualisation, and place in pedagogy (Barrie, 2005; Barrie & Prosser, 2004). For the purposes of this paper, ‘generic attributes’ is the term used, with *knowledge*, *communication skills*, *problem-solving skills*, *global perspective*, and *social responsibility*, being identified as the recognised core attributes (www.utas.edu.au/tl/supporting/ga/).

Despite the benefits of incorporating generic attributes into undergraduate degrees (Barrie, 2006), the embedding of the generic attributes into the curriculum areas is a complex issue. A number of concerns have been raised in the literature. Some of these relate to the specified generic attributes themselves. They have been reported as: being too broad and promising more than they can deliver (Harvey & Knight, 1996); being recommended for instrumental, rather than educational purposes (Barnett, 2004); and not equipping graduates for an uncertain future (Barnett, 2004). It is, however, the incorporation of generic attributes into current curricula that raises the more pragmatic concerns. Kemp and Seagreaves (1995) report confusion as to where generic attributes are placed in the curriculum. This is set against the work of Leggett, Kinnear, Boyce, and Bennett (2004), who advocate a cross-curricular approach. Indeed, Barrie (2004) expresses a concern that there is a lack of shared understanding of the nature of desired outcomes and the learning and teaching processes that will facilitate them.

If we accept that generic attributes need to be taught explicitly, it follows that an expansion of the curriculum may be needed to include them (Candy, Crebert, & O’Leary, 1994). Therefore, there is a legitimate concern that accommodating development of these skills will compete for time with delivery of content (Clanchy & Ballard, 1995; Drummond, Nixon, & Wiltshire, 1998; Kemp & Seagreaves, 1995). Furthermore, assessment of these can be problematic (Candy et al., 1994).

Attention to the concerns raised in the literature highlight the need to implement a systematic approach to embedding and evaluating generic attributes in curricula. Bath, Smith, Stein and Swann (2004) pose the question: “Is it enough to ‘validate’ the curriculum and the opportunities therein for graduate attribute development? And how will we know that alignment exists?” (p. 314). Although most unit outlines identify opportunities for developing generic attributes, without explicit assessment of these attributes how can we be sure they are not only realised but also have meaning and relevance to the students? Clearly, a need for achieving constructive alignment (Biggs, 2003) of assessment tasks, learning opportunities, and learning outcomes with respect to generic attributes is necessary. Designing innovative assessment tasks that require students to develop generic attributes is a critical step in the constructive alignment process. As Bath et al. highlighted, the evaluation of whether or not generic attributes were developed by the end of a course is a problem for both course design and the larger issue of quality assurance and accountability. Additionally, Drummond et al. (1998) state:

the value of measuring development of graduate attributes in students, apart from providing evidence of desired outcomes for quality assurance purposes, is also in creating a wider awareness of such skills and attributes for students and teaching staff, and encouraging wider participation in the development of these aspects of higher education (p. 317).

In order to promote awareness of generic attributes, it is important to consider the implications of meta-cognition. Meta-cognition, as defined by Hacker (1998, cited in Mok, Lung, Cheng, Cheung, & Ng, 2006), as ‘thinking about one’s thoughts’, is the process involved in self-assessment of the learning and assessment process. Self-assessment is discussed in a variety of ways in the higher education literature, including the learner’s evaluation and appraisal of their own competence and performance in the process of learning (Paris & Paris, 2001) and as a tool for “enhancing the knowledge of the learner about their own learning” (Mok et al., 2006, p. 416). According to Boud (1995) “self-assessment is concerned with learners valuing their own learning and achievements on the basis of evidence from themselves and others” (p. 15). Self-assessment is a skill that is important for life-long learning; assists in students taking greater responsibility for their learning; encourages a good self-concept; and helps students see the value in what they are doing (Boud).

To exploit the benefits of developing an awareness of the learning process and self-assessment, it is crucial to complete the learning cycle through reflection (Kolb, 1984). Reflection is the experienced and embodied aspects of learning (Boud & Walker, 1991; Dewey, 1933, 1938), and importantly, an extension of thoughtful and meaningful self-assessment (Boud, 1995). Moreover, although not explicitly stated, many of the generic attributes imply a reflective component. In particular, the generic attributes of *communication skills*, *problem-solving skills*, and *social responsibility* are crucial to the effectiveness of a teacher. Although this research has relevance across the university, the emphasis on the ‘reflective practitioner’ (Dewey, 1933) is crucial in the field of teacher education. At all stages of their profession, teachers are required to reflect on the suitability of their teaching methods, knowledge, disposition, behaviour, ethics, values, relationships, and to adjust constantly and adapt to an increasingly complex working environment.

The Research Approach

The study had the following aims:

- i) evaluate learning opportunities that focus on assessment tasks that include a reflective component;
- ii) evaluate teaching and learning activities that develop skills of reflection and meta-cognitive awareness of how generic attributes are developed;
- iii) develop a model for unit design that effectively embeds generic attributes into assessment tasks and provides opportunities for students to demonstrate development of the core attributes.

This study is a qualitative research project, which utilises the case study as a strategy of inquiry. Considering Stake’s (1995) three categories of case studies – intrinsic, instrumental and collective - this particular study is an instrumental case study. The instrumental case study allows the examination of a case to extend understanding of phenomena, looking for commonalities or differences. The phenomenon in this case is the way in which students (pre-service teachers) develop an awareness of specific generic attributes, and extend their understanding of the importance of generic attributes to the practice of teaching.

The BTeach at UTAS is a two-year, graduate-entry course that accepts students from a range of first degrees. This study involved a cohort of pre-service teachers in the first year of their BTeach degree, undertaking the Professional Studies unit (ESA160). To contextualise the research, this particular course introduced pre-service teachers to the theoretical and pragmatic underpinnings which are critical to their development as reflective practitioners.

All enrolled students completed the same course work and assessment tasks, with 52 of the 110 students giving consent for their work to be included in the research study. Participation was voluntary and students were not disadvantaged by choosing not to be included in the study.

A pivotal aim of Professional Studies (ESA160) was to develop skills of reflection. This was achieved through a series of lectures on the theoretical and practical underpinnings of the reflective practitioner (Schön, 1983; Dewey, 1933, 1938; Killen, 2003); exercises that provided scaffolding for the development of an understanding of the inquiry process (Beattie, 2007), and journal-writing (Holly, 1998); and teaching activities that supported the successful completion of the reflection assessment tasks (Goodman, 1984). The overall theme of this course is Teacher Identity and Teacher Professionalism.

Assessment for Professional Studies (ESA160) was based on a two-tiered assignment. The first component was a 2000-word narrative that focused on pre-service teachers' growing personal theories of teaching. This was achieved by encouraging reflection on past experiences including those in the course. The second component was based on written reflections, incorporating awareness of generic attributes – *communication skills, problem-solving skills, or social responsibility*. This component of the assignment involved pre-service teachers focusing upon one of these attributes to write a 500-word reflection on how the first part of the assignment (the narrative) had contributed to their development of the chosen generic attribute. The written reflections were the only part of the assignment that contributed to the data collection process. As the written reflections were used to determine students' assessment for Professional Studies (ESA160), analysis of the data was not conducted until after students' results for the unit were collated and submitted to student administration.

The written reflections were analysed using cluster analysis (Miles & Huberman, 1994). This process involved a line by line analysis of the data to find open codes, which were refined into categories or themes. Indicative statements for each of these themes were selected as illustration of developing awareness of generic attributes. Further analysis of the individual statements under each of the categories was performed to provide a more descriptive picture of the data. The results from that analysis will be reported at a later time.

Results

The written reflections provided extremely rich data, which demonstrated the pre-service teachers' development of generic attributes, and the way in which the reflective process contributed to their development as teachers. Representation of the content of the written reflections by short statements or 'codes' and refining these codes into conceptual categories (Harry, Sturges, & Klingner, 2005) forms the basis for making sense of the large amounts of data collected in this study.

Where there was evidence, shown in the students' descriptions of their own experiences, which showed that reflection was taking place, this was analysed and categorised into themes. Each time relevant statements were identified in the written reflections, they were represented by a coded statement, such as Code 5: Recognising influences upon own learning, or Code 23: Linking generic attribute development to reflective practice. New codes were added during the reading of the written reflections so that it captured all of the collective relevant content. Thus, the 52 written reflections were summarised individually by a short list of coded statements that were representative of the content. One such summary of these coded statements is identified below (Table 1):

Table 1
Summary of a Student's Written Reflections

Code	Descriptor
4	Establishing reflective habits
5	Recognising influences upon own learning
1	Reflecting on current generic attribute skills
22	Recognising generic attribute as central to teaching profession
10	Recognising reflection as linking theory to practice
14	Defining meaning of generic attribute
23	Linking generic attribute development to reflective practice
7	Monitoring own thinking
8	Adapting own thinking
21	Recognising wider applicability of generic attribute

The preliminary data analysis yielded 23 coding categories and these were clustered into three emerging themes (Appendix 1). The themes in the written reflections were *Awareness of reflective practice* (Codes 1-8), *Motivation* (Codes 9-13), and *Awareness of generic attribute* (14-23). The results presented in Table 2 are a summary of responses for each of the themes sorted by the generic attributes.

Table 2.
Instances of Coded Statements in the Reflective Writing

Category	Chosen graduate attribute		
	Social responsibility	Problem-solving skills	Communication skills
No. of written reflection submissions	24	10	18
Awareness of reflective practice (RP)	42% (n=54)	53% (n=33)	47% (n=62)
Motivation (M)	16% (n=21)	13% (n=8)	14% (n=18)
Awareness of generic attributes (GA)	42% (n=54)	34% (n=21)	39% (n=51)

The following table (Table 3) provides examples of the way in which students reflected on the generic attributes and the way they related those to the development of their teaching practice. They also illustrate how completing the narrative assisted them in developing an awareness of the generic attribute chosen.

Table 3
Indicative Statements from Written Reflections

Generic attribute	Indicative statements and reflection categories
Social responsibility	<p>“I like reflecting about my vocation and how I feel every time I go to school; this previous assignment has helped me to think about the social change I have been exposed to.” (RP)</p> <p>“During the process of the assignment, I developed a strong commitment to steering clear of oppression and embracing existentialism, and I think this is a good recipe for being socially responsible, and a great teacher.” (M)</p> <p>“It is my responsibility to not only teach them science but equip them with skills for life; whether that is distillation, handball or more likely how to relate to each other.” (GA)</p>
Problem-solving skills	<p>“My problem solving skills are best developed in creating and maintaining relationships with people. I see my weaknesses in critical thinking and literary problem solving.” (RP)</p> <p>“I have found that reflection in the form of narrative writing functions to provide some perspective and encourage action in order to resolve a problem, as opposed to wasteful rumination over a perceived problem.” (M)</p> <p>“The content of the narrative ‘My growing theory of teaching’ has contributed to the development of my problem-solving skills. This has occurred through reflecting on everything I have observed in my classrooms in relation to my existing beliefs, and constantly asking and answering my own questions in order to define what kind of teacher I want to be” (GA)</p>
Communication skills	<p>“The ability to organize and present information became much easier with confidence and helped to embrace my weak points in a positive light.” (RP)</p> <p>“Through reflecting on the well developed attributes of these impressive and experienced teachers I could understand the utility of these attributes to apply as I taught.” (M)</p> <p>“I have begun to realize that in order for me to grow in the area of oral communication, I need to be able to put it down on paper and constantly reflect on all the things I do, so I can change my practice.” (GA)</p>

Discussion

It is evident from the written reflections that providing generic attributes as a focus for the reflective writing task promoted an awareness of the generic attributes. Additionally, the written reflections demonstrated the way in which pre-service teachers reflected on the learning process, the application of generic attributes to their teaching practice, and how the development of the generic attributes has informed their emerging theories of teaching and learning. As can be seen in appendix A, coding of the data showed that the task promoted different kinds of reflective practice, such as adapting and monitoring their own thinking and establishing reflective habits. As reflective practice is a desired attribute of teachers, this task has facilitated the development of a valuable attribute in a significant number of students. Specific areas where students recognised the value of developing generic attributes include recognising wider applicability of generic attributes, recognising generic attributes as essential to the teaching profession, and linking generic attributes to the development of reflective practice. This is one of many examples of how the assessment task achieved far more than was originally intended as the students have not only extended their meta-cognitive

awareness but have grounded their understanding of graduate attributes in the context of the teaching profession.

The pre-service teachers self-selected the generic attribute that was the focus of their written reflections. The most favoured core attributes were *communication skills* and *social responsibility*, with *problem-solving skills* chosen the least (Table 1). The emphasis on *social responsibility* may be related to the notion that the work of teachers is a social action, which is based on value-driven educational goals (Hatten, 1998), and the fact that topics such as teacher integrity and teacher ethics were the focus of the lecture series of the course. Similarly, *communication skills* are most likely perceived to be pivotal to developing effective teaching practices. Of the generic attributes, *communication skills* has a high profile and features predominantly in the learning outcomes for most units in the BTeach program. It is developed and assessed explicitly within the course, with the development of *social responsibility* and *problem-solving skills* being more implicit. Although *problem-solving skills* involves higher order thinking skills and is considered necessary for people to become life long learners (Hancock, 1993), pre-service teachers may not see it as being necessary for all teachers. Regardless of the generic attribute chosen, it is clear that the pre-service teachers reflected on the learning experience in much the same way, with the spread of reflections for each of the categories being very similar for each generic skill.

Conclusion

Rather than seeing the acquisition of generic attributes as an end in itself, this paper has argued that they need to be carefully embedded in unit design. The underlying hypothesis is that using assessment tasks that promote opportunities for reflection will foster greater learner awareness and empowerment. As the data from our study demonstrates, when students are encouraged to interact with a list of graduate attributes and interpret these in the contexts of their particular lived experience of them, their level of awareness and reflection about graduate attributes deepens. This approach corresponds with the notion that the generic attributes are context and discipline-specific and need to be taught within a particular context (Barnett 1994; Barrie, 2005; Bath et al., 2004; Clanchy & Ballard 1995; Kemp & Seagreaves, 1995).

As a model of unit design for an increased awareness of and development of generic attributes this research proposes that there is the need to develop:

- Learning sequences that embed the development of generic attributes in conjunction with the course content.
- Assessment tasks that provide opportunities to apply generic attributes when demonstrating learning outcomes for the course.
- Reflection activities that promote meta-cognitive awareness of how the generic attributes contribute to the development of learning outcomes.

Figure 1 provides a diagrammatic representation of how these three elements align. When there is close correlation between the three elements, there is the greatest development of generic attributes.

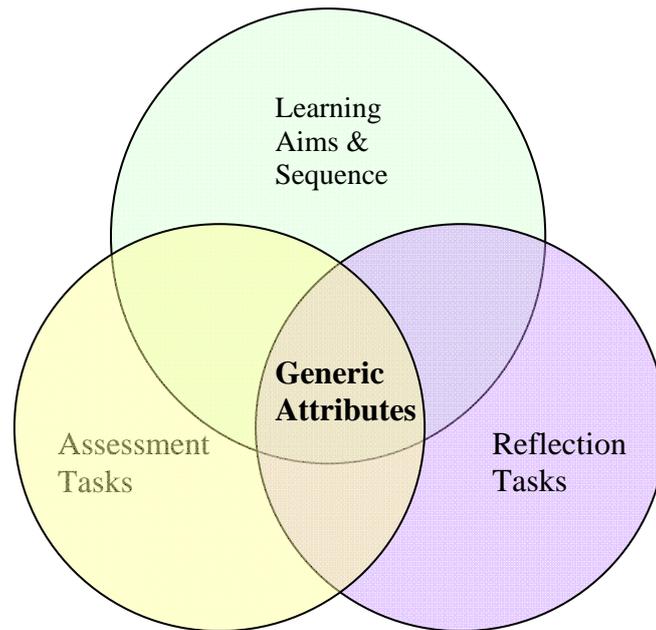


Figure 1. Alignment of course design, assessment, and reflection activities.

The generic attributes can serve as a focus for curriculum implementation, providing opportunities for explicit teaching of relevant attributes as a tool for ensuring constructive alignment of the key elements. This concept of generic attributes approaches the ‘enabling’ understanding of attributes, the most complex and scholarly of skill development (Barrie, 2007). As well, by building a reflective component into the assessment task, evidence, in the form of students’ reflective work, can be collected and analysed to determine whether the unit’s generic attributes learning outcomes have been achieved.

References

- Barnett, R. (2004). Learning for an unknown future. *Higher Education Research & Development*, 23(3), 247-260.
- Barrie, S. (2004). A research-based approach to generic graduate attributes policy. *Higher Education Research & Development*, 23(3), 261-276.
- Barrie, S. (2005). Rethinking graduate attributes. *HERDSA News*, 27(1), 1- 5.
- Barrie, S. (2006). Understanding what we mean by generic attributes of graduates. *Higher Education*, 51(2), 215-241.
- Barrie, S. (2007). A conceptual framework for the teaching and learning of generic graduate attributes. *Studies in Higher Education*, 32(4), 439-458.
- Barrie, S. & Prosser, M. (2004). Generic graduate attributes: Citizens for an unknown future. *Higher Education Research & Development*, 23(3), 243-246.
- Bath, D., Smith, C., Stein, S., & Swann, R. (2004). Beyond mapping and embedding graduate attributes: Bringing together quality assurance and action learning to create a validated and living picture. *Higher Education Research & Development*, 23(3), 313-328.
- Beattie, M. (2007). *The art of learning to teach*. New Jersey: Pearson Education Inc.
- Biggs, J. (2003). *Teaching for quality learning at university* (2nd ed.). Buckingham: Society for Research into Higher Education and Open University Press.
- Boud, D. (1995). *Enhancing learning through self-assessment*. London: Kogan Page.
- Boud, D., & Walker, D. (1991). *Experience and learning: Reflection at work*. Geelong, Vic.: Deakin University Press.
- Candy, P., Crebert, G., & O'Leary, J. (1994). *Developing Lifelong Learners through Undergraduate Education - Commissioned Report No. 28*, Canberra: National Board of Employment, Education and Training.
- Clanchy, J., & Ballard, B. (1995). Generic skills in the context of higher education. *Higher Education Research & Development*, 14(2), 155-166.
- Dewey, J. (1938). *Experience and education*. New York: Collier Books.
- Dewey, J. (1933) *How we think: A restatement of the relation of reflective thinking to the educative process*. Chicago: Henry Regnery.
- Drummond, I., Nixon, I., & Wiltshire, J. (1998). Personal transferable skills in higher education: The problems of implementing good practice. *Quality Assurance in Education*, 6(1), 19-26.
- Goodman, J. (1984). Reflection and teacher education: A case study and theoretical analysis. *Interchange*, 15(3), 9-26.
- Hancock, V. E. (1993). *Information literacy for lifelong learning*. (Report No. EDO-IR-93-1). Syracuse, N.Y.: ERIC Clearinghouse on Information Resources. (ERIC Document Reproduction Service No. ED358870).
- Harry, B., Sturges, K. M., & Klingner, J. K. (2005). Mapping the process: An exemplar of process and challenge in grounded theory analysis. *Educational Researcher*, 34, 3-13.
- Harvey, L. & Knight, P. (1996). *Transforming higher education*. Milton Keynes, U.K.: The Society for Research into Higher Education & Open University Press.
- Hatten, E. (1998). *Understanding teaching: Curriculum and social context of schooling* (2nd ed.). Orlando: Harcourt Brace & Co.
- Holly, M. (1998). Reflective writing and the spirit of inquiry. *Cambridge Journal of Education*, 19(1), 71- 80.
- Kemp, I., & Seagraves, L. (1995). Transferable skills - Can higher education deliver? *Studies in Higher Education*, 20(3), 315-328.
- Killen, R. (2003) *Effective teaching strategies*. NSW, Thomson.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, N.J. : Prentice-Hall.
- Leggett, M., Kinnear, A., Boyce, M. & Bennett, I. (2004). Student and staff perceptions of the importance of generic skills in science. *Higher Education Research and Development*, 23, 295-312.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks: Sage Publications, Inc.
- Mok, M. M. C., Lung, C. L., Cheng, D. P. W., Cheung, R. H. P., & Ng, M. L. (2006). Self-assessment in higher education: Experience in using a metacognitive approach in five case studies. *Assessment & Evaluation in Higher Education*. 31(4), 415-433.
- Paris, S. G., & Paris, A. H. (2001). Classroom applications of research on self-regulated learning. *Educational Psychology*, 36(2), 89-101.
- Schön, D. (1983). *The reflective practitioner*. New York. Basic Books.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications, Inc.

Appendix A: Open coding schema of statements with number of occurrences

Code	Code Descriptor	Chosen graduate attribute area		
		Social responsibility	Problem-solving skills	Communication skills
1	Reflecting on current generic attribute skills	7	4	5
2	Identifying deficiencies in own generic attribute skills	2	6	7
3	Narrative style was a new/challenging experience	0	3	7
4	Establishing reflective habits	12	4	9
5	Recognising influences upon own learning	13	6	14
6	Planning own learning	0	2	3
7	Monitoring own thinking	10	4	9
8	Adapting own thinking	10	4	8
9	Recognising relevance of reflective practice	5	2	4
10	Recognising reflection as linking theory to practice	4	2	7
11	Recognising enhanced understanding through reflection after experience	8	1	4
12	Believes narrative style essential for effectiveness of learning	0	1	1
13	Recognising reflective practice as widening perspective	4	2	2
14	Defining meaning of generic attribute	11	2	10
15	Out of comfort zone in front of others	0	0	3
16	Linking a student-centred approach to effective teaching of problem-solving	0	1	0
17	Learning values from professionals as a social responsibility	8	1	0
18	Learning generic attribute skills from professionals	0	2	3
19	Recognising experiences that enhanced learning of generic attributes	2	4	7
20	Recognising development of generic attribute	10	4	15
21	Recognising wider applicability of generic attribute	7	1	4
22	Recognising generic attribute as central to teaching profession	7	1	4
23	Linking generic attribute development to reflective practice	9	5	5