Connecting academic and employability skills and attributes

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In a competitive, culturally diverse and increasingly internationalised workplace students can no longer assume that possession of a tertiary degree will naturally lead to employment. Employers, who now seek to employ graduates with "employability" skills and attributes in addition to traditional expertise within their discipline (DEST, 2002). At first glance this may place an additional burden on universities in preparing students for the workforce.

This paper discusses the project we embarked upon to compare the skills and attributes that employers consider most desirable with those traditionally required for academic success. We sought to determine to what degree these two skill sets can co-exist in units of study and found that many employability skills are similar to, and have the same underlying principles as, traditional academic skills. Consequently we believe it is possible to design learning experiences that support the development of both sets of skills and to embed such learning experiences in the content and teaching of discipline-specific courses, thus developing employability skills while developing academic skills. This will help students meet the twin goals of obtaining a tertiary degree and maximising their employability potential, but in addition will assist them in articulating their existing skills.

Keywords**:** employability skills and attributes, academic skills and attributes

Background

One of the primary differences, in terms of community perception, between universities and vocational institutions (such as TAFE) has always been the apparent work-readiness of graduates from vocational institutions. Traditionally, universities have focused on the intellectual development of students within the theoretical framework of an area of study, whereas vocational institutions have looked at the development of specific skills and competencies required for gainful employment. However, there is now an acceptance that it is not sufficient for students to graduate without possessing the skills and attributes needed to be functional members of an organisation. This has been well documented in research and is summarised by Knight and Yorke (2002, p.263) "Whereas the world of employment has, by and large, been satisfied with the *disciplinary* understanding and skills developed as a consequence of participation in higher education, it has been less happy with graduates' generic attainments".

In Australia the Mayer competencies (1992), provided a list of generic and transferable skills that support success in life, education and work (DEST, 2004). These included seven key competencies: - Communicating ideas and information, Using mathematical ideas and techniques, Working with others and in teams, Solving problems, Planning and organising activities, Collecting, analysing and organising information and Using technology. These seven key competencies were then developed further to create the Graduate Employability Skills Framework (2007). It is this framework that has been used to underpin the work in this paper examining employability skills and the link with academic skills.

While a university education has been traditionally associated with the development of academic skills, the focus in recent years has broadened to embrace the concept of professional learning. "The

need for university graduates to be career and work ready has been well documented. Graduate capability and employability skills feature in business programs in Australia, and universities are increasingly mindful that graduates' transition into professions should be supported by a range of preparatory initiatives in the curriculum" (ALTC, 2011, p. 1). In this paper we will argue that both academic and employability skills and attributes are of equal importance, both deserve a place in the development of curriculum and both can be developed simultaneously.

If it is acknowledged that both the development of a student's theoretical knowledge base and his/her capacity to apply this theory in a professional context are of equal importance, then there needs to be a focus on the simultaneous development of both academic and employability skills and attributes. Moreover, these skill sets should not to be seen as opposing, as they often have an underlying common theme that allows greater connections than may first be apparent. Indeed it has been argued that academic and employability skills are the same, and should not be viewed as oppositional (Yorke and Knight, 2006). Research on this topic also supports the notion that both academic and employability skills can be embedded in the curriculum (Cox & King, 2006).

If we recognise that students come to university with a diverse set of skills and abilities, but with the common expectation of increasing their own employability, we need to consider how best to design courses that will provide opportunities for our students to further develop the academic and employability skills they already possess. An already crowded curriculum makes it imperative that we do this while developing discipline-specific knowledge and understanding, rather than in addition to, and outside the context of, our discipline.

To provide the underpinning framework for the discussion, it is first necessary to consider the question, "What employability skills and attributes do we need to develop?"

Employability skills and attributes

According to the DEST report on Employability Skills (2002) the following personal attributes are valued by employers:

- loyalty
- commitment
- honesty and integrity
- enthusiasm
- reliability
- personal presentation
- commonsense
- positive self-esteem
- sense of humour
- balanced attitude to work and home life
- ability to deal with pressure
- motivation
- adaptability

These are not "skills" that can be taught in isolation. We believe they require high levels of application, reflection and thinking from both the student (in order to be able to engage with them) and the educator (in order to be able to create opportunities for teaching them and having the capacity to evaluate them). In addition to this, there must be an element of student and educator self-efficacy. Without the belief in one's ability to meet the demands of a job, there is little chance that a graduate will be willing to activate these skills. As argued by Zimmerman, Banduras and Martinez-Pons (1992, p.664), "Perceived self-efficacy influences the level of goal challenge people set for themselves, the amount of effort they mobilise, and their persistence in the face of difficulties."

In addition to the above personal attributes are generic skills:

- communication skills that contribute to productive and harmonious relations between employees and customers;
- team work skills that contribute to productive working relationships and outcomes;
- problem-solving skills that contribute to productive outcomes;
- initiative and enterprise skills that contribute to innovative outcomes;
- planning and organising skills that contribute to long-term and short-term strategic planning;
- self-management skills that contribute to employee satisfaction and growth;
- learning skills that contribute to ongoing improvement and expansion in employee and company operations and outcomes; and
- technology skills that contribute to effective execution of tasks.

The generic skills and personal attributes above combine to form the Employability Skills Framework (DEST, 2002). It is this set of employability skills that make graduates most attractive to potential employers. Therefore it is this set of skills that offers universities an opportunity to differentiate their graduates from others.

All universities now offer some form of workplace integrated learning (WIL) in many of their courses as a means of specifically developing students' employability skills. We would argue that there are also opportunities in the classroom to support the development of employability skills. This is not to suggest that opportunities for WIL should be minimised or marginalised, but that opportunities to develop employability skills can be expanded when we consider the correlation between the skills and attributes needed for employability and those required for academic success which are presented on page 6.

Academic skills and attributes

We sought to develop a list of academic skills and attributes that could potentially connect with employability skills. There is currently no one set definition of what constitutes the group of skills and attributes categorised as "academic" in relation to a tertiary environment Some formal research has been undertaken in this area, such as that of Enright and Gitomer (1989), who identified the following seven competencies in successful graduate students: communication; creativity; explanation; motivation; planning; professionalism; and synthesis.

Miles, Cairns and Huston (2002) surveyed students and their data revealed seven habits of successful students: passion (alignment of personal interests with study requirements, resulting in energy and motivation); building supportive networks and relationships; asking questions; being organised and managing time well; being strategic and resourceful, and using available resources effectively; maintaining work-life balance; and committing to a goal.

Grehan, Flanagan & Malgady (2011) explored the relationship of personality traits and emotional intelligence to graduate students' performance in the classroom and in the field. This study found that emotional intelligence was significantly correlated with grade point average, and that emotional intelligence and the personality trait of conscientiousness were significantly correlated with internship ratings.

A further source was Australian university websites which revealed that, while the wording may vary between different universities, there are a number of common threads that underpin all academic skills. Using all these sources the following list was constructed.

To be successful at university a student needs to have:

- formal communication ability at a tertiary level- including ICT skills (multiliteracy)
- interpersonal skills and teamwork skills, including ability and willingness to engage with diverse cultures

- theoretical and practical knowledge and experience of discipline demonstrated by applying discipline specific knowledge
- intrapersonal skills, including ability and willingness to align personal vision and goals with the university's vision for its students
- high level planning and organising skills demonstrated by effective day-to-day and longer term planning
- problem solving, independent and innovative thinking skills.

In developing this list, it became apparent that there was an overlap between these skills and the employability skills and attributes as outlined earlier, and it also became apparent that development of these skills and attributes can be embedded into the curriculum. These skills and attributes are strongly connected to the eight graduate attribute categories outlined by Barrie (2011): Scholarship, Global Citizenship, Life Long learning, Research and Inquiry, Information Literacy, Personal and Intellectual Autonomy, Ethical Social and Professional Understanding and Communication.

The decision to include both attributes and skills in our table was driven by the consideration that without both the ability to engage with the university in every sense (communicate with staff and students, successfully complete routine tasks etc.) and to complete academic tasks, ultimately a student would find it difficult to achieve success at university. A student may have a very high level of understanding, but without the motivation to complete assignments, the understanding will never be realised. From a university perspective, if increased student retention is important, then it would be useful to consider both attributes and skills as important in achieving academic success.

Linking academic and employability skills

What emerged as we developed these lists were the links between employability and academic skills and attributes. What became clear was how closely related they are. While the context and specific application may vary, the general skills and attributes required for success in the employment and academic domains are very similar. This supports the idea that development of academic skills and attributes as part of a course can simultaneously develop employability skills and attributes. For example:

- Analyse a range of communication formats in class and consider suitability for various purposes/audiences. Talk about what needs to change for different purposes, different audiences and different formats.
- Compare formal reports to a business with multimedia presentations to a live audience or with presentation of information on an interactive website.

We compiled these separate lists into a combined list that could be useful in course and unit design as well as teaching and learning. It could also be used to review teaching material and to provide support in making claims about good teaching practice

Table 1 outlines some of our key employability and academic skills and attributes and shows the links between the two.

What are the implications for students?

The competition for employment for graduating students can be intense. Students need to be able to demonstrate skills in a way that is meaningful to the employer and the industry in order to be successful in gaining employment and furthering their career. This makes students more demanding of universities. The likelihood of a student getting gainful employment is one measure of how successful a university has been and is demonstrated in publications like the *Good Universities Guide* (ALTC, 2011). If students have a focus on gaining employment upon graduating, they will then be looking for universities that perform strongly in this area. By embedding employability skills, a university's position as an institution that has a focus on the dual goals of academic excellence and graduate employment is enhanced.

Table 1: Links between key employability skills and academic skills

Employability skills	Academic skills
Formal communication (multiliteracy) including: ▪ Writing to the needs of the audience ▪ Using numeracy ▪ Speaking in a public forum and ▪ Understanding the needs of internal and external customers ▪ using computer technology appropriately and ▪ staying familiar with up-to-date equipment, facilities and materials	Formal communication at a tertiary level (multiliteracy) including: ▪ Academic writing ▪ Effectively using numeracy skills to complete assignments and other tasks ▪ Completing oral presentations/ reports for internal or external audiences and ▪ Critically reading and engaging with texts ▪ communicate and complete given tasks effectively and ▪ enhance engagement with university activities
Interpersonal and teamwork skills, including ability and willingness to engage with diverse cultures by: ▪ communicating respectfully (using voice and body) ▪ listening actively ▪ empathising ▪ persuading effectively and ▪ being assertive and ▪ establishing and using networks ▪ collaborating with others to achieve team goals ▪ recognising and adopting roles within teams ▪ giving and receiving feedback ▪ coaching and mentoring and ▪ leading with integrity	Interpersonal and teamwork skills, including ability and willingness to engage with diverse cultures by: ▪ communicating respectfully (using voice and body) ▪ listening actively ▪ empathising ▪ persuading effectively ▪ establishing and using networks within the university and ▪ establishing external community and industry networks ▪ collaborating with others to achieve team goals ▪ recognising and adopting roles within teams ▪ giving and receiving feedback and ▪ committing to a team for the period required to complete the task
Theoretical and practical knowledge and experience of industry demonstrated by: ▪ recognising and enacting of company specific skills ▪ gaining experience and participating in work related activities ▪ having sound knowledge of industry specific content ▪ understanding business processes- inclusive of aspects such as customer service	Theoretical and practical knowledge and experience of discipline demonstrated by applying discipline specific knowledge: ▪ in authentic contexts ▪ for authentic purposes ▪ in discipline related activities ▪ for academic assessments and ▪ while engaging in WIL
Intrapersonal skills, including ability and willingness to contribute to productive outcomes by: ▪ identifying opportunities ▪ generating a range of options ▪ initiating innovative solutions ▪ translating ideas into action ▪ adapting to new situations ▪ maintaining sense of humour and positive self-esteem under pressure ▪ being open to new ideas and techniques ▪ evaluating and monitoring own performance ▪ taking responsibility ▪ managing own learning and ▪ aligning work and learning with personal vision and goals	Intrapersonal skills, including ability and willingness to align university engagement with personal vision and goals by: ▪ identifying opportunities ▪ generating a range of options ▪ initiating innovative solutions ▪ translating ideas into action ▪ adapting to new situations ▪ maintaining sense of humour and positive self-esteem under pressure ▪ being open to new ideas and techniques ▪ self-assessment ▪ taking responsibility and ▪ managing own learning
High level planning and organising skills demonstrated by: ▪ planning and managing workloads efficiently ▪ allocating time and resources effectively and ▪ establishing clear goals and plans of action	High level planning and organising skills demonstrated by effective day-to-day and longer term: ▪ planning and management of workloads ▪ allocating of time and resources and ▪ prioritising tasks according to personal goals

Problem solving, independent and innovative thinking skills, demonstrated by:	Problem solving, independent and innovative thinking skills, demonstrated by:
• engaging in logical and orderly thinking • willingly and proactively making decisions • identifying opportunities not immediately obvious to others • creating innovative solutions to given problems and • accurately analysing and synthesising information	• conducting and completing research • engaging in logical and orderly thinking • willingly and proactively making decisions • identifying opportunities not immediately obvious to others • creating innovative solutions to given problems and • accurately analysing and synthesising information

This then leads us to consider how students will be able to demonstrate the acquisition and purposeful development of their skills and attributes. One possible platform that could be considered is the use of portfolios. The development and maintenance of a high quality portfolio would allow a student to showcase the skills that they have developed during their time at university. It would also allow students to provide meaningful examples to prospective employers to show how a skill has been demonstrated. This then places the onus for learning and development of the portfolio back on to the student. It doesn't allow teaching staff to relinquish responsibility. Educators would need to consider how they will teach and assess these skills. Purposeful assessment tasks need to be developed that allow students the opportunity to demonstrate generic employability skills. Assessments that are set in an authentic context or have a real world purpose/audience often prove to be the most useful in this regard.

What are the implications for teaching staff?

Those who are involved in the teaching of students or the design of curriculum need to consider how they can best provide opportunities for students to develop of these skills and attributes. There needs to be a recognition and acknowledgement that the both the pursuit of academic excellence and the development of employability skills can align and provide students with the best opportunity to pursue a career. The teaching of these skills and attributes may require some redesign of current curricula, but this is not to suggest that there are not examples of good practice currently taking place in the university.

One of the first things that any educator can do in order to best develop these skill and attributes is to examine their current course and determine what skills and attributes they are enabling. Teaching staff can refer to the checklist that has been developed (above). This list will allow staff to undertake a self directed critique of their courses and determine to what degree they are promoting the development of employability skills in students. As this is not always immediately obvious, we have also developed a series of examples that show what the development of this skill or attribute will look like in the classroom/ lecture theatre. These examples will also work for those who are looking at how to better promote these skills and attributes in the curriculum.

In addition to this, there will need to be opportunities for staff to be supported in developing teaching and learning materials that will enable students to develop both sets of academic and employability skills and attributes.

Recommendations for further research

Future research ideas would include analysing phrases and words employers are using when placing advertisements for positions. The analysis of these common words and phrases would provide an opportunity to create links between these specific phrases and the related academic skills and would in turn give students a clearer idea of what skills they have been developing and how to articulate this development in a job application.

It would be interesting to note student responses to courses/ units that explicitly include employability skills/ attributes in their curriculum documents and teaching. How do students perceive the inclusion of this information? Do students feel that it will support them when it comes to being more competitive in the job market?

In the long term it would be worth engaging with employers about graduates who have been interviewed and whether they were better able to articulate what skills they possessed if they had completed a course that actively promoted both academic and employability skills. In turn, it would follow that a discussion would be useful about whether it improved students' employability rates, and made them appear more desirable to employers.

References

ALTC. (2011). *Engaging industry: Embedding professional learning in the business curriculum*. http://www.altc.edu.au/resource-engaging-industry-embedding-vu-2011

Cox, S. & King, D. (2006). Skill sets: An approach to embed employability in course design. *Education & Training, 48*(4), 262-262-274. http://dx.doi.org/10.1108/00400910610671933

DEST. (2002). *Employability skills for the future*. Retrieved 30 August, 2011 from http://www.dest.gov.au/archive/ty/publications/employability_skills/final_report.pdf

DEST. (2007). Graduate employability skills. [viewed 30 Aug 2011] http://www.dest.gov.au/NR/rdon lyres/E58EFDBE-BA83-430E2E91BCB59DF1/20214/GraduateEmployabilitySkillsFINALREPORT1.pdf

DEST. (2004). Training Packages at Work. Retrieved 30 August, 2011 from http://www.tpatwork.com/ViewArticle.asp?articleid=1310

Enright, M. K. & Gitomer, D. (1989). *Toward a description of successful graduate students*. GRE Board Research Report No. 85-17RET Research Report 89-9. Princeton: NJ.

Grehan, P. M., Flanagan, R. & Malgady, R. G. (2011), Successful graduate students: The roles of personality traits and emotional intelligence. Psychology in the Schools, 48, 317–331. http://dx.doi.org/10.1002/pits.20556

Institute for Teaching and Learning, Sydney University. (2011). *Introduction to mapped universities' statements of graduate attributes*. The National Graduate Attributes Program. Retrieved December 2011, from http://www.itl.usyd.edu.au/projects/nationalgap/resources/gamap/introduction.htm

Knight, P.T. & Yorke, M. (2002) Employability through the curriculum. *Tertiary Education and Management, 8*, 261-276.

Knight, P.T. & Yorke, M. (2006). *Embedding employability into the curriculum*. York: The Higher Education Academy. Retrieved 14 November, 2011 from http://www.heacademy.ac.uk/assets/documents/employability/id460_embedding_employability_into_the_curriculum_338.pdf

Mayer, E. (Chair). (1992). *Report of the Committee to Advise the Australian Education Council and Ministers of Vocational Education, Employment and Training on Employment-Related Key Competencies for Post Compulsory Education and Training,* September 1992, Carlton South, Australian Education Council

Miles, J.J., Cairns, S. & Huston, M. (2002). Seven Habits of Successful Students. Counselling Centre, University of Calgary. Retrieved from http://www.ucalgary.ca/counselling/academicsuccess/studyskills/sevenhabits

Zimmerman, B., Banduras, A., & Martinez- Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal. 29*(3), 663-676.