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**Graduates' Perceptions of University Study and It's Contribution  
toward the Development of Workplace Competence.**

Alan Richardson,  
*School of Management,  
Queensland University of Technology,  
Brisbane, Australia*  
[a.richardson@qut.edu.au](mailto:a.richardson@qut.edu.au)

Boris Kabanoff  
*School of Management,  
Queensland University of Technology,  
Brisbane, Australia*  
[b.kabanoff@qut.edu.au](mailto:b.kabanoff@qut.edu.au)

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*Streams E, Q*

# **Graduates' Perceptions of University Study and It's Contribution to the Development of Workplace Competence.**

*A high level of personal capacity and relevant professional competence and skills is essential for a graduate's successful transition into the workplace. The extent to which graduates attribute the success of this transition to their university study can be gauged from feedback they give regarding their university experience and their employment outcomes. This research outlines the development of a new scale based on an analysis of graduates' responses to the open-ended questions of the Course Experience Questionnaire (CEQ). The new, seven-item Workplace Skills Development scale when added to the CEQ and used to survey graduates from three Australian universities proved to be a reliable measure of a graduates' perception of the relevance of their studies to the skill demands of their workplace. This scale provides a unique graduate survey instrument that contributes to benchmarking and quality assurance processes for any educational institution. An analysis of management graduates compared to graduates from all disciplines supports its relevance for both groups and also shows a strong correlation with graduate satisfaction.*

*Keywords: University graduates, workplace skills, course satisfaction*

## ***Introduction***

Universities are viewed by its stakeholders as having responsibility to provide graduates with fundamental workplace skills, contribute to their achievement of short and long-term career goals and also to provide a satisfying study experience for graduates. Considerable government funding and university resources are spent on addressing these core business functions of the higher education sector. Employers especially expect universities to provide the training and workplace skills that are they require within the graduates' repertoire. If the core business of universities is to prepare graduates with skills and knowledge relevant to their chosen vocation, then a gauge of universities' success in achieving this goal is essential. This research addresses several distinct aspects of this current higher education debate, including public accountability and transparency, graduates' employability and satisfaction in achieving their career goals, work relevant competencies and employer satisfaction.

### *Educating for Workplace Competency*

The 1988 Green Paper heralded changes in universities in relation to the economics of employability and the graduate skill market with Dawkins (1988: 18) stating that:

“Academics must be able to relate and respond to the national priorities which governments have a responsibilities to determine, but not impose.”

The workplace competence debate then gained prominence with the commissioning of the Finn Report (1991) in Australia, which supported the convergence of higher education with defined capability training as with vocational education. The subsequent Mayer Report (1992) proposed that the Key Competencies should be made explicit in the curriculum. The ongoing debate on graduate competencies has focused on how universities contribute to students' workplace competencies through implementing appropriate curricula, teaching and learning processes and work related experiences. This process has also been informed by both ongoing consultations with industry and measures of graduate employment as indicators of employability and the success of the competency initiatives within universities. Barrie (2002) commented on lack of research clarifying the underlying conceptual basis of graduate attributes and suggested that there is a difference in academics' understandings of the concept of generic attributes and the processes by which graduates develop such attributes. He observed that this variation in academics' understandings was one of the many impediments in systematic curricular reform and teaching development aimed at achieving key competencies in graduates as a core outcome of university education.

Employability and university education have also been linked by the focus on meeting a generalised workplace demand (key competencies) of employers and the community. Reynolds and Mackay (1997:5) reported that students reacted positively

to the explicit teaching of key competencies because they provided “a clearer purpose for their learning, a greater appreciation of relationships between education and work, something more meaningful and tangible to strive for, and more hands-on practice, interwoven with subject knowledge.” This seamless approach espoused the interchangeability of competency and employability as aspects of the same debate.

### ***Employer Satisfaction and their Perception of Graduates’ Skills***

The competency/employability debate added pressure for universities to develop curricula that included the teaching of essential discipline skills and general/ core competencies addressing workplace needs. Bradshaw (1992), Candy and Crebert (1991) and Leveson (2000) outline the semantic differences between employers and academics in perceptions of generic skills and workplace skills. Particularly the concept of transferability of skills assumed where there is a seamless assurance of course relevance to the workplace skills required. Leveson (2000,162) concluded that “the identification of skills developed by graduates needs to be understood and articulated by the individual graduate and secondly understood by employers” This puts the responsibility on the individual graduate to explain their skills to employers and avoids any shared onus of including educators, management, and policy makers.

In ascertaining graduate employment outcomes government policy makers and senior university managers use current employment statistics that outline a single percentage as an indicator of employability. Alternatively they seek the opinion of employers for future trends within the sector and also in regard to the course relevance within industry. Assessing whether graduates are employable is usually a role placed on the private sector and large corporations. Their documentation of recruiting processes, clear selection criteria and graduate training programs allow for some informed

comment on the value of the graduate in their world of work. A DEST Report by A.C. Nielsen (2001) on employer satisfaction with graduate skills summated that employers had very few complaints in regard to the course content of university study. The exception they quoted came from the fast developing and advanced disciplines of information technology and electronic communications. This compares to Karathanos (1999) that concluded that while course competencies had advanced, the gap between practice and academic research and teaching had widened. Also Carnevale et al (1990) report that employers and the business community perceive that higher education programs are failing to achieve specific, real-world goals in the preparation of students.

The essential goal behind employer surveys is to try to ascertain the core competencies required by their workplaces. This assumes that employer perceptions, including CEO's, in-line managers, HR staff or section heads are consistent across levels of the workplace hierarchy. Studies by McCowan & Richardson (1999) showed that there exist differences between skills the graduate perceive as required by their workplace and the skills that their immediate manager suggests are essential for the same position. This suggests that employers' assessment of the value of university study at present lack the reliability required by universities and government.

### ***Measuring the Graduate Experience: Graduate Perceptions***

In Australia from the late 1980s the Federal government promoted the need for greater public accountability in higher education (Dawkins, 1987), including more systematic data gathering about teaching and learning in universities. An indicator of students' perception of teaching quality known as the Course Experience Questionnaire (CEQ) was promoted in the Linke Report (1991) as useful in this regard. The CEQ is based on

the concept that students' perception of the curriculum, teaching and assessment are key determinants in their approach to learning, and measure the quality of the outcomes of the learning process (Entwistle & Ramsden, 1983; Ramsden, 1992). Since 1992 the CEQ has been used to monitor institutional best practice, and as a quality measure /performance indicator at all Australian universities.

As well as a series of close-ended, Likert style questions, the CEQ asks graduates two open-ended questions about the best aspects of their course and those aspects most in need of improvement. These open-ended questions were rarely systematically analysed, therefore Richardson & Kabanoff (2003) asked whether there was any evidence that significant issues were being raised in these qualitative responses that were not included in the Likert-style CEQ. A detailed analysis of this data indicated that some issues graduates commented on were represented in the close-ended questions, however one significant aspect of graduates perceptions of their course experience that was not, namely - graduate perceptions of the practical relevance of their course and it's development of knowledge and skills applicable to their workplace experiences and career aspirations. This research concluded that the current CEQ measures of graduate evaluations of their course experience failed to attend to this vital aspect of graduates' experience. This "oversight" may be based on the assumption that a graduate's evaluation of course is similar to a current student evaluation, thus missing information about graduates' perceptions of their transition from study to work. The oversight could be also based on a perennial problem with customer surveys as the tendency "...to think of products and services in terms of what they do to make them and not what customers receive from them." (Davis & Devinney, 1997, p. 63).

The identification of this missing construct provides this research with the aim to structure items into a reliable measure of graduate perception of the relevance of their academic experience towards the development of workplace competence and capabilities. The graduate's perception of this journey is pivotal in providing all stakeholders with the essential details about the workplace relevance of their university study, their employability and career competence. Therefore the post graduation survey provides an important opportunity to capture crucial data from graduates regarding their study experience and its relation to the demands of their workplace. The capacity to evaluate the inputs from the higher education system based on the graduate experience of the outcomes to study is the primary focus of this research with the testing of a measure of graduate perception of the relevance their university study experiences.

## **METHODS**

### ***Sample***

All graduates from three Australian universities (Royal Melbourne Institute of Technology (RMIT), University of Technology Sydney (UTS) and Queensland University of Technology (QUT) were surveyed in the April 2002 Graduate Destination/CEQ survey. The questionnaire was mailed to 12883 graduates approximately five months after completing their studies. Useable data was obtained from 66 % of respondents with the return of 8489 surveys.

### ***Measures***

#### ***The CEQ and the Workplace Relevance Scale (WRS)***

Previous studies that have investigated the psychometric properties of the CEQ have shown it to be reliable and robust with respect to wide application across a variety of disciplines (Johnson, 1998). Factor analyses by Wilson, Lizzio & Ramsden (1997), and



Johnson (1998) confirmed that the questionnaire items could be grouped into five scales pertaining to Good Teaching Practices, Clear Course Goals and Standards, Appropriate Workload, Appropriate Assessment, and Generic Skills. There is no evidence that respondents have difficulty in providing an average response for a course even though that course involved a number of different teaching staff and a variety of courses or units (Ramsden, 1991). To the existing, 25 CEQ items (including the single item Overall Satisfaction item) seven additional items were added which are hypothesized to represent a separate factor that we called the Workplace Relevance Scale. These items were derived from the analysis of comments made in response to open-ended items of the CEQ carried out by Richardson and Kabanoff (2003). The survey items making up the Workplace Relevance Scale (WRS) were as follows:

- The course developed an understanding of workplace skills.
- The course provided the opportunity for putting theory into practice.
- The skills developed in the course were relevant and useful.
- The course developed current professional skills.
- The course was a good combination of theory and practice.
- What I learnt benefited my work.
- The course helped prepare me for the workforce.

*Employment Status* – The graduate destination survey also collected data on employment status. Thus the relation between *Employment Status* (employed part or full time in a discipline related position, or not so employed) and the Workplace Relevance Scale could also be explored.

## **RESULTS**

### *Theoretical Conventional Factor Structure*

A conventional, exploratory factor analysis of the 32 items in the modified CEQ (including the workplace skills development scale) resulted in the identification of, as expected six factors. Items were removed if they did not load on their hypothesised scale, had multiple loadings across several factors or if they did not have a 0.4 minimum loading on their hypothesised scale. The ‘alpha’ coefficients for each scale were as follows:

The six factors were:

(i)	Factor 1	Workplace Relevance	Items 5 9 12 16 19 25 29	$\alpha= 0.86$
(ii)	Factor 2	Good Teach.	Items 3 8 20 22 23 26	$\alpha= 0.84$
(iii)	Factor 3	Generic Skill.	Items 2 6 11 14 28	$\alpha= 0.80$
(iv)	Factor 4	Clear Goals.	Items 1 7 31	$\alpha= 0.66$
(v)	Factor 5	Workload.	Items 4 27 30	$\alpha= 0.64$
(vi)	Factor 6	Assesment.	Items 10 15 24	$\alpha= 0.56$

**Table 1.** Coefficients from Theoretical Factor Analysis

The reliability coefficients for scales 1, 2 and 3 are good, and the other scales, with fewer items show moderate reliability. The integrity of the existing CEQ scales was somewhat diminished, as several items loaded highly on more than a single factor, however overall the expected factor structure was clearly evident. These 5 items were excluded and the final scale contained 27 items. This data concurred with a previous analysis of the CEQ by Ainley & Long (1994) using data from the 1992 survey. A previous Rotated Factor Loadings for the CEQ and WRS Scale in Kabanoff, Richardson and Brown (in press) supported the hypothesized scale structure and the appropriateness of the analysis using a theoretical conventional factor analysis. This research concurs with the previous study, which showed alphas ranged from .83 to .54 with the WRS having the best reliability at .83.

***Correlations- CEQ Scales, WRS and Overall Satisfaction***

Correlations between the six sub-scales of the extended CEQ and the single Overall Satisfaction item were examined (Table 2). Due to the large sample size, even quite small correlations are significant with  $p < .01$ , consequently for practical purposes it is reasonable to interpret only correlations larger than 0.30, that is those accounting for a minimum of 9 percent of the covariance as being meaningful. These are shown in Table 1 below.

	<b>Workplace Rel.</b>	<b>Good Teaching</b>	<b>Generic Skills</b>	<b>Clear Goals</b>
<b>All Graduates (N= 8,489)</b>				
Good Teaching	0.53			
Generic Skills	0.601	0.482		
Clear Goals	0.454	0.591	0.438	
Overall Satisfaction	0.632	0.632	0.574	0.565
<b>Management Graduates (N=269)</b>				
Good Teaching	0.624			
Generic Skills	0.646	0.457		
Clear Goals	0.486	0.533	0.517	
Overall Satisfaction	0.629	0.577	0.628	0.49

**Table 2.** Significant Correlations for CEQ Scales and WRS Scale (>0.30) for Management and All University Graduates

Workplace Relevance (WRS) is found to be positively related to Good Teaching, Generic Skills and Clear Goals for both groups, suggesting that graduates who perceive their course as enhancing their workplace skills, also perceive the course as being characterised by good teaching, the development of generic skills and clear goals. Overall satisfaction with the course of study is also positively related to students' perception that their course enhances the development of workplace skills and is

characterised by good teaching, the development of generic skills and has clear goals and standards. These four scales account for a total of 48% of the variance in satisfaction.

### ***Workplace Relevance Scale and Employment Status of the Graduate***

T-tests were used to compare the two Employment Status groups on Overall Satisfaction, and the six CEQ scales. Only one comparison was significant, that for the Appropriate Workload factor score,  $t(249) = 2.12$ ,  $p < .05$ , such that relevantly employed students were on average less satisfied with course workload (mean  $-.2$ ) than their counterparts (mean  $.07$ ). The most likely explanation for this result lies in the problems involved in partitioning time for work and study.

The mean Workplace Skills Development score for relevantly employed students was  $.14$ , compared to  $-.05$  for other students, but this difference was not significant  $t(249) = -1.508$ ,  $p > 0.1$ . Thus perceptions of course utility in terms of workplace skills does not appear to depend upon employment status, which argues against any suggestion that WSD might simply reflect the effect of graduates' relative success at obtaining employment, although this interpretation cannot be entirely ruled out since we are unable to distinguish graduates who were employed full-time prior to graduation from those who have entered their first full-time job.

## **DISCUSSION**

Graduate's judgement of the quality of their undergraduate study hinges upon the utility value of the knowledge and skills developed during their study to their current workplace. This major finding has shown that the Workplace Relevance Scale is a particularly important predictor of course satisfaction. The scales also show that regardless of employment outcomes, a graduate can value the course curriculum and

teaching methods in regard to how the course contribute to their personal career aspirations and abilities. The size of the sample and the analysis of the expanded CEQ revealed a solid factor structure and a strong relationship between the expanded CEQ scale set and course satisfaction as a whole. The inclusion of the Workplace Relevance Scale, either in the current CEQ or other graduate surveys, will greatly increase its capacity to evaluate university courses. The Workplace Relevance Scale taps into a broader range of course quality issues, and so provides more information for those responsible for the content and conduct of higher education courses. Also, to the extent that graduates' course experiences may increase their sense of self-efficacy at work then there is considerable evidence (e.g. Locke & Latham, 1990) that this can contribute to their work performance and motivation at work, which is another important reason for measuring and studying this aspect of the educational experience. The development of the WRS scale provides a measure of relevance of study inputs from the real world of the workplace and employment outcomes.

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