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# Business undergraduates' perceptions of their capabilities in employability skills : Implications for industry and higher education

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# Business undergraduates' perceptions of their capabilities in employability skills

## Implications for industry and higher education

**Denise Jackson**

***Abstract:*** *In response to the continuing disparity between industry expectations and higher education provision, this study examines the self-assessed capabilities of 1,024 business undergraduates in employability skills typically considered important by industry in developed economies. The findings indicate relative perceived strengths in 'social responsibility and accountability', 'developing professionalism' and 'working effectively with others', and weaknesses in 'critical thinking', 'developing initiative and enterprise' and 'self-awareness'. Although these findings align with those of recent employer-based studies, undergraduates rate themselves considerably higher than their industry counterparts. The implications of this overconfidence in personal ability, commonly associated with so-called Generation Y graduates, for persistent graduate skill gaps are discussed from the perspectives of industry, higher education and the graduates themselves. Possible ways of encouraging undergraduates to evaluate their capabilities more critically and accurately are discussed. Variations in perceived capability as students progress through their degree programmes are also examined.*

***Keywords:*** *undergraduate skills; employers' needs; employability skills; recruitment; workplace performance; skills gaps*

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Globalization, international mobility and rapid changes and increasing complexities in society, technology and the economy (Bowman, 2010) have focused attention on graduate employability in developed economies. One critical aspect of any graduate employability model is development of skills (Dacre Pool and Sewell, 2007).

Employability skills – also variously referred to as non-technical, professional, key, core or generic skills – are considered vital in enabling graduates to apply disciplinary knowledge effectively in the workplace (Australian Association of Graduate Employers, AAGE, 2011). Examples of skills typically deemed important in business graduates are the ability to work effectively with others, communication skills, self-management and problem-solving.

This broad consensus on the importance of employability skills in undergraduate education has served to highlight the need for skills development in higher education worldwide. This is particularly so for business/management degree programmes as the changing role of today's managers emerges, with revolutionary practices in information management, planning and risk management arising as a result of the current global financial crisis (Shefrin, 2009). In Australia, the setting for this particular study, the skills movement in higher education accelerated with the West Review's (Department of Education, Training and Youth Affairs, DETYA, 1998) framework of graduate attributes, followed by the introduction of a national skills framework (Department of Education, Science and Training, DEST, 2002) for all education sectors. From these, universities have developed their own frameworks/inventory of targeted employability skills and policies on how they are to be achieved. A series of government-funded reviews – including those by BIHECC (2007) and Bradley *et al* (2008) – reiterated the important role of employability skills in achieving graduate work-readiness and added further momentum to the skills movement.

In addition, the recent introduction of academic teaching and learning standards (Australian Learning and Teaching Council, ALTC, 2010) in Australia, which define threshold learning outcomes for all Australian undergraduate degree programmes, and business accreditation bodies, such as the esteemed Association to Advance Collegiate Schools of Business, AACSB (2011), focus markedly on outcomes relating to employability skills.

Other developed economies – such as Canada, USA, UK and parts of Europe – have experienced similar legislative, political and economic pressures to address skills' development in higher education (see, for example, Bowman, 2010). Globalization, cultural similarities among these developed economies and their participation in a globalized higher education system (Marginson, 2006) and their corresponding skills requirements (see, for example, Jackson and Chapman, 2011) suggest the existence of a universal perspective on graduate employability, of which Australia forms one example. However, the lack of empirical understanding of differing skills requirements and provision between the East and West (Wickramasinghe and Perera, 2010) has limited generalizations within this paper to Western boundaries.

Higher education providers in developed economies have responded, somewhat haphazardly, by addressing employability skills development through embedding outcomes in core disciplinary content, devising 'bolt-on' programmes and/or, more recently, introducing or capitalizing on existing workplace learning programmes to develop these skills in an authentic work environment. These initiatives are challenged by some academics who lament the expansion of higher education provision beyond the realms of academic inquiry and critical thought (Little, 2011). Agree or not, the skills agenda in higher education is becoming more entrenched as universities concentrate on developing institution-wide approaches to the provision of employability skills to meet industry's growing demands for enhanced graduate work-readiness (Confederation of British Industry, CBI, 2010). Interestingly, the UK Department for Business, Innovation and Skills (DBIS) expresses 'learning how to learn, learning how to think; intellectual curiosity; the challenge and excitement of new ideas' (DBIS, 2010) as the key focus of the development of employability skills in higher education, converging with the more traditional values of higher order and cognitive learning than other, more vocationally-oriented, wish-lists of industry-relevant skills.

Despite universities' efforts, there is some evidence to suggest that graduates moving from higher education to the workplace in developed economies are not meeting industry expectations (see, for example, Business, Industry and Higher Education Collaboration Council, BIHECC, 2007; Council for Industry and Higher Education, CIHE, 2008; National Center on Education and the Economy, NCEE, 2007). Although graduates are acknowledged as being sufficiently equipped with technical know-how, there is broad agreement that they lack certain employability skills (Shury *et al*, 2010). Areas highlighted as particularly problematic are critical thinking and leadership (CIHE, 2008); and communication and teamwork (National Association of Colleges and Employers, NACE, 2010). A recent report by the CBI cited shortcomings in basic graduate numeracy and literacy skills, in addition to a lack of satisfaction in business awareness, cultural awareness, problem-solving skills and self-management (CBI, 2011).

Evidence of these skill gaps derives predominantly from recent employer-based studies evaluating graduate workplace performance in a broad range of skills considered critical in business graduates. There is

comparatively little evidence of student or graduate perceptions of capabilities in employability skills and readiness for the workplace (see, for example, Jackson and Chapman, 2011). Existing studies gauging graduate outcomes in employability skills are plagued by ambiguous skill definitions which may be interpreted differently among stakeholders (Barrie, 2006), rendering comparisons problematic.

Opinion on the cause of poor performance in certain skills varies. Some attribute the disparity to continually rising employer expectations, exacerbated by the evolving global knowledge economy and pressures of international competition and economic uncertainty arising from the current global financial crisis (Hart Research Associates, 2010). Cranmer (2006) claims that there are inherent – and considerable – problems with addressing employability in higher education, particularly in the absence of significant industry involvement. These difficulties include defining skills, measuring outcomes, achieving authentic learning, and the transfer of acquired skills in graduates from the classroom to the workplace.

Skill deficiencies imply reduced productivity and organizational under-performance and are likely to have an effect on an economy's ability to achieve sustainable growth and global competitiveness (CBI, 2011). Given the business school's role of producing the next generation of leaders (Simon, 1967), poorly equipped graduates may have a further effect on the efforts of developed economies as they struggle to manage global economic fragility. It is important to note, however, that mastery of a broad range of employability skills will not guarantee improved organizational performance since industry itself must manage these skills effectively (Little, 2011). Also, recent graduate employability models (see, for example, Dacre Pool and Sewell, 2007; Yorke and Knight, 2004) highlight the fact that graduate workplace performance is influenced by many factors other than discipline-specific knowledge and employability skills: these other factors include labour market awareness and work and life experience. One might expect more attention to skills provision in higher education, to enhance graduate workplace performance yet disparity between industry expectations and business graduate outcomes persists (David *et al*, 2010).

The research objective of this study was to gauge student perceptions of their possession of those employability skills typically required of business undergraduates. Comparing and contrasting these perceptions with those of other stakeholders may provide insight into why graduate skills gaps continue to exist and how such gaps might be addressed. Variations in perceived capability, as students progress through their degree programmes, will also be examined and discussed. The research objective was addressed using self-assessment of employability skills by 1,024 undergraduates in the business faculty of an Australian university. After presenting details of the context of the study, the paper continues by providing an outline of the methodology, a presentation of the findings and a discussion of the implications for industry and higher education.

## Context of the study

The setting for this study was an employability skills learning programme in a West Australian university. The programme stands alone and is core to the university's Bachelor of Business degree. It comprises two first year units (Units One and Two), one second year unit (Unit Three), and a final year unit (Unit Four). The aim of the programme is to develop undergraduate employability skills using a student-centred learning approach in an environment emulating the workplace. A key feature of the programme is its employability skills framework, which defines ten skills – and their constituent behaviours – considered essential for business undergraduates (see Table 1). The framework defines the programme's learning outcomes and specifies which skills are core to each of the four units, as indicated in the first column of Table 1.

The skills framework is an adaptation of Jackson and Chapman's (2011) framework of 20 competencies considered critical in business undergraduates. It arose from an extensive review of recent, employer-based literature on relevant graduate skills across a range of developed economies (Jackson, 2010) and is thus considered broadly representative of skills requirements. The process of synthesizing Jackson and Chapman's framework to meet the specific needs of the employability skills programme is summarized in Jackson *et al* (undated).

## Method

*Participants*

Of the 1,232 students invited to participate in the study, 1,024 responded and agreed to their results being used for research purposes. Two hundred and eighteen students were completing Unit One; 338 were completing Unit Two; 212 were completing Unit Three, and 256 were completing Unit Four: 45% of the sample was male and 86% were completing a Bachelor of Business programme with a broad range of single, double and triple majors. The remaining students were studying for a degree from Law and Justice, Urban and Regional Planning and Sport, Tourism and Hospitality Management programmes within the Faculty of

**Table 1. Employability skills framework.**

| Employability skill | Behaviour | Behaviour descriptor |
|---|---|---|
| Working effectively with others<br>*Core to Units One, Two and Three* | Task collaboration | Complete group tasks through collaborative communication, problem solving, discussion and planning. |
| | Team working | Operate within, and contribute to, a respectful, supportive and cooperative group climate. |
| | Social intelligence | Acknowledge the complex emotions and viewpoints of others and respond sensitively and appropriately. |
| | Cultural and diversity awareness | Work productively with people from diverse cultures, races, ages, gender, religions and lifestyles. |
| | Influencing others | Defend and assert their rights, interests and needs and convince others of the validity of one's point of view. |
| | Conflict resolution | Address and resolve contentious issues with key stakeholders. |
| Communicating effectively<br>*Core to Unit One* | Verbal communication | Communicate orally in a clear and sensitive manner which is appropriately varied according to different audiences and seniority levels. |
| | Giving and receiving feedback | Give and receive feedback appropriately and constructively. |
| | Public speaking | Speak publicly and adjust their style according to the nature of the audience. |
| | Meeting participation | Participate constructively in meetings. |
| | Written communication | Present knowledge, in a range of written formats, in a professional, structured and clear manner. |
| Self-awareness<br>*Core to Units One and Four* | Meta-cognition | Reflect on and evaluate personal practices, strengths and weaknesses in the workplace. |
| | Lifelong learning | Actively seek, monitor and manage knowledge and sustainable opportunities for learning in the context of employment and life. |
| | Career management | Develop meaningful and realistic career goals and pathways for achieving them in light of labour market conditions. |
| Thinking critically<br>*Core to Unit Two* | Conceptualization | Recognize patterns in detailed documents and scenarios to understand the 'bigger' picture. |
| | Evaluation | Recognize, evaluate and retain key points in a range of documents and scenarios. |
| Analysing data and using technology<br>*Core to Unit Two* | Numeracy | Analyse and use numbers and data accurately and manipulate into relevant information. |
| | Technology | Select and use appropriate technology to address diverse tasks and problems. |
| | Information management | Retrieve, interpret, evaluate and interactively use information in a range of different formats. |
| Problem Solving<br>*Core to Unit Three* | Reasoning | Use rational and logical reasoning to deduce appropriate and well-reasoned conclusions. |
| | Analysing and diagnosing | Analyse facts and circumstances and ask the right questions to diagnose problems. |
| | Decision making | Make appropriate and timely decisions, in light of available information, in sensitive and complex situations. |
| Developing initiative and enterprise<br>*Core to Units Two and Three* | Entrepreneurship/ Intrapreneurship | Initiate change and add value by embracing new ideas and showing ingenuity and creativity in addressing challenges and problems. |
| | Lateral thinking/ creativity | Develop a range of solutions using lateral and creative thinking. |
| | Initiative | Take action unprompted to achieve agreed goals. |
| | Change management | Manage change and demonstrate flexibility in their approach to all aspects of work. |
| Self-management<br>*Core to Unit Three* | Self-efficacy | Be self-confident in dealing with the challenges that employment and life present. |
| | Stress tolerance | Persevere and retain effectiveness under pressure or when things go wrong. |
| | Work/life balance | Demonstrate the importance of well being and strive to maintain a productive balance of work and life. |
| | Self-regulation | Reflect on and regulate their emotions and demonstrate self-control. |
| Social responsibility and accountability<br>*Core to Units Three and Four* | Social responsibility | Behave in a manner which is sustainable and socially responsible (e.g., consistent with company policy and/or broader community values). |
| | Accountability | Accept responsibility for own decisions, actions and work outcomes. |
| | Personal ethics | Remain consistently committed to and guided by core values and beliefs such as honesty and integrity. |
| | Organizational awareness | Recognize organizational structure, operations, culture and systems and adapt their behaviour and attitudes accordingly. |
| Developing professionalism<br>*Core to Unit Four* | Efficiency | Achieve prescribed goals and outcomes in a timely and resourceful manner. |
| | Multi-tasking | Perform more than one task at the same time. |
| | Autonomy | Complete tasks in a self-directed manner in the absence of supervision. |
| | Time management | Manage their time to achieve agreed goals. |
| | Drive | Go beyond the call of duty by pitching in, including undertaking menial tasks, as required by the business. |
| | Goal and task management | Set, maintain and consistently act upon achievable goals, prioritized tasks, plans and realistic schedules. |

*Source:* adapted from Jackson *et al* (undated).

**Table 2. Mean ratings of students' perceived capabilities in employability skills.**

| Skill set | Mean | Standard deviation |
|---|---|---|
| Social responsibility and accountability | 7.903 | 1.275 |
| Developing professionalism | 7.514 | 1.329 |
| Working effectively with others | 7.426 | 1.141 |
| Self-management | 7.338 | 1.293 |
| Problem solving | 7.263 | 1.273 |
| Analysing data and using technology | 7.241 | 1.408 |
| Communicating effectively | 7.233 | 1.258 |
| Self-awareness | 7.209 | 1.337 |
| Developing initiative and enterprise | 7.169 | 1.261 |
| Thinking critically | 7.151 | 1.355 |

Business and Law. Seventy eight percent of the sample was aged 25 and under; only 3% were aged 41 or above. Within the sample, only 56% were domestic students and 49% stated that English was their first language: 43% of students were born in Asia, 10% in Africa, 8% in Europe and 39% in Australasia.

With regard to work status, 24% of participants were not currently in paid employment; 11% worked between one and nine hours each week; 53% between 10 and 29 hours; and only 8% worked in full-time employment. Regarding the number of years of work experience, 38% of the sample had none in a trainee role and 57% had one to three years experience. Thirty one percent had no work experience in an autonomous role; 48% one to three years; and 20% had four or more years. Finally, 65% had no supervisory or management experience; 27% one to three years; and only 8% four years or more.

*Procedures*

Data were gathered using an online survey, carried out in October 2011. Those students enrolled in the four units comprising the skills programme were invited, and encouraged, to complete the survey during the latter half of the semester. The survey was accessed using a unique electronic link for each unit. Those studying on campus were allocated time during a specified class session and the survey was incorporated into weekly activities for off-campus students.

The survey's initial section captured students' demographic and work background characteristics. To address the research objective, students were then asked to self-assess their capabilities in each of the behaviours defined in the skills framework. Students were asked to rate their current capabilities – on a scale of 1 to 10 – in performing each of the behaviours in the workplace. Students were advised that a rating of 1 meant they considered themselves unable to perform the behaviour in the workplace and 10 meant they were an expert and able to teach others. The wording used to define each of the behaviours in the survey was extracted directly from the programme's employability skill framework. Thus, participants self-assessed their capabilities against the behaviour descriptors provided in the third column of Table 1. Importantly, the behaviour descriptors are considered specific, measurable – in both higher education and workplace settings – and understandable to the lay person. This is vital because ambiguity and misinterpretation among stakeholders has hampered previous studies measuring graduate skill outcomes (see, for example, Tymon, 2011).

To assess internal consistency among items, Cronbach's Alpha was computed for competence ratings for the behaviours comprising each skill set in the framework. Alpha values ranged from 0.866 to 0.925, indicating a reliable set of measures for each skill. Correlations between individual items (behaviours) and the scale (skill set) were computed and ranged from 0.608 to 0.818 across the ten skills. This provides further evidence that the behaviours comprising each skill set are measuring the same construct. The online survey was pretested by a group of academics who actively teach on the employability skills programme. Their feedback resulted in a small number of cosmetic adjustments to the instrument.

## Results and findings

*Results by skill set*

First, a composite mean score for each skill set, achieved by averaging ratings across constituent behaviours, was calculated for each participant. Table 2 summarizes the mean ratings for the ten skills, in descending order, for all 1,024 students.

The findings indicate that the entire sample of students considered themselves reasonably capable in each of the ten defined skills. They rated their skills in 'social responsibility and accountability' the highest,

**Table 3. Variations in perceived skill capabilities by unit of study.**

| Skill set | *df* | *MS* | *F* | *p*-value | $\eta^2$ |
|---|---|---|---|---|---|
| Developing professionalism | 3 | 10.881 | 6.255 | 0.000 | 0.018 |
| Working effectively with others | 3 | 7.608 | 5.929 | 0.001 | 0.017 |
| Self-management | 3 | 7.335 | 4.435 | 0.004 | 0.013 |
| Problem solving | 3 | 7.036 | 4.382 | 0.004 | 0.013 |
| Analysing data and using technology | 3 | 15.861 | 8.170 | 0.000 | 0.023 |
| Communicating effectively | 3 | 13.892 | 8.985 | 0.000 | 0.026 |
| Thinking critically | 3 | 7.342 | 4.147 | 0.006 | 0.012 |

followed by 'developing professionalism' and 'working effectively with others'. The skills they rated themselves least capable in, although still achieving reasonable composite mean scores, were 'thinking critically', 'developing initiative and enterprise' and 'self-awareness'. As one might expect, composite mean scores for the ten skills generally rose, although only marginally, as the students progressed through their degree and the learning programme. Interestingly, those skills featuring at the top and bottom of the mean composite scores for the entire sample (see Table 2), did so for each of the individual units. Also, because the mean composite ratings for the final year students (Unit Four) varied little from those for the entire sample (see Table 2), comparisons between perceived student capabilities and employer-based literature on graduate workplace performance are feasible.

Multivariate analysis of variance (MANOVA) revealed significant variations by unit for these composite mean ratings for the ten skills, $\lambda$=0.921, F(30, 2968.161)=2.821, p=0.000, partial $\eta^2$=0.027. Univariate ANOVAs were conducted at a Bonferroni-adjusted significance level of $\alpha$=0.005 to reduce error arising from the number of tests. The results indicated this effect was due to significant differences across seven skills, as summarized in Table 3.

*Post hoc* results reveal that for 'problem solving', 'analysing data and using technology' and 'communicating effectively', those students from Unit One rated themselves significantly lower than students from all other units (p<0.05). For 'developing professionalism' 'working effectively with others' and 'thinking critically', students in Unit One assigned a significantly lower composite mean score than those from Unit Two and Unit Four (p<0.05). Finally, students from Unit One only rated themselves significantly less than Unit Three for 'self-management' (p=0.002). These findings broadly align with expectations – and the aims of the learning programme – that employability skills of students should develop and improve as the students progress through the degree programme (see, for example, Meyers and Nulty, 2009).

With regard to the three remaining skills, students from all units considered themselves extremely capable in 'social responsibility and accountability'. It would make sense that life spheres (Wheeler, 2008), including activities with family and friends, leisure pursuits and community engagement, may offer more significant opportunities for developing this skill area at an earlier age than others which are more concentrated into the degree programme. 'Developing initiative and enterprise' and 'self-awareness' both feature in the bottom half of ranked mean scores for all four units and their capability ratings do not vary significantly across the units, suggesting poorer outcomes and less improvement in their development. It may be that undergraduate degree education, life spheres and other avenues for employability skill development – such as schooling (Smith and Green, 2005) and work experience (Freudenberg *et al*, 2011) – offer fewer opportunities for developing these skills, although graduates do still consider themselves to be reasonably capable in both.

### *Analysis by behaviour*

The behaviours which scored the top ten mean ratings (n=1,024) are summarized in Table 4 and bottom ten mean ratings (n=1,024) in Table 5.

For the composite mean scores, students believed they were most capable in the behaviours comprising the 'social responsibility and accountability', 'working effectively with others' and 'developing professionalism' skill sets. Those areas in which students rated their performance the weakest were 'public speaking', 'conflict resolution' and behaviours comprising the 'analysing data and using technology', 'thinking critically', 'developing initiative and enterprise' and 'self-awareness' skill sets. However student mean ratings were still reasonably strong in all these 'weaker' behaviours, ranging from 6.80 to 7.18 of a possible 10.

MANOVA revealed significant variations by unit for the behaviour ratings, $\lambda$=0.787, F(120, 2939.837)=2.044, p=0.000, partial $\eta^2$=0.077. Univariate analysis of variances, conducted at a

**Table 4. Top ten behaviours by perceived capability in workplace performance.**

| Skill set | Behaviour | Mean | Standard deviation |
|---|---|---|---|
| Social responsibility and accountability | Personal ethics | 8.0449 | 1.44090 |
| | Accountability | 7.9756 | 1.40673 |
| | Social responsibility | 7.8213 | 1.47918 |
| Developing professionalism | Autonomy | 7.7734 | 1.53086 |
| Social responsibility and accountability | Organizational awareness | 7.7705 | 1.40696 |
| Working effectively with others | Cultural and diversity awareness | 7.7432 | 1.57431 |
| | Team working | 7.6973 | 1.38211 |
| | Task collaboration | 7.5674 | 1.34744 |
| Developing professionalism | Drive | 7.4961 | 1.60522 |
| | Goal and task management | 7.4619 | 1.43634 |

Bonferroni-adjusted significance level of $\alpha$=0.001, indicated that this effect was due to significant differences across several behaviours, as summarized in Table 6.

*Post hoc* findings show that for 'conflict resolution', 'public speaking', 'meeting participation', 'written communication', 'numeracy', 'information management' and 'time management', students in Unit One assigned significantly lower ratings than all other units ($p<0.05$). Students in Unit One assigned significantly lower scores than those in unit two and unit four ($p<0.05$) for 'social intelligence', 'conceptualization', and 'multi-tasking'. For 'self-regulation', students in both Unit One and Unit Two assigned significantly lower ratings than those in Unit Four ($p<0.05$) and students in Unit Two lower than Unit Four in 'time management' ($p=0.036$).

Again, the findings broadly support conventional wisdom that students commencing their degree programme consider themselves to be less capable in

**Table 5. Bottom ten behaviours by perceived capability in workplace performance.**

| Skill set | Behaviour | Mean | Standard deviation |
|---|---|---|---|
| Communicating effectively | Public speaking | 6.800 | 1.724 |
| Working effectively with others | Conflict resolution | 6.943 | 1.551 |
| Developing initiative and enterprise | Entrepreneurship | 6.985 | 1.467 |
| | Creativity/lateral thinking | 7.063 | 1.442 |
| Thinking critically | Conceptualization | 7.118 | 1.497 |
| | Evaluation | 7.184 | 1.388 |
| Analysing data and using technology | Information management | 7.187 | 1.497 |
| Self-awareness | Lifelong learning | 7.192 | 1.467 |
| | Career management | 7.197 | 1.584 |
| Analysing data and using technology | Numeracy | 7.214 | 1.640 |

**Table 6. Variations in behaviour ratings by unit of study.**

| Skill set | Behaviour | *df* | *MS* | *F* | *p*-value | $\eta^2$ |
|---|---|---|---|---|---|---|
| Working effectively with others | Social intelligence | 3 | 14.584 | 6.406 | 0.000 | 0.018 |
| | Conflict resolution | 3 | 19.523 | 8.290 | 0.000 | 0.024 |
| Communicating effectively | Public speaking | 3 | 18.465 | 6.311 | 0.000 | 0.018 |
| | Meeting participation | 3 | 15.392 | 6.764 | 0.000 | 0.020 |
| | Written communication | 3 | 27.610 | 11.747 | 0.000 | 0.033 |
| Thinking critically | Conceptualization | 3 | 11.745 | 5.307 | 0.001 | 0.015 |
| Analysing data and using technology | Numeracy | 3 | 24.195 | 9.210 | 0.000 | 0.026 |
| | Information management | 3 | 16.412 | 7.460 | 0.000 | 0.021 |
| Self-management | Self-regulation | 3 | 13.509 | 5.950 | 0.001 | 0.017 |
| Developing professionalism | Multi-tasking | 3 | 19.036 | 6.825 | 0.000 | 0.020 |
| | Time management | 3 | 21.419 | 8.173 | 0.000 | 0.023 |

performing certain behaviours in the workplace than students in the latter stages of their business degree. This also supports DuPre and William's (2011) findings that students' perceptions of their preparation for the workplace improved as they progressed through their degree programme. There may be a number of reasons why these particular behaviours varied significantly by unit and others did not. First, the cited behaviours are all prominent examples of curriculum areas which are developed more in the later units, with the exception of 'public speaking' which was formally assessed with detailed feedback in Unit One, but after the survey was completed, and 'written communication' which is cited as a fundamental deficiency in business graduates (Kotzee and Johnston, 2011). Second, the stringency of the Bonferroni-adjusted Alpha level ruled out a large number of behaviours which might otherwise have been considered significant ($p<0.05$), further confirming the evidence for supported skill development. Finally, there are some prominent examples of behaviours such as 'conflict resolution', 'social intelligence', 'self-regulation' and 'critical thinking', which may be more abstract and unfamiliar to first year students who are less exposed to them and therefore require more confidence and time to master.

*Alignment with literature*

Perceived strengths in 'social responsibility and accountability' (Graduate Careers Australia, GCA, 2009; Institute of Directors, IOD, 2007) broadly align with employer-based studies in developed economies. Similarly, industry acknowledges success in graduate skills in 'working effectively with others' (BIHECC, 2007; GCA, 2009; IOD, 2007) although the recent CBI (2011) study of 566 UK employers reported that 20% of participating organizations were dissatisfied with graduate team-working skills. There is conflicting evidence of performance in 'developing professionalism'. Although the IOD discovered that more than 75% of participating UK employers reported recent graduates as demonstrating a positive attitude, a good work ethic and being punctual in arriving for work, evidence supported by GCA's results in these areas, other studies have highlighted as problematic areas such as organizational skills (CIHE, 2008) and time management and readiness to improve one's performance (CBI, 2009).

Regarding areas of weaker performance, the present findings align with recent industry concerns in developed economies about graduate capabilities in critical thinking (CIHE, 2008), innovation (Business Council of Australia, BCA, 2006), numeracy and creative thinking (CBI, 2011) and lifelong learning and career management (Bridgestock, 2009). 'Conflict resolution' often falls under the general heading of 'influencing and negotiating' within the team-working skill set and is cited as an area of poor performance (IOD, 2007). However, 'information management' is considered a particular strength for 'Generation Y' graduates because they master the ability to process and synthesize considerable volumes of information on a daily basis (Shih and Allen, 2007).[1]

Considering the findings from other studies of student perspectives, Atfield and Purchell's (2010) study supports perceptions of strong performance in team working skills and relative weakness in numeracy. DuPre and William (2011) also found students felt more prepared to demonstrate team working and work ethic skills in the workplace but far less so in analytical skills. Smith and Kruger's (2008) study indicated that business undergraduates perceived conflict management and negotiation, interpersonal and intellectual skills as those which they lacked most. In addition, Mill's (2007) study of graduates and employers cited creativity as an area least adequately developed in business undergraduates.

## Discussion and implications

This study examined the perceptions of 1,024 business undergraduates of their capabilities in industry-required employability skills. Comparisons with employer perceptions may explain the continuing disparity between industry expectations and higher education provision (Mason *et al*, 2006) and how these gaps might be addressed. Behaviour and composite skill ratings both indicated that students perceive that they have strong capabilities in the 'social responsibility and accountability', 'working effectively with others' and 'developing professionalism' skill sets, broadly aligning with the results from other, industry-based studies. The weaker mean ratings for 'thinking critically', 'developing initiative and enterprise' and 'self-awareness', relative to other skill sets, are also consistent with employer perceptions; but student ratings are inflated, suggesting that they believe themselves to be reasonably capable in these areas, whereas in contrast the evidence from industry suggests skill deficiencies.

Inflated perceptions by students of their capabilities in certain employability skills have been acknowledged (Saunders and Zuzel, 2010). This apparent lack of humility in some of those representing Generation Y also features in recent media reports (see, for example, 'Recession-proof talent', 2009) and the academic literature (see, for example, Bibby, 2009; Papadopoulos, 2010): it has been described as their '. . . seemingly inexhaustible well of positive self-regard' ('The Why-Worry Generation', 2010). Interestingly, Atfield and Purcell (2010) found undergraduate self-ratings in

self-confidence were less likely to be high relative to other employability skills and the most likely to be rated 'not very good'. The implications of over-confidence are less discussed but may be as far-reaching as the skill gaps themselves. On the positive side, confidence in one's ability, commonly termed self-efficacy, may have a positive impact on the pursuance of, and effort and perseverance in, performing tasks (Bandura, 1997). Theorists on learning transfer argue self-efficacy will greatly assist learners in applying acquired skills in contexts different to the learning environment (Kirwan, 2009). It is also believed that self-efficacy may be used to predict job search success (Little, 2001; Saks, 2006), increase productivity (Kinari *et al*, 2011) and enhance leadership performance (Anderson *et al*, 2008). Interestingly, Brennan and Shah (2003) cite it as possibly more important than skills development with regard to enhancing employability.

Conversely, undergraduates' seeming over-confidence and inflated self-importance may be extremely problematic ('The Why-Worry Generation', 2010). According to NACE (2010), new graduates were at that time turning down jobs at the same rate as when the US economy was booming in 2007, an indication perhaps of irrational self-confidence and self-entitlement (Alsop, 2008) and unrealistically high workplace expectations (Ng *et al*, 2010). The evidence suggested that industry finds it difficult to teach new recruits who are over-confident and arrogant (Callaghan and McManus, 2010) and there are problems with recent graduates having poor work ethics and a lack of respect for superiors (Bonner *et al*, 2011), this latter especially so for existing employees from older generations. Graduates expect meaningful and challenging work and are less amenable to menial tasks (Ng *et al*, 2011), something that is a particular problem for smaller businesses. More specifically with regard to business graduates, Shipman and Mumford (2011) suggest overconfidence may be detrimental to effectiveness in leadership.

On a more personal level, overconfidence and inflated expectations may cause dissatisfaction among graduates as they grapple with the disparity between their perceived capabilities and their actual abilities to complete certain tasks. They may also have a higher benchmark for job satisfaction (Amble, 2005), this seemingly confirmed by high levels of graduate turnover and job mobility among recent graduates (PriceWaterhouseCoopers, 2009; Williams, 2009). For higher education, inflated perceptions of capabilities may create a barrier to effective employability skill development because students do not comprehend the gap between their own mastery of certain skills and the expected standards of performance in industry. Ultimately this will result in poor outcomes and widening of the graduate skills gap.

Higher education must address the problem of overconfidence and its potential impact on endemic skill gaps. This may be achieved by imparting a clearer picture of what industry expects from graduating students with regard to employability skills and encouraging students to self-evaluate critically and effectively to generate more accurate perceptions of their own capabilities. One approach is the use of standardized rubrics which outline skill requirements using detailed descriptors for the different expected skill levels, such as novice through to expert, as undergraduates progress through their degree programme. These enable students to gauge their capabilities more accurately and provide clear guidance on evidence-gathering exercises for the skills portfolios that increasingly are being used (Buckley *et al*, 2010). More precise clarification of the skills required, and to what level, may ensure better alignment between industry needs and higher education provision. Rubrics will also facilitate more transparent and precise curricula mapping processes and the constructive alignment of learning outcomes and assessments (see, for example, Biggs, 2003). As part of an ALTC project, standardized specifications for employability skills typically required in undergraduates have been developed by 51 Australian higher education programme leaders (see, for example, Oliver, 2011). The importance of defining skill levels is not new (see, for example, Hampson and Junor, 2009) and specifications that define skill descriptors for employability skills are also not unknown in higher education (see, for example, Rhodes, 2008). Their value as a tool for self-assessing and peer-assessing graduate capabilities and measuring graduate outcomes may, however, be underestimated.

A further solution lies in considerably greater involvement by industry in employability skills' development in higher education. This would provide more authentic learning opportunities for students and help to identify more precisely which skills, and at what level, industry expects of recent graduates (Cranmer, 2006). Furthermore, the development of academic teaching and learning standards in Australia (ALTC, 2010) and associated discussion of accreditation standards with undergraduates should prove valuable in clarifying required skill levels.

Although employers are concerned with determining precisely which skills are most required in graduates, and lamenting any shortfalls in provision, it seems that their recruitment processes may sometimes conflict with what they say they want. The CBI report (CBI, 2011) states that employability skills are the most important

factor when recruiting graduates, with 70% of respondents to the CBI study stating that they would like to see more effective development of employability skills. This is supported by findings from GCA (2009): however, the status of the HE institution – in particular, whether it is a new or a more established, traditional university – appears to have an effect on graduate recruitment processes (Wilton, 2011). Other influential factors are the university's reputation in particular subjects or disciplines, the credibility of the student's field of study, student ambitions and their awareness of external labour market opportunities (Rothwell and Arnold, 2007). GCA (2009) identified work experience and extra-curricular activities as important graduate selection criteria. Inconsistencies between employer wish lists and their recruitment processes endanger the value in providing employability skills and the importance of undergraduates accurately evaluating their capabilities against skills criteria.

It may be that inflated perceptions of capabilities in employability skills are not caused solely by typical generational characteristics but are, in part, a product of academics devising pedagogical approaches and curricula content which do not adequately challenge students in skills development. David *et al* (2010) argue that business school provision is 'too academic', stating 'few institutions can obviously and straightforwardly claim teaching staffs that either offer wide experience of business practice or a pedagogy that reflects authentic and legitimate practitioner learning' (*ibid*, p 3). Perhaps this lack of connection with industry can be blamed for targeted skill outcomes which do not meet industry expectations. Students do engage with employability (Tomlinson, 2008) but have perhaps not grasped precisely what is expected and how difficult it can be to achieve. Alternatively, academics may be aware of the required standards but are not engaging with the employability agenda and the required course design and curricula (Gunn *et al*, 2010). Lowden *et al* (2011) discuss the difficulties encountered in embedding skills development, because current funding rules do not explicitly encourage an institutional culture attuned to the provision of employability skills.

Skills gaps may be attributed to factors unrelated to the gap between undergraduates' perceived ability and industry expectations. One cause may be the lack of attention to and incorporation of work-integrated learning (WIL) in undergraduate programmes: WIL is increasingly acknowledged as improving both employability outcomes and academic performance (Gamble *et al*, 2010). Gaps may be caused by difficulties in graduates transferring acquired skills from higher education to the workplace due to disparity in the two contexts and the considerable influences on this extremely complex process (see, for example, Jackson and Hancock, 2010). Alternatively, undergraduates may not be engaging sufficiently with the employability skills development agenda (see, for example, Tymon, 2011) and should, in the eyes of employers, be doing more to prepare themselves for being effective in the workplace (CBI, 2011)

### *Limitations of the study*

The study was based on self-assessment, the benefits and flaws of which have attracted significant debate (see, for example, Lew *et al*, 2010; Oliver *et al*, 2011). The self-audit of skills does, however, provide a foundation for a 360-degree tool which might incorporate peer and facilitator assessment. The study also focuses on employability skills provision in and comparative studies from developed economies such as those of the USA, UK, Australia and Canada, with no consideration given to developing economies in the East. The above nations are deemed to be sufficiently culturally-similar, with homogenous industry-relevant graduate skills requirements and skills gaps, to enable comparisons to be made across existing studies and literature. Debate on the influence of context on graduate workplace expectations and performance (Billings, 2003; Jones, 2008) may have an effect on the generality of the study's findings across different countries. In addition, evidence of the effect of academic discipline on industry requirements and graduate performance (Atfield and Purchell, 2010) means that extrapolation beyond the field of business should be undertaken with caution.

The study is also limited by its use of a single sample. Comparative data from different institutions – particularly those with different pedagogical approaches such as embedment in core units rather than standalone delivery – may be helpful in understanding the potential influence of the setting on competence ratings. In addition, it is important to remember that graduate employability is multidimensional and there are other, significant influences on graduate workplace performance, and any associated skill gaps, beyond the employability skills discussed in this paper. Finally, ambiguity in skill definitions renders comparisons among stakeholder studies inherently difficult. This problem is widely acknowledged and continues to plague studies seeking to clarify industry requirements, and gauge the current performance, of graduates.

## Notes

[1]For an informal exposition of 'Generation Y' see, for example, Asthana, A. (2008), 'Generation Y: they don't live for work . . . they work to live', The Observer, London, 25 May.

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