

Senior managers' and recent graduates' perceptions of employability skills for health services management

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If work-integrated learning (WIL) is intended by universities to meet the demand for work-ready graduates, identification of skill requirements for development on placements is a critical part of the learning process. Health services management specific employability skills perceived to be important by managers and recent graduates working in the field and their perceptions of skills they need to improve are not readily available in the literature. This research acknowledges the context specific nature of employability skills. Senior managers and recent graduates working in health services management were identified from a placement data base used at a NSW university, and were emailed a common questionnaire. A total of 38 senior managers and 42 recent graduates completed emailed surveys, rating importance and skills observed for 44 employability skills items. Items were informed by the literature and content analysis of advertisements for graduate health management positions. There was strong agreement between the two groups on important employability skills, and the top seven items on which they agreed were all generic in nature. Skill gaps were also revealed, many of which recent graduates did not appear to recognize. (*Asia-Pacific Journal of Cooperative Education, Special Issue, 2017, 18(2), 115-128*)

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For higher education to embed the development of employability capabilities in curriculum to ensure work-ready graduates (consistent with the recent *National WIL Strategy*), requirements of industry must first be clarified. While industry generally appears satisfied with the discipline-specific skills of graduates, there is some evidence that generic skills could be further developed (Graduate Careers Australia, 2016). Given that the contextual nature of employability skills has long been recognized (Department of Education, Employment and Workplace Relations, 2012), it means that industry specific employability skills should be identified.

For the purposes of this research employability skills were defined as skills “not only to gain employment, but also to progress within an enterprise” (Australian Commonwealth Department of Education Science and Training, 2002, p. 143). This included technical or discipline specific skills, knowledge, capabilities and personal attributes. This is consistent with the European Commission (2011, p. 4) definition that employability skills are “The combination of factors which enable individuals to progress towards or get into employment, to stay in employment and to progress during their career.” More recently, the *Australian Employability Skills Framework* (2012) acknowledged employability skills as skills and knowledge that enable employees to perform effectively in the workforce and apply technical or discipline specific skills. It noted that failure to recognize the context-dependent nature of employability skills, lack of explicit focus on employability skills in education, also measurement and assessment difficulties helped explain poor development of employability skills in graduates.

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Work-Readiness

Employer preferences for graduates who “hit the ground running” have been reported (Ferns & Lilly, 2015; Ridoutt, Selby Smith, Hummel, & Cheang, 2005; Semeijn, van der Velden, Heijke, Vleuten, & Boshuizen, 2006). However, only one fifth said they expected graduates to be immediately work-ready in the Hinchliffe and Jolly (2014) study. In an Australian study, Ridoutt et al., (2005) argued that employers regarded qualifications as a signal of potential for future learning and skills acquisition, not as a signal of immediate competence. Scott (1995, p.112) saw a degree as a threshold requirement and noted that formal credentials were a less reliable guide to success, finding that personal qualities were “more important than professional discipline, possession of specific credentials, mastery of specialized knowledge or even of expert skills.” Furthermore, Tomlinson (2008) surveyed final year students and found students perceived academic qualifications as having a declining role in shaping employment outcomes. Students did not think a degree was enough. More recently, Weinstein (2014) cited a survey by a recruitment website which found that 49% of recent graduates believed their university education did not adequately equip them for the world of work.

It is known that advertised employability skills profiles vary not only by industry but also by country (Ahmed, Capritz, Boulouf, & Campbell, 2012; Communal & Senior, 1999; Cramer & Tenzek, 2014; Marchal, Mellet & Rieucan, 2007; Quinn & Rochford, 2013; Rear, 2013) and over time (Varje, Turtianen, & Vaananen, 2013). As stated by Massey (2010) skill sets are in transition, with a move towards generic skills or soft skills rather than job or profession specific skills (Cramer & Tenzek, 2014; Quinn & Rochford, 2013). In fact, one third of the studies in a recent review (Messum, Wilkes, Peters, & Jackson, 2016) specifically recommended that HEI should use their findings and/or teach generic skills required by industry.

Ridoutt et al., (2005) found employers also valued experience. This was confirmed by Orme (2008) as the most important employability skills of all; Chow and Shih (2005) found experience was listed in 67% of advertisements, Wellman (2010) 52%, and Kennan, Cecez-Kecmanovic, Willard, & Wilson, (2009) 50%. It was even a requirement for new entry positions (Chipulu, Neoh, Ojiako, & Williams, 2013; Messum, Wilkes, & Jackson, 2011; Reeves & Hahn, 2012). If experience is a major requirement it may help explain recruitment shortages. This finding has important implication for HEI and work-integrated learning.

Communication Skills

The most recent GCA survey (2015 p,15) found communication skills the most important selection criterion for employers when recruiting graduates, nominated by 48.6% of graduate employers. Academic results and teamwork skills came next (24% and 22.4% respectively) and around 20% of employers ranked aptitude as a key selection criterion, followed by interpersonal skills, leadership skills and work experience. In our recent review of 40 studies (Messum et al., 2016), two thirds listed communication skills as the most commonly advertised skill requirement. However, communication skills were variously called social skills (Redman & Mathews, 1997) and interpersonal skills (Wise, Henninger, & Kennon, 2011) or listed as an item in a cluster of skills. Other studies viewed communication skills as a distinct from interpersonal skills (Den Hartog, Caley, & Deve, 2007; Hong, 2012; Omar et al., 2012; Salleh et al., 2013). Communication skills mean different things in different settings and countries (Rear, 2013). Lack of agreement over definition of terms has been previously

identified dispelling the notion of a universal understanding, which explained the absence of a single "focus for teaching, learning and assessment" (Hughes & Barrie, 2010, p. 238). Jones (2010) showed how the culture of the discipline influences understanding of or generic attributes and concluded that they were highly context-dependent and shaped by discipline.

Skill Gaps

Although communication skills have consistently emerged as the most important employability skills, deficiencies in written and oral skills have been lamented (Archer & Davison, 2008; CBI, 2013; GCA, 2015). Problems with integrity, teamwork, problem solving, literacy, numeracy, critical analysis skills, planning, organizing and self-management have also been revealed (Hincliffe & Jolly, 2014). Furthermore, generic employability skills seem more useful than job-specific skills for coping with rapidly changing and complex work environments such as in the health field (Liang, Short, & Brown, 2006). They found skills in planning, evaluation and decision-making have endured, but new skill requirements have emerged, namely leadership, managing and leading change, mentoring others, financial management and personal qualities. Skill sets that preserve employability in rapidly changing, now often global, fields (Kennan et al., 2009) are particularly important since they include both skills to secure a job and progress in the employing organization, which have previously been found to be not exactly the same skill sets (Semeijn et al., 2006). This was confirmed by Chipulu et al., (2012), who found industry put more weight on generic skills eg communication, team management, leadership, stakeholder management, budget management, time management, commercial awareness and teamwork, than discipline specific skills. Knowledge and experience. To summarize, while industry generally appears satisfied with discipline-specific skills, GCA (2014) reported that generic skills are under-developed.

Sources of Information

To ascertain skill requirements, typically the views of employers or students are sought (Jackson, 2011; Nilsson 2010). A few studies have also surveyed views of recent graduates and academics (Crebert, Bates, Bell, Patrick & Cragolini, 2004; Gedye, Fender, & Chalkey, 2004; Oliver, Whelan, Hunt, & Hammer, 2011). Other sources of information include professional colleges which publish capability lists and exert a strong influence on teaching content for many professions (e.g., ACHSM, 2014). Analyzing essential skills as given in vacancy advertisements is another source (Varje et al., 2013). However, skills to gain a job have been found different to those required once a job is secured (Semeijn et al., 2006). There is value in using more than one source of information to corroborate results.

It has been argued that recent graduates are well placed to identify skills important in the real world, based on insight from current employment experience (Ainsworth & Motley, 1995). Graduate perceptions of their own skill levels have been studied, (Crebert et al., 2004; Gedye et al., 2004; Oliver et al., 2011; Wickramasinghe & Perera, 2010). In a survey of 36 Australian universities shortly after course completion (GCA, 2013) most full-time employed bachelor degree graduates felt that they possessed high levels of skill for learning, teamwork, problem solving and communication. However, only 58.9% rated skill levels highly for information technology skills and 57.7% for initiative/enterprise. Three years later, employability skills were reported as much improved, especially self-management, initiative/enterprise, planning and organizing, skills they identified as more effectively developed on the job rather than at university. If WIL is intended by universities to meet the

demands for work-ready graduates (Patrick et al, 2008), identification of discipline specific employability skills requirements is a necessary first step. Findings can be used in curriculum renewal and to raise student awareness about skills required on the job. The potential is there for accuracy of self-assessment of employability skills to be developed through WIL, (Mackaway, Winchester-Seeto, & Rowe, 2012). The value in comparing their perceptions with senior managers is that it can add weight to recommendations for curriculum renewal. Findings can also be useful to clarify expectations of work-integrated learning (WIL) experiences. Failure of newly appointed graduates to recognize the importance of particular employability skills, as perceived by their supervising managers, may be useful feedback for employers and higher education institutions (HEIs).

Employability Skills for Health Services Management

There is limited research exploring context specific employability skills requirements in the health arena (Messum et al., 2011). Messum et al. (2011) found that the most frequently advertised essential requirements for health services management (HSM) vacancies were interpersonal skills, experience, tertiary qualifications, knowledge of the healthcare system, teamwork, conceptual and analytical skills, computer skills, financial skills and leadership. Liang, Leggat, Howard, and Koh (2013) identified six core competencies for senior management as operations, administration and resource management; knowledge of healthcare environment and the organization; interpersonal, communication qualities and relationship management which have been widely identified in previous studies but leading and managing change and evidence-informed decision making have not been as clearly recognized previously. However, the skills for new graduates at lower levels in health organizations, were different (Messum, Wilkes, & Jackson, 2015). According to their supervisors, these included being flexible and open-minded, written and verbal communication skills, self-awareness, collaborative and planning skills rather than technical or discipline-specific skills. Only two common items were revealed for the top 10 essential skills advertised (Messum et al., 2011) compared with the top 10 employability skills required by senior health managers: interpersonal skills and teamwork. Specifically, employability skills gaps in recent graduates that they supervised were reported for teamwork, written skills, collaboration, negotiation, computing and software skills (specifically use of Excel), strategic thinking, ability to scan the environment and self-awareness. This study also found that health managers wanted new graduates with good self-management skills who required minimal supervision, and were self-starters with a good work ethic. Furthermore, the most important employability skills for which skill gaps were identified were all generic rather than discipline specific. However, given the paucity of research into skill needs for HSM the aim was to identify those job specific skills required in the field as well as generic skills and measure the level of skill gaps comparing self-rated and supervisor ratings.

RESEARCH AIMS AND INTENT

The broad aim of this paper was to illicit views of recent graduates and senior managers about skills needed to work in HSM. More specifically the research questions asked:

- Is there a difference in perceptions of skills most important for HSM, whether job specific or generic, for senior managers and recent graduates?
- Is there a difference in ratings of skill levels by supervising senior managers and recent graduates' self-ratings?

This research was undertaken with ethics approval (number H9344, 9 July 2013), from the University of Western Sydney for PhD studies.

METHOD

Survey Instrument

The survey included four Likert scales for interpersonal and communication skills, self-management skills, critical analysis skills and job specific skills. Individual employability skills items were gleaned from the literature and from our study of 100 job advertisements for HSM positions in two major NSW newspapers (Messum et al., 2011). Items were then sorted into themes verified by pilot testing with three local health managers. Respondents rated items for importance and skill level on a five-point scale ranging from no skills, that is, requiring training and development rated zero to excellent rated four. Further details can be seen in previous publications (Messum, Wilkes et al., 2015; Messum et al., 2016). The same Likert scales were used by both senior managers and recent graduates. Each item was rated in turn for importance then skill level to promote understanding that comparisons were being made.

Survey Sample

Convenience samples of senior HSM managers defined as Chief Executive Service or Senior Executive Service level employees or their equivalent, who supervised graduates, also recent graduates from the last three years were obtained from placement data held for a large metropolitan university, NSW Australia. Both groups were emailed surveys over a three - month period in 2013. Two (5%) recently appointed senior managers declined to participate in the study, stating that they had too little experience in the health sector, having worked outside the health arena to date. The sample included CEOs, general managers or directors of health districts, organizations or services. About half the respondents had been employed in health for over 20 years. This was similar for male and female respondents. Furthermore, all confirmed that they had supervised new graduates in the last three years. Some additional information for both samples is provided in Table 1.

TABLE 1: Description of the samples

Sample	Senior Managers n=38	Recent Graduates n=42
Response rate	95%	84%
Ration males: females	1:1	1:2
Sector of employment	Public 55%, NFP 35%, private 10%	Public 83%, NFP 14%, private 3%
Mean years working in health	19	1.5

Of the recent graduates 20 had completed an undergraduate degree from one NSW metropolitan university, 20 from a variety of universities across the state and two from overseas. Over one third were currently engaged in part-time post-graduate study, in a ratio of two females to one male. Only four held a permanent position, and the majority (88%)

worked full-time. Jobs were varied: seven worked as project officers, six as quality managers, four in general management roles, the balance as personal assistants to senior staff.

Data Collection and Analysis

A Cronbach's alpha coefficient of 0.89 was obtained for the total 44 items as a check for internal consistency. The reliability of sub-scales was also examined. All sub-scales except one called experience and knowledge of health with achieved a satisfactory Cronbach's alpha over 0.7 (ranging from 0.82 to 0.9), suggesting good internal consistency, that is, they were measuring the same underlying construct according to Pallant, 2013. The four experience/knowledge items were combined with job specific skills items which improved internal consistency of this sub-scale to 0.87. The experience/knowledge sub-scale was originally included because it contained selection criteria found frequently in our advertisement analysis study (Messum et al., 2011) and was ranked fifth in importance by GCA 2013. This revised survey was used with recent graduates and internal consistency improved with a Cronbach's alpha coefficient of 0.93. This time all sub-scales achieved a satisfactory Cronbach's alpha over 0.7 (ranging from 0.82 upwards), confirming that they were measuring the same underlying construct. Other analysis included paired samples *t*-tests for comparison of senior managers' and recent graduates' views of importance and skills ratings with *p* set at 0.05, two tailed test for an exploratory study.

RESULTS

Mean scores for importance ratings from senior managers and recent graduates for the four sub-scales are presented in Table 2. Overall perceptions about what employability skills were important in HSM were similar with no statistically significant differences in mean scores for 34 (77%) items. Of all 44 items the top 10 most important employability skills for senior health managers were integrity and ethical conduct, communication skills (IPC and written), teamwork, flexibility and open mindedness, collaboration, self-awareness, priority setting, planning and life-long learning. For recent graduates, they were communication skills (verbal and written), teamwork, integrity and ethical conduct, and some self-management skills (priority setting, time management, ability to work independently, organizational skills) experience in management and networking. Findings for each sub-scale will now be presented in turn.

Mean scores for importance ratings of IPC sub-scale items were significantly different for only networking and leadership, both of which were more important to graduates than managers. For self-management items, time management, organizational skills, working independently and experience in management were significantly more important to recent graduates than managers, but managers rated self-awareness, flexibility and open mindedness more highly. Strong agreement on the importance of integrity and ethical conduct was found, the item which achieved the highest importance rating of any item in this research. There were no statistically significant differences in mean scores for importance of all critical thinking skills items. Furthermore, managers and recent graduates exhibited almost identical rank ordering with priority setting, planning skills and independent thinking the top three, all rated as important to very important.

TABLE 2: Comparison of managers' and recent graduates' rating of importance of employability skills

Employability skills IPC skills	Importance	
	Managers	Graduates
Interpersonal skills	3.78	3.60
Teamwork	3.75	3.76
Written communication	3.68	3.70
Verbal communication	3.67	3.86
Collaborative skills	3.67	3.45
Networking skills	3.00	3.61**
Negotiation skills	3.08	3.14
Cultural awareness	3.03	3.09
Leadership	2.64	3.24**
Self-management skills		
Integrity & ethical conduct	3.94	3.81
Flexible and open minded	3.72	3.63
Self-awareness	3.56	3.41
Life-long learning	3.47	3.54
Organizational skills	3.42	3.71**
Calm under pressure	3.42	3.49
Time management	3.37	3.78**
Ability work independently	3.36	3.73**
Experience in management	2.31	2.76**
Tertiary qualifications	3.25	3.22
Career planning skills	2.83	2.93
Critical thinking skills		
Priority setting	3.53	3.74
Planning skills	3.47	3.58
Independent thinking	3.42	3.43
Ability to analyze environ	3.39	3.43
Strategic thinking	3.33	3.52
Conceptual skills	3.17	3.20
Creativity and innovation	3.17	3.24
Research skills	3.14	3.20
Job specific skills		
Computer & software skills	3.33	3.59*
Change management	3.29	2.94
Budget/financial management	3.19	2.81*
Administration skills	3.14	3.33
Project management	3.11	3.55***
Legislation, standards, policy	3.00	3.15
Operational management	2.87	3.12
Risk management	2.87	3.32**
Quality management	2.84	3.38**
Experience in health field	2.84	3.00
Performance management	2.79	3.33**
HRM	2.71	2.85
Advocacy skills	2.71	2.93
Knowledge of local population	2.39	2.63
Accreditation skills	2.37	2.59

* Indicates significant difference at $p < 0.05$, ** at $p < 0.01$ & *** at $p < 0.011$ between mean scores for managers and recent graduates.

For ratings of importance of job-specific skills, mean score differences were statistically significant for computing and software skills, project, risk, quality and performance management, which recent graduates rated more important than managers. Both groups agreed that computer and software skills were the most important employability skills in this scale. Senior managers rated budget/financial management significantly more important than graduates.

Table 3 compares skill ratings observed by supervising health managers with recent graduates' self-ratings on the same items. On all skill ratings for IPC items, graduates' mean scores were significantly higher than managers, except for verbal communication skills, on which they agreed. Skill gaps, as defined by a mean score of 2.5 or lower as observed by senior managers, were apparent for written communication, teamwork, collaboration, negotiation, cultural awareness and leadership. However, this was not the view of recent graduates: none of their mean scores in this scale achieved less than 3.2.

Mean scores for self-management item skill levels were not significantly different for tertiary qualifications, being calm under pressure, also integrity and ethical conduct, suggesting similar views of recent graduates and supervising managers. Recent graduate's self-ratings were significantly higher than that of supervising managers for all other items. Skill gaps appeared with mean scores from managers below 2.5 for career planning skills and experience in management and close to 2.5 for ability to work independently, life-long learning and self-awareness. Recent graduates however, did not appear to appreciate their skill gaps, with only experience in management self-rating below 2.5.

On all critical thinking items, recent graduates rated their skills significantly higher than managers, except for research skills where they agreed. However, skill gaps existed for priority setting, independent thinking, planning skills, ability to analyze the environment, conceptual thinking, strategic thinking, creativity and innovation with mean scores rated lower than 2.5 by supervising managers. Recent graduates rated all items in this sub-scale over 2.5.

In summary, Table 3 also shows that for nearly all items, recent graduates' self-ratings for job specific skills were significantly higher than the rating given by managers except computer and software skills, change management, operational management, knowledge of the local population and accreditation skills on which ratings were similar. However, all job specific skill items were rated less than 2.5 by managers, except administration and computer and software skills, suggesting many skill gaps.

TABLE 3: Comparison of managers' observations and recent graduates' self-rating of skill levels

Employability skills IPC skills	Managers observations	Graduates self-ratings
Interpersonal skills	2.75	3.21**
Teamwork	2.67	2.98***
Written communication	2.69	3.21**
Verbal communication	2.81	3.14
Collaborative skills	2.44	2.95**
Networking skills	2.14	2.62**
Negotiation skills	1.86	2.55***
Cultural awareness	2.01	2.90***
Leadership	1.75	2.64***
Self-management skills		
Integrity & ethical conduct	3.14	3.49
Flexible and open minded	2.83	3.37***
Self-awareness	2.53	3.07***
Life-long learning	2.58	3.20**
Organizational skills	2.78	3.15*
Calm under pressure	2.67	2.79
Time management	2.72	3.41**
Ability work independently	2.58	3.45***
Experience in management	1.61	2.32***
Tertiary qualifications	3.00	3.29
Career planning skills	2.14	2.73***
Critical thinking skills		
Priority setting	2.56	3.19***
Planning skills	2.42	2.98***
Independent thinking	2.44	2.86***
Ability to analyze environ	2.13	2.91**
Strategic thinking	2.18	2.88***
Conceptual skills	2.31	2.70**
Creativity and innovation	2.28	2.80**
Research skills	2.69	3.00
Job specific skills		
Computer & software skills	3.11	3.12
Change management	1.87	2.31
Budget/financial management	1.82	2.36**
Administration skills	2.66	3.17**
Project management	2.21	2.79**
Legislation, standards, policy	2.06	2.51**
Operational management	1.95	2.31
Risk management	1.94	2.61***
Quality management	2.00	2.71***
Experience in health field	1.97	2.44**
Performance management	1.89	2.54**
HRM	1.68	2.31***
Advocacy skills	1.83	2.49**
Knowledge of local population	1.64	2.27
Accreditation skills	1.84	2.02

* Indicates significant difference at $p < 0.05$, ** at $p < 0.01$ & *** at $p < 0.001$ between mean scores for managers and recent graduates and recent graduates.

DISCUSSION

There are three main themes for the findings from this employability skills research: importance ratings, skill levels and skills gaps, which will be discussed in turn.

Importance Ratings

Overall there was strong agreement between supervising managers and recent graduates over what employability skills were important in HSM, with no difference in rating for three quarters of the items. For senior health managers, the most important employability skills were all generic skills (integrity and ethical conduct, interpersonal skills, teamwork, flexibility and open mindedness, written communication skills, collaboration, self-awareness, priority setting, planning and life-long learning). For recent graduates the top 10 employability skills were in slightly different order but also all generic except for the experience item which is specific to the field of HSM. The difference seemed to be that recent graduates focused on communication skills and self-management, consistent with GCA (2013), which they found best developed on the job. On the other hand, managers focused on different communication skills, emotional intelligence and the bigger picture. Communication, teamwork and interpersonal skills are top ranking employability skills in GCA (2015) but they found integrity was only mentioned by less than 4% of managers. Clearly this is more important in health, and recent graduates agree. Perhaps this is not unexpected given the potential vulnerability of health clients. Teamwork is also not unexpected given the nature of multi-disciplinary work in health. The importance of communication skills and teamwork echoes our previous findings (Messum et al., 2011).

Statistically significant differences emerged for networking and leadership which were more important to recent graduates than managers. Networking skills have been found instrumental in securing ongoing employment and career advancement (Gibson, Hardy & Buckley, 2014; Kuijpers, Schyns, & Scheerens, 2006; Sowon, 2013). This may also apply to leadership skills, but recent graduates understanding of the term "leadership" was not explored in our study. Only four recent graduates held permanent positions and they may have felt that showing initiative was an example of leadership skills important to help secure ongoing employment. Understanding of the term leadership by both stakeholder groups requires clarification. Time management, organizational skills, working independently and experience in management were also significantly more important to recent graduates than managers, which may also reflect interest in demonstrating they are useful employees that require minimal supervision.

For all critical thinking items, no significant difference emerged and rank order of importance was also similar. Priority setting, planning skills and independent thinking were the top three, which in retrospect could be seen as self-management skills. With a large enough sample to permit factor analysis, this could be confirmed in future studies. Importance ratings of job specific skills were typically less important employability skills for senior managers than generic items, but they agreed on importance of computer and software skills. Where ratings were statistically significant items reflected the work, recent graduates were actually doing, for example, project and quality management, which recent graduates rated more important than managers. Budget/financial management skills were rated more important by senior managers, consistent with our previous findings in the advertisement analysis (Chipulu, 2012; Messum et al., 2011).

Skill Levels

For ratings of importance of job-specific skills, both groups agreed that computer and software skills were the most important employability skills in this scale. This finding is consistent with requirements of the *Australian Employability Skills Framework* (2012). However, whether this employability skills should be considered generic or specific to HSM can be debated, given the many health specific software programs in use. For managers, change management and budget/financial management skills came next, also not unexpected given ongoing change in the NSW health care system, as previously identified by Liang et al., (2006). For recent graduates the next most important employability skills were project management and quality management. However, this finding may reflect sampling bias, in that 13 of the recent graduates worked in these areas, which may have affected their views as to their importance. Mean score differences were statistically significant for computing and software skills, project and risk management, quality and performance management, which recent graduates rated more important than managers and for budget/financial management skills which managers rated more important. The high score for performance management from recent graduates is difficult to interpret but recent graduates may have taken this to reflect their individual performance rating rather than health care system performance. Again, clarification of what commonly used terms actually mean to different stakeholders is required.

There was agreement between the two groups about skill levels only for 10/44 items: verbal communication skills, integrity and ethical conduct, being calm under pressure, tertiary qualifications, research skills, computer and software skills, change management, operational management, knowledge of the local population and accreditation skills. Managers observed skill ratings were significantly lower than recent graduate's self-ratings for all the remaining 34 items. The trend for recent graduates to over-rate their skill levels is consistent with previous research (Oliver et al., 2011).

Skill Gaps

Skill gaps meaning manager ratings at 2.5 or less, were not revealed for written and verbal communications, contrary to previous findings (Archer & Davison, 2008; CBI, 2013; GCA, 2015), nor for teamwork and integrity contrary to Hinchliffe and Jolly (2014). However, gaps were revealed for items in the critical analysis sub-scale namely priority setting, planning skills, ability to analyze the environment, conceptual thinking, creativity and innovation, strategic thinking and independent thinking, consistent with Hinchliffe and Jolly (2014). There were also significant skill gaps for collaboration, networking, cultural awareness, leadership, ability to work independently, self-awareness, career planning and life-long learning, with mean scores under or only marginally above 2.5. These are important findings not previously known for HSM and could be useful feedback for HE curriculum development. Furthermore, recent graduates did not appear to appreciate their skill gaps, with self-ratings much higher than senior managers' observations, suggesting strategies need to be developed to improve self-awareness. The skill gap for the experience in management item may be explained by recency of employment, and could be used in argument for longer student placements and internships.

Nearly all job specific items were rated less than 2.5 by managers, except administration and computer/software skills, suggesting many skill gaps. Accomplishment of younger graduates in technology has previously been recognized (Bandaranaike & Willison, 2015). However,

large scale Australian studies (GCA, 2015; Precision Consulting, 2007) have suggested employers are well satisfied with discipline or job specific skills, but this does not appear to be the case in HSM. Findings highlight skills that could be addressed by both universities and WIL to improve graduate work readiness.

CONCLUSION

This study is limited by the convenience samples used, with small sample sizes of senior managers and recent graduates drawn from the placement data base for one NSW metropolitan university. However, the results show strong agreement of recent graduates and senior managers working in HSM about important employability skills needed on the job, most of which are generic. The extent of the importance of integrity an ethical conduct was unexpected from the literature. New findings about job specific skills were also revealed. This is useful feedback for academics and students to identify HSM context dependent skills and experience for emphasis while on placement. There is value in researching context specific employability skills, especially using the views of recent graduate as well as their supervising managers. However, recent graduates did not appear to recognize many of the skill gaps identified by their managers. Larger replication studies are needed to improve external reliability, clarify understanding of employability skills including commonly used terms such as communications skills, leadership and performance management and to monitor changes in employability skills required over time. Ways of raising awareness of required employability skills including discipline specific skills prior to WIL, by practicing reflection skills, during placement by linking theory and learning experiences through authentic assessment and post placement through debriefing (Harvey, Coulson, & McMaugh, 2016), must be improved. Not only is close collaboration of university academics and employers essential in this approach, but also active involvement of students, for example if placement supervisors assessed students employability skills, and jointly identified areas for further development. Furthermore, this study shows that recent graduates are well able to identify important employability skills on the job, such that pairing them with students on placement may also be useful.

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The Asia-Pacific Journal of Cooperative Education publishes peer-reviewed original research, topical issues, and best practice articles from throughout the world dealing with Cooperative Education (Co-op) and Work-Integrated Learning/Education (WIL).

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The Journal's main aim is to allow specialists working in these areas to disseminate their findings and share their knowledge for the benefit of institutions, co-op/WIL practitioners, and researchers. The Journal desires to encourage quality research and explorative critical discussion that will lead to the advancement of effective practices, development of further understanding of co-op/WIL, and promote further research.

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