Enhancing employability of exercise science students[1]

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The notion of employability is gaining importance as an essential outcome of many degrees in institutions of higher education throughout Australia. This paper aims to determine the effects of an Exercise Science course, which includes elements of both career development learning and work-integrated learning, on six dimensions of employability - commencement readiness; collaboration; informed decision-making; lifelong learning; professional practices and standards; and integration of knowledge/ theory and practice. The course components examined by the presented study included fieldwork placements, workshops and related career development assignments. Work Readiness Scales were administered prior to and on completion of the course. Students also rated the extent to which they considered any changes in their abilities were the result of each of the course components. Furthermore, responses to an open-ended questionnaire were analyzed to determine common themes affecting student development of each of the six dimensions. Comparison of pre- and post-work placement scores on the Work Readiness Scales demonstrated statistically significant differences in all the dimensions of employability except informed decision-making. Student ratings suggested that placements had a more significant effect on the changes in their abilities than the course workshops and assignments, however all three course components contributed to the development of workplace competencies. Student responses indicated that the course increased their awareness of personal strengths and weaknesses in relation to employability, as well as their knowledge of specific occupations relevant to exercise science. *(Asia-Pacific Journal of Cooperative Education, 2017, 18(1), 25-41)*

Recent years have seen increasing interest in the employability circumstances of higher education graduates in the early period following graduation (Taylor & Hooley, 2014). Most higher education institutions are exploring processes to enhance the student experience through the inclusion of authentic learning experiences and 'real world' assessment strategies in the curriculum (Ferns, 2012). Although future employability prospects are only one reason for students to enroll in higher education, for many it is a very important part of the decision (Purcell et al., 2008; Watts, 2006). Developing employability skills for graduates is an issue for the higher education sector, not only in relation to the first job students may gain after their studies, but also important for graduate prospects at future points of career development or change (Pegg et al., 2013).

The greatest challenge for graduates in the new era will be to develop themselves to become employable (Harvey, 2005; Yorke, 2006) with the new world of work requiring new skills such as negotiating, networking, problem-solving and skills to manage complex processes, rather than functional skills (Harvey, Moon, Geall & Bower, 1997). Finding a good job after graduation should not be considered the ultimate goal, as "to be employed is to be at risk, to be employable is to be secure" (Hawkins, 1999, p. 263). Universities now need to focus on employability, preparing students for work (Cox & King, 2006). The need comes from the requirement and pressure of governments, industry, higher education agencies, and also researchers in higher education (Mason, Williams, Cranmer & Guile., 2003). The shift to including employability skills in the university agenda has been clearly accepted with many universities embedding key skills in their curricula (Fallows & Steven, 2000).

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THE CONTRIBUTION OF PLACEMENTS AND WORK-INTEGRATED LEARNING TO EMPLOYABILITY

There is strong evidence to indicate that authentic work experience contextualizes learning, has a strong influence on graduate employment and should be integrated into course curricula wherever possible. In order to maximize learning for employability, it is important that this should be a pedagogically supported experience including reflection and articulation of the learning achieved (Pegg et al., 2013). Evidence of this type of cooperation has been demonstrated in the development of sandwich programs, work placements, co-operative programs, practicum placements, and internships. Moreover, the form of work-based learning has become a familiar feature of many universities worldwide (Tan, 2010). The value of placements and other forms of work-related learning has been demonstrated by Lowden, Hall, Elliot, and Lewin (2011), who surveyed higher education institutions and employers and found overwhelming support from both groups for work placements and internships. Hall, Higson, and Bullivant (2009) found a high level of support from employers and noted that the placements were very useful in developing the 'soft competencies' necessary for working in an organization, for example, the ability to work with people in an office environment. Furthermore, Mason, Williams and Cranmer (2009) found that 'sandwich' training placements and employers' involvement in course design and delivery were the most effective methods of developing employability and gaining the best kind of job. Other studies have identified that formal work experience is shown to effectively develop highly valued, generic workplace skills and professional ability (Bennett, Eagle, Mousley, & Ali-Choudhury, 2008; Crebert et al., 2004; Mason et al., 2003). However, others such as Maher, and Graves (2008) have argued that there is a need to broaden the strategies to enhance employability beyond work-based learning interventions by embedding employability throughout the curriculum.

In developing and implementing effective employability strategies, higher education institutions need to consider their interpretation of employability: how it can be translated into practice; how students and staff can be engaged with this process; current practice and gaps in provision; and how to monitor progress (Cole & Tibby, 2013). A flexible framework that provides a process for discussion, reflection, action and evaluation is essential. Consideration should be given to not only what is taught, but also about how it is taught through the pedagogies employed. Universities not only need to help students understand the changes of the labor market, but the university curriculum also needs to be designed to support students' translation and transformation, or in other words, to help students in developing employability during their learning process. Students need not only to be aware, but they also need real practice, as transformation takes time and practice (Tan, 2010). York and Harvey (2005) emphasize this point: "Employability is a slow-crop. The development of understanding, of skillful practice, of metacognition, and of the self is characterized by 'slow learning' and requires repetition of broadly similar, yet, progressive, learning experiences if it is to be successful" (p. 53). The development of employability skills in higher education students requires academic staff to have informed knowledge of current industry practice and an awareness of how different workplaces are structured and function. Teaching skills, as well as knowledge, means that academic staff are required to move beyond traditional lecturing and use a range of teaching methods. As well as teaching 'about' particular skills, academic staff need to model these skills and develop them through the teaching methodologies employed (Precision Consultancy, 2007).

MODELS OF EMPLOYABILITY

Bridgestock (2009) created a slightly different conceptual model of graduate attributes for employability which stressed the importance of career management skills. She argued that employability involves more than possession of the generic skills listed by graduate employers. In a rapidly changing and competitive economy, graduates must also be able to proactively navigate the world of work and self-manage the career building process. Her model emphasizes that career management skills and knowledge are essential to employability and viewed the model as:

> an ongoing process of engaging in reflective, evaluative and decision-making processes using skills for self-management and career building, based on certain underlying traits and dispositional factors, to effectively acquire, exhibit and use generic and discipline-specific skills in the world of work (Bridgestock, 2009, p.35).

Bridgestock suggested that learning how to manage a career needs to begin early in the student's higher education experience and that it should be both mandatory and credit bearing in academic programs.

Cole and Tibby (2013) suggested that there is a close relationship between employability and good learning and stressed that employability results from a blend of achievements in four broad areas. They represented this in their **USEM** model of Employability, which has become of the best-known and respected in the area of employability. Their model proposes four inter-related components of employability: **U**nderstanding (of disciplinary subject matter and how organizations work); **S**kilful practices (academic, employment and life in general); **E**fficacy beliefs (reflect the learner's notion of self, their self-belief, and the possibility for self-improvement and development); and **M**etacognition (complements efficacy, embraces self-awareness, how to learn and reflection. It encompasses knowledge of strategies for learning, thinking and problem-solving, and supports and promotes continued learning/lifelong learning).

In the Australian context a National Office of Learning and Teaching (OLT) project set out to determine the specific cluster of abilities that should constitute employability (Smith, Ferns, & Russell, 2014). The report explored six dimensions of employability:

- lifelong learning;
- professional practices and standards;
- integration of knowledge/ theory and practice;
- informed decision-making (applied information literacy);
- commencement readiness; and
- collaboration.

Previously, higher education outcomes were more likely to be tacit and focused on the development of individual intellectual abilities and character. The idea of generic graduate attributes has been slowing transformed. Through consultation with business and industry groups, a new agenda emerged based on the premise that graduates lack certain fundamental skills that would make them more operationally relevant in an enterprise context. This investigation has led to the development of the *Core Skills Framework*, an approach funded and endorsed by government and based heavily on consultation with industry (Department of Industry, Innovation, Science, Research and Tertiary Education [DIISTRE] & Department of Education, Employment and Workplace Relations [DEEWR],

2013). The items used in the study were considered to constitute a reasonable and defensible multi-dimensional model of employability-in-context that will be useful for research and quality assurance purposes (Smith, Ferns & Russell, 2014). The OLT model served as a catalyst for this particular study, which examined the effects of a course, involving both career development learning and work-integrated learning, on the employability of Exercise Science students.

The SOAR Model of Career Development Learning

University students should be exposed to a combination of career development learning (CDL) and work-integrated learning (WIL) as part of their formal program of study to maximize their employment potential for optimal economic and social outcomes (Reddan & Rauchle, 2012). SOAR (Self-awareness, Opportunity awareness, Aspirations, Results) is a tool developed by Arti Kumar (2007) that assists teachers operationalize and contextualize the ideals of career development learning. This model stands for self-awareness, opportunity awareness, aspirations and results. As a result, students develop realistic aspirations based on sound information that can help them achieve the outcomes they desire as they move into the workforce. Individuals can personalize this process to suit their circumstances and aspirations through inbuilt requirements for reflection, action, analysis and lateral thinking. The model expresses SOAR elements as enabling 'metaskills' and has the potential to promote personal inquiry, the discovery of self and the building of students' unique identity through engagement with opportunities within and outside the curriculum (Kumar, 2007). Engaging students with SOAR elements in a coherent and continuous process can empower them to take control of, and deal constructively with, the variety of factors that influence their personal, educational and professional success in an age of supercomplexity (Barnett, 1999). The SOAR model was used as the basis for teaching pedagogy in the course around which this study is based.

Case Study

Griffith University's teaching and learning programs aim to provide opportunities for students to acquire knowledge and skills that can be applied in the community. Field Project A is an elective summer school course in The Bachelor of Exercise Science conducted at the Gold Coast campus. The program is offered by the School of Allied Health Sciences and leads to accreditation as an exercise scientist. The rationale for including this course is to make students aware of the requirements of the industry they wish to enter and the working environment of various organizations in which they may seek employment. The course is designed to link and complement the student's program of study by introducing them to the work environment. The main purposes of this course are: a) to provide students with work experience within the industry they may seek to be employed; (b) to introduce students to various topics concerning the work environment; and (c) to outline career planning procedures. Students need to have successfully completed the first two years of the Bachelor of Exercise Science program to enroll in the course.

The course included two days of workshops immediately following the examination period in November, 2014 and one day of workshops and presentations in the week prior to orientation week in February, 2015. Students were required to complete a minimum of 140 hours of work experiences in an industry of choice over the summer period. This allowed students the flexibility of a three month period in which to complete their work placements without the demands of other university studies. The assessment tasks for the course

included: a personal profile and career action plan (20%); a personalized job study (20%); placement performance (40%); and oral presentation of reflections of placement experiences (20%). Each day commenced with an introduction/review, followed by activities related to the theme, discussion of the specific requirements of the assignment related to the theme and finally a written evaluation of the day's program.

Day 1 included an introduction to the concepts of career, employability, (*Career Development Learning*) and career management. The notion of **SOAR** was explored through self-awareness activities leading to the building of a self-MAP (or profile). A variety of engaging activities, web-based materials and handouts clarified students' understanding of these features, for example work values activity, skills explorer, analyzing job advertisements and personality tests. External factors affecting career development and choices were examined with discussion of strategies to overcome perceived barriers. On Day 2 the focus moved from **S**elf discovery to **O**pportunity awareness with discussion of informational (workplace) interviewing to learn important information and build valuable networks. Various websites were examined that provide information on jobs and occupations. Students discussed opportunities related to their placement experiences, in particular the skills and attributes sought by employers, actions to gain employment, industry trends and advice for those seeking employment in the various fields. The changing world of work was examined with acknowledgement of the contribution of self-management, career building, discipline-specific and generic skills. The final session focused on the steps involved in **A**spirations. These activities enabled students to make the connections between the elements of SOAR and their personal career plan and perceive SOAR as a cyclical process of development. The **R**esults element is developed in the final semester of the third year of study within the complementary course, Field Project B. On Day 3 students were also required to give a 10 minute presentations related to their personal reflections prior to, during and after the completion of student placements.

RESEARCH METHODOLOGY

This particular study examined the effects of the course workshops, assignments and placement included in Field Project A, on the employability of Exercise Science students. The results will be used to improve the effectiveness of the course for future students. The study included the following two main research questions:

1. How has the course affected the following dimensions of students' employability:
    a. Commencement readiness?
    b. Ability to collaborate?
    c. Informed decision-making?
    d. Attitude to lifelong learning?
    e. Professional practice standards?
    f. Ability to integrate theory and practice?

2. To what extent do students think the changes in their abilities related to employment are a result of:
    a. The learning experiences related to their placement?
    b. The course workshops?
    c. Completion of the course assignments?

Procedure

The study was conducted using eight students who made up the entire cohort in the course Field Project A at Griffith University. The instruments used for data collection included the Work Readiness Scales (Office of Learning and Teaching, 2014), which were administered before and after the course workshops. The questionnaire included an inventory of 35 statements reflecting the work readiness of students. Students were required to respond to the statements using a five-point Likert scale to questions such as 'I can effectively seek work relevant to my studies' and 'I am able to interact with people from different levels of management in a workplace', with 1 = 'not at all'; 2 = 'a little'; 3 = 'moderate amount'; 4 = a lot'; and 5 = 'completely'. A t-test was used to determine if significant differences in pre- and post-course responses existed. The statements included in the Work Readiness Scales are included in Appendix A. Students also responded to a self-completion questionnaire to allow them to freely answer and explain their perceptions, suggestions and experiences. The researcher (and course convener) developed the questionnaire which consisted of short answer questions focusing on different aspects of the course. The questions asked students to review their responses to specific statements in the Work Readiness Scales and comment on how the components of the course affected each of the six dimensions of employability. The questionnaire has been included as Appendix B.

Students were also asked to complete a table (Office of Learning and Teaching, 2014) indicating the degree to which they considered any changes in their abilities were a result of: (a) their placement; (b) the three days of workshops; and (c) the course assignments. The table consisted of 17 statements to which the student ticked one of five options: 0 = no change'; 1 = 'less than half'; 2 = 'about half'; 3 = 'more than half'; 4 = 'all'. A single factor ANOVA with a post-hoc comparison using Bonferroni correction was used to determine if there was a significant effect of the factors considered on rating. The table is provided in Appendix C.

RESULTS

The research findings are reported here using the research questions as sub-headings.

How has the course (workshops, assignments, placement) affected students' commencement readiness?

The Work Readiness Scales were administered at the commencement of the first workshop. Mean (±SD) scores for the Commencement Readiness subscale obtained were 3.15 (±1.02), using a 5-point Likert scale. Scores obtained in the final workshop at the end of the course demonstrated a mean of 3.63 (±0.71). The post-test score was significantly greater (*p*<.005) than the pre-test score, indicating the effectiveness of the course in improving students' commencement readiness. Students provided a variety of responses in the self-completion questionnaire in relation to the effects of the course on their commencement readiness for employment. Student A realized the value of the workshops only after commencing placement, indicating the importance of work experience scenarios in bridging the gap between university 'theory' and real-world practice. Student B indicated the benefits of the personalized job study assignment in creating a greater awareness of the roles and requirements of different positions and perceived that the personal profile allowed critical analysis of skills and abilities in preparation for the work environment. Four of the students completed placements with an Exercise Physiologist. Student D noted an increase in confidence and a greater understanding of the requirements of the position during a typical

working day. Similar sentiments were expressed by Students E, G and H: "Placement has improved my commencement readiness because now I have an insight into what happens in the workplace, making me feel more confident". The workshop 'priorities' activity assisted Student F to identify "what was important to me in my career", with the assignments providing the opportunity to explore career information e.g. job availability, tasks.

How has the course (workshops, assignments, placement) affected students' abilities to collaborate?

The mean scores for the Ability to Collaborate subscale were 3.95 (±1.22_ at the commencement of the course and 4.48 (±0.44) in the final workshop (p<.001), demonstrating the benefits of the course in developing students' abilities to collaborate with other professionals. All students indicated that the placement provided them with opportunities to develop teamwork, respect for the opinions of other health professionals, communication skills with both clients and colleagues, and confidence in a range of scenarios. Student C noted the benefits of the assignments and workshops in the development of her ability to collaborate with other students: "The assignments helped me to communicate more effectively, especially with my own opinions, whilst the workshops helped by working with other students in group activities."

How has the course (workshops, assignments, placement) affected students' informed decision-making?

The mean scores for the Informed Decision-making subscale were 3.62 (±0.69) at the first workshop and 3.69 (±0.29) at the completion of the course with no significant differences demonstrated (*p>.05)*. However, seven of the eight students suggested that placement provided them with new knowledge of assist in their decision-making. Student A indicated: "Placement gave me more hands-on experience, allowing a lot more to be gained and understood in a shorter period of time in real situations. The decisions we make have instant repercussions so we need to make decisions based on integrity and stand by them." Student H noted that placement improved the ability to make more informed decisions and greater confidence in prescribing the most relevant exercises for clients. Student D mentioned that the assignments helped to understand the various situations more clearly, whilst student G found the interview assignment very valuable in improving decision-making. The workshops were considered useful by student E in providing insight in how to research various jobs and use the multiple websites to find information and make decisions about particular career options.

How has the course (workshops, assignments, placement) affected students' attitudes to lifelong learning?

The mean scores for the Lifelong Learning subscale were 3.63)(±0.75) at the commencement and 4.13 (±0.45) at the conclusion of the course (*p<.001)*, demonstrating the value of the course in improving this particular ability. Responses to the short-answer questions indicated that the course had significant effects on students' attitudes to lifelong learning. Student A noted that the course emphasized the need to "constantly seek improvement, increase knowledge and learn new skills." Student F mentioned that "there is always new information to incorporate and improve your work", whilst student G was motivated to continue studying and follow the career path as an exercise physiologist.

How has the course (workshops, assignments, placement) affected students' attitudes to professional practice standards?

At the first workshop the mean score for the Professional Practice Standards subscale was 3.82 (±1.02), improving significantly to 4.33 (±0.42) by the conclusion of the course ($p<.001$). All students were in agreement that their experiences during placement particularly affected this ability. Student A indicated that "the workshops helped me to start thinking about it but the placement put it all into practice". Student B suggested that the placement provided a greater understanding of work ethics and the standards of a professional working within a hospital setting. Student H mentioned that placement "taught us how to act responsibly in a clinical environment and form professional relationships with clients and staff."

How has the course (workshops, assignments, placement) affected students' abilities to integrate theory and practice?

The mean scores for the Ability to Integrate Theory and Practice sub-subscale were 3.54 (±0.78) and 4.13 (±0.38) at the commencement and conclusion of the course respectively ($p<.001$), demonstrating the positive benefits of the course in the development of this particular ability. Student A noted that the placement provided the optimum opportunity to integrate the theory covered in workshops and lectures into practical real-world scenarios. The benefits of mentoring during placement were clearly demonstrated by student C: "My mentor gave me 'homework' to complete so I had a better understanding of what to do in practice." Student D indicated that the placement helped apply some of the musculoskeletal knowledge gained in academic courses in real world scenarios. Students also became more aware of the need to simplify theoretical information for patients "because what may seem general knowledge for us, may not be for them" (Student G).

To What Extent do Students Think the Changes in Their Abilities Related to Employment are a Result of the Learning Experiences Related to Their Placement, the Course Workshops, or the Completion of the Course Assignments?

Table 1 demonstrates the mean scores of student perceptions of the extent to which students considered the changes (if any) in their abilities related to employment were the result of their placement experiences, the course workshops or the completion of the course assignments. (A score of 0 = 'no change'; 1 = 'less than half'; 2 = 'about half'; 3 = 'more than half'; 4 = 'all'). Data analysis using a single factor ANOVA indicated that there was a significant effect of the factors considered on rating ($p<.0001$). A post-hoc comparison, using Bonferroni correction to the level of significance to account for multiple comparisons, indicated that there was a significant difference between ratings for 'placement experiences' and 'course workshops' and between 'placement experiences' and 'completion of course assignments', but there was no significant difference between the effects of the 'course workshops and the 'completion of the course assignments'. In fact, this was the case in relation to each of the seventeen skills. The mean of 3.01 suggests that on average student placements accounted for more than half of the changes in their abilities throughout the course. The means of 1.54 and 1.63 demonstrates that the course workshops and completion of the course assignments respectively accounted for slightly less than half of the changes in student abilities from the commencement to the completion of the course.

TABLE 1: Student perceptions of the cause of changes in their abilities related to employment

SKILL	Changes in abilities due to placement	Changes in abilities due to workshops	Changes in abilities due to assignments
Seek work relevant to your studies	2.38	2.25	1.75
Identify the expectations employers have of new graduates	3.00	1.63	1.75
Identify your workplace/ professional skills	3.00	2.00	2.13
Identify the skills you lack/ need to improve to be effective in the workplace	3.38	1.50	2.38
Identify the knowledge you lack/ need to improve to be effective in the workplace	3.50	1.50	2.00
Evaluate how well your skills and preferences "fit" different employment opportunities you might consider in the future	2.63	2.13	2.13
Recognize ethical practice in the workplace	3.00	1.38	1.38
Recognize general ethical and social issues beyond your discipline	2.75	1.38	1.38
Apply knowledge and skills gained in your studies to the workplace	3.13	1.38	1.25
Judge the applicability of the knowledge gained in your studies to the workplace	2.50	1.38	1.50
Interpret and follow workplace procedures	3.25	1.38	1.00
Recognize the "politics" of a workplace environment	3.13	1.00	1.13
Develop your work-related skills and knowledge	3.13	1.13	1.50
Interact appropriately with people from different levels of management/ leadership/ seniority in a workplace	3.63	1.88	1.00
Understand the theories and principles in your discipline	2.88	1.38	1.88
Understand the practices and methods used in your discipline	2.75	1.25	1.75
Rate your overall feeling of readiness for the workplace	3.13	1.63	1.88
MEAN SCORE	3.01	1.54	1.63

The minimum score for any of the changes in abilities was 1.00 indicating that each of the three aspects of the course had some degree of influence on the development of all of the skills assessed. Thus, students' abilities were affected by the learning experiences related to placement, the course workshops, as well as the completion of the course assignments. The advantages of including all three components within the course have been demonstrated by their concomitant effects resulting in significant overall improvements in students' employment capabilities.

DISCUSSION AND CONCLUSIONS

The results of this study clearly identify positive trends in students' perceptions in regards to the benefits of this course in order to prepare students for employment in industries related to exercise science. The small number of subjects in the study was a significant limitation to the conclusions that can be made from the study. The lack of norms related to the Work Readiness Scales for comparison with students enrolled in other undergraduate programs or institutions was a further limitation of the research. The research demonstrated that students' abilities were positively affected by the learning experiences related to placement, the course workshops, as well as the completion of the course assignments. Thus, it is important that all three aspects should be included in future years in order for students to achieve their optimum potential in regards to employability. The clear identification of the six dimensions of employability provided a focus for both lecturers and students throughout the course. The ability to measure improvements in each of the dimensions was valuable for research purposes and also as additional motivation for student learning and engagement. The SOAR model (Kumar, 2007) provided a clear structure for the development of appropriate learning activities relevant to career development learning. This research has demonstrated the need for course conveners to consider the various combinations of career development learning and work-integrated learning, as well as related assessment strategies, in order to enhance student employability in a rapidly changing world. In summary, there were several important findings from this study:

- Field Project A, which included both career development learning and work-integrated learning, demonstrated significant improvements in five of the six dimensions of employability.
- Students indicated positive changes in their employability skills as a result of all three elements of the course - the learning experiences related to their placement; the course workshops; and the completion of the course assignments.
- The learning experiences related to student placements were considered to be the most influential in changing students' abilities related to employment.
- All three aspects of the course had some influence on the development of all of the skills assessed and should be included in future offerings to maximize the benefits for students.
- The SOAR model provided an excellent pedagogical basis for the promotion of career development learning.
- The OLT framework proved to be useful for research purposes.

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Appendix A: Work Readiness Scale

There are 35 statements in this inventory that reflect your work readiness. Using the table below, please record the number that most applies to your ability to perform each process.

1 = not at all
2 = a little
3 = moderate amount
4 = a lot
5 = completely

1. Effectively seek work relevant to my studies
2. Present myself effectively in selection interviews
3. Evaluate how well my skills and performances fit different employment opportunities
4. Commence a job in my field and be immediately effective as a worker/ new professional
5. Display overall work readiness confidence relevant to studies
7. Work towards a compromise between opposing views when it is best for the organization
8. Ensure everyone feels heard in group discussions
9. Interact appropriately with people from different levels of management in a workplace
10. Recognize the 'politics' of a workplace environment
11. Interact effectively and respectfully with people from other cultures
12. Learn from and collaborate with people representing diverse backgrounds or viewpoints
13. Listen empathetically, sympathetically and with compassion to colleagues in the workplace
14. Appraise the quality of information I obtain from the web, books or other people
15. Use information and my knowledge to make reasonable decisions and then act of these
16. Weigh up risks, apply evaluation criteria to alternatives & make predictions from data
17. Collect, analyse and organize information
18. Identify the value of continuing to learn in order to improve work or professional practice
19. Identify the knowledge I lack/ need to improve to be effective in the workplace
20. Identify the skills I lack/ need to improve to be effective in the workplace
21. Be prepared to invest time and effort in learning new skills
22. Understand the theories and principles in my discipline
23. Understand the practices and methods used in my discipline
24. Take responsibility and act alone with autonomy appropriate to my role & level of training
25. Seek out opportunities to develop my workplace or professional skills and/or knowledge
26. Recognise ethical practices in the workplace
27. Identify the standards of performance or practice expected in my profession
28. Develop a personal code of values or ethics
29. Interpret and follow workplace procedures
30. Seek clarification when I do not understand instructions
31. Effectively manage multiple and different priorities to achieve workplace or professional goals
32. Take responsibility and be accountable for my workplace or professional practice
33. Judge the applicability of knowledge gained in my studies to the workplace
34. Apply knowledge and skills gained in my studies to the workplace
35. Recognise and value the role of theoretical ideas in work or professional contexts

Appendix B: Questionnaire

Please review your responses to questions 1-6 of the Work Readiness questionnaire. How has the course (WORKSHOPS, ASSIGNMENTS, PLACEMENT) affected your COMMENCEMENT READINESS?

_____
_____
_____
_____

Please review your responses to questions 7-13. How has the course (WORKSHOPS, ASSIGNMENTS, PLACEMENT) affected your ABILITY TO COLLABORATE?

_____
_____
_____
_____

Please review your responses to questions 14-17. How has the course (WORKSHOPS, ASSIGNMENTS, PLACEMENT) affected your INFORMED DECISION-MAKING?

_____
_____
_____
_____

Please review your responses to questions 18. How has the course (WORKSHOPS,ASSIGNMENTS, PLACEMENT) affected your ATTITUDE TO LIFELONG LEARNING?

_____
_____
_____
_____

Please review your responses to questions 24-32. How has the course (WORKSHOPS, ASSIGNMENTS, PLACEMENT) affected your PROFESSIONAL PRACTICE STANDARDS?

_____
_____
_____

Please review your responses to questions 33-35. How has the course (WORKSHOPS, ASSIGNMENTS, PLACEMENT) affected your ABILITY TO INTEGRATE THEORY AND PRACTICE?

_____
_____
_____
_____

Appendix C: Changes in Abilities as a Result of Course Activities

I am interested in finding out *to what extent you think the changes (if any) in your abilities are a result of the activities in this course.* Please indicate how much of the change is a result of: (a) your placement; (b) the three days of workshops; and (c) assignments using the scale below.

1. To what extent do you think the changes in your abilities are a result of YOUR PLACEMENT?

Skill	No change	Less than half	About half	More than half	All
1.Seek work relevant to your studies					
2.Identify the expectations employers have of new graduates					
3.Identify your workplace/ professional skills					
4.Identify the skills you lack/ need to improve to be effective in the workplace					
5.Identify the knowledge you lack/ need to improve to be effective in the workplace					
6.Evaluate how well your skills and preferences "fit" different employment opportunities you might consider in the future					
7.Recognise ethical practice in the workplace					
8.Recognise general ethical and social issues beyond your discipline					
9.Apply knowledge and skills gained in your studies to the workplace					
10.Judge the applicability of the knowledge gained in your studies to the workplace					
11.Interpret and follow workplace procedures					
12.Recognise the "politics" of a workplace environment					
13.Develop your work-related skills and knowledge					
14.Interact appropriately with people from different levels of management/ leadership/ seniority in a workplace					
15.Understand the theories and principles in your discipline					
16.Understand the practices and methods used in your discipline					
17.Rate your overall feeling of readiness for the workplace					

2. To what extent do you think the changes in your abilities are a result of the Workshops?

Skill	No change	Less than half	About half	More than half	All
1.Seek work relevant to your studies					
2.Identify the expectations employers have of new graduates					
3.Identify your workplace/ professional skills					
4.Identify the skills you lack/ need to improve to be effective in the workplace					
5.Identify the knowledge you lack/ need to improve to be effective in the workplace					
6.Evaluate how well your skills and preferences "fit" different employment opportunities you might consider in the future					
7.Recognise ethical practice in the workplace					
8.Recognise general ethical and social issues beyond your discipline					
9.Apply knowledge and skills gained in your studies to the workplace					
10.Judge the applicability of the knowledge gained in your studies to the workplace					
11.Interpret and follow workplace procedures					
12.Recognise the "politics" of a workplace environment					
13.Develop your work-related skills and knowledge					
14.Interact appropriately with people from different levels of management/ leadership/ seniority in a workplace					
15.Understand the theories and principles in your discipline					
16.Understand the practices and methods used in your discipline					
17.Rate your overall feeling of readiness for the workplace					

3. To what extent do you think the changes in your abilities are a result of the assignments?

Skill	No change	Less than half	About half	More than half	All
1.Seek work relevant to your studies					
2.Identify the expectations employers have of new graduates					
3.Identify your workplace/ professional skills					
4.Identify the skills you lack/ need to improve to be effective in the workplace					
5.Identify the knowledge you lack/ need to improve to be effective in the workplace					
6.Evaluate how well your skills and preferences "fit" different employment opportunities you might consider in the future					
7.Recognise ethical practice in the workplace					
8.Recognise general ethical and social issues beyond your discipline					
9.Apply knowledge and skills gained in your studies to the workplace					
10.Judge the applicability of the knowledge gained in your studies to the workplace					
11.Interpret and follow workplace procedures					
12.Recognise the "politics" of a workplace environment					
13.Develop your work-related skills and knowledge					
14.Interact appropriately with people from different levels of management/ leadership/ seniority in a workplace					
15.Understand the theories and principles in your discipline					
16.Understand the practices and methods used in your discipline					
17.Rate your overall feeling of readiness for the workplace					

About the Journal

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).

In this Journal, Co-op/WIL is defined as an educational approach that uses relevant work-based projects that form an integrated and assessed part of an academic program of study (e.g., work placements, internships, practicum). These programs should have clear linkages with, or add to, the knowledge and skill base of the academic program. These programs can be described by a variety of names, such as cooperative and work-integrated education, work-based learning, workplace learning, professional training, industry-based learning, engaged industry learning, career and technical education, internships, experiential education, experiential learning, vocational education and training, fieldwork education, and service learning.

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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Before submitting a manuscript, please unsure that the 'instructions for authors' has been followed (www.apjce.org/instructions-for-authors). All manuscripts are to be submitted for blind review directly to the Editor-in-Chief (editor@apjce.org) by way of email attachment. All submissions of manuscripts must be in Microsoft Word format, with manuscript word counts between 3,000 and 5,000 words (excluding abstract, references, and tables).

All manuscripts, if deemed relevant to the Journal's audience, will be double-blind reviewed by two or more reviewers. Manuscripts submitted to the Journal with authors names included with have the authors' names removed by the Editor-in-Chief before being reviewed to ensure anonymity.

Typically, authors receive the reviewers' comments about 1.5 months after the submission of the manuscript. The Journal uses a constructive process for review and preparation of the manuscript, and encourages its reviewers to give supportive and extensive feedback on the requirements for improving the manuscript as well as guidance on how to make the amendments.

If the manuscript is deemed acceptable for publication, and reviewers' comments have been satisfactorily addressed, the manuscript is prepared for publication by the Copy Editor. The Copy Editor may correspond with the authors to check details, if required. Final publication is by discretion of the Editor-in-Chief. Final published form of the manuscript is via the Journal website (www.apjce.org), authors will be notified and sent a PDF copy of the final manuscript. There is no charge for publishing in APJCE and the Journal allows free open access for its readers.

Types of Manuscripts Sought by the Journal

Types of manuscripts the Journal accepts are primarily of two forms; *research reports* describing research into aspects of Cooperative Education and Work Integrated Learning/Education, and *topical discussion* articles that review relevant literature and give critical explorative discussion around a topical issue.

The Journal does also accept *best practice* papers but only if it present a unique or innovative practice of a Co-op/WIL program that is likely to be of interest to the broader Co-op/WIL community. The Journal also accepts a limited number of *Book Reviews* of relevant and recently published books.

Research reports should contain; an introduction that describes relevant literature and sets the context of the inquiry, a description and justification for the methodology employed, a description of the research findings-tabulated as appropriate, a discussion of the importance of the findings including their significance for practitioners, and a conclusion preferably incorporating suggestions for further research.

Topical discussion articles should contain a clear statement of the topic or issue under discussion, reference to relevant literature, critical discussion of the importance of the issues, and implications for other researchers and practitioners.