Designing work-integrated learning placements that improve student employability: Six facets of the curriculum that matter

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Research into work-integrated learning continues to show through a variety of small-scale and anecdotal studies, various positive impacts on student learning, work-readiness, personal and cognitive development and other outcomes. Seldom are these research findings strongly generalizable because of such factors as small sample sizes, discipline-specific case attributes, and qualitative approaches that seek richness of detail rather than generalizability of findings. Drawing on a sample of more than 3000 students, the study reported here explored the following questions: What curriculum factors can be validly measured to operationalize work-integrated learning curricula design? What measures validly operationalize the concept of 'employment readiness'? and What predictive relationships exist between these two sets of measures? Measures are based on students self-reporting of both curriculum characteristics and employability skill acquisition. Findings indicate that robust measures of both curriculum factors and employment-readiness factors are possible and that the curriculum factors are associated with students' employment readiness outcomes. *(Asia-Pacific Journal of Cooperative Education, 2016, 17(2), 197-211)*

INTRODUCTION

Work-integrated learning is a very broad rubric for a variety of educational activities designed to provide students with exposure to "real-world" work experience by deliberately integrating theory with work practice (Patrick et al., 2009). The perceived need for graduates to be prepared for an unpredictable and complex world of work continues to drive the push for university programs to include work integrated learning (WIL) opportunities. The ability to contribute positively to workplace outcomes, to engage in self-development throughout their career, to be a proficient and ethical practitioner, to use information wisely, to collaborate with others, and to apply theory to novel or unpredicted situations in practice, are all valued attributes of new graduates (Blasko, Brennan, Little, & Shah, 2002; Coll & Zegwaard, 2006; Department of Education Science and Training (DEST), Australian Chamber of Commerce and Industry (ACCI), & Business Council of Australia (BCA), 2002; Harvey, 2003; Holmes, 2001; Jackson, 2010, 2013; Little & Harvey, 2006; Precision Consultancy & Commonwealth of Australia, 2007; Smith, Ferns, & Russell, 2014a; Yorke & Knight, 2004; Yorke, 2006).

Many studies have explored the impact of WIL on a range of outcomes including, but not only, those considered useful for employability (Abeysekera, 2006; Bates, 2003, 2008; Smith & Worsfold, 2014, 2015). Including WIL opportunities in curricula is considered to be an important strategy for developing work-ready graduates who contribute to the economic

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well being of Australia (OECD Centre for Educational Research and Innovation, 1996; Precision Consultancy & Commonwealth of Australia, 2007).

The term "curriculum" is not used with consistency within the higher education literature. Indeed, Barnett and Coate argue that the term (or at least a coherent and systematic engagement with the idea) is absent from higher education debate, at least in the U.K. (Barnett & Coate, 2005, p. 21). Their operating understanding is that 'curriculum' stands for "what students should be experiencing and … [w]hat the building blocks of their courses might be and how they should be put together" (*ibid*. p.1). Beyond these two aspects however the curriculum also incorporates educational ends – the goals of the educational process or the content – what is to be learned. Other distinctions, that further complicate the conceptualization of 'curriculum', include those between planned, taught, learned, experienced, assessed and evaluated curricula (Smith, 2008).

In this paper we use the term 'curriculum' to refer to the activities that are organized for students to experience whilst on a work placement. These activities are not solely in the hands of workplace supervisors; indeed the premise of this paper is that many of these experiences can be, indeed should be, deliberately orchestrated for students and quality assured by academic or professional staff charged with designing "WIL curricula". By focusing on the range of activities that are designed into (or are design-able for) WIL experiences university-located staff can better assure that students learning in placements will be maximised. In our conception, most of the curriculum measures refer to things that university-located staff would be responsible for assuring. The one exception is workplace supervision, which is incorporated in our model under a broad conception of supervision (combining both academic and workplace).

Work-Integrated Learning Placements

Work-integrated learning placements are complex, focused activities, designed to integrate theory and work practices. However, due to the fact that in many cases students are deployed in the field – in real workplaces - these placement experiences vary enormously in terms of their quality, the educational value to students and the impacts that these have on them psychologically and educationally (Smith & Worsfold, 2014; Smith, 2012). Notwithstanding this, some clarity is emerging around the design features that contribute to student outcomes. It can be said of these features that variations in the degree to which any is present in any particular placement defines the quality of that placement, aids the prediction of outcomes, and is the basis of disciplinary variations that are seen in different disciplinary fields. This study focuses on six WIL placement *curriculum factors* which empirical evidence suggests are important for describing placement WIL curricula in general terms (Abeysekera, 2006; Smith, 2012). We used these curriculum factors as predictors of employability skill development, for students on placements. The six curriculum factors will be described in the next section, and the dependent variables for the analyses (employability factors) will be described in the following section. The six curriculum factors are well documented through a variety of small-scale or qualitative studies over the past 10-15 years, so the purpose of the next section is to summarise these factors not to argue for their relevance. Thus the contribution of the present study is to test the hypothesis that each factor is important to the generation of various outcomes of value.

Authenticity

Authenticity is the degree to which the placement offers to the student the opportunity to do meaningful professional work, with appropriate levels of autonomy and responsibility and which has meaningful consequence of value to the workplace or organization that hosts them (Smith, 2012). Previous research has shown that authenticity plays a significant role in predicting learning outcomes and satisfaction for students (Smith & Worsfold, 2014, 2015). The degree to which the placement features this curriculum variable is a correlate of the quality of the curriculum not just because it makes *a priori* theoretical sense to expect that it should, but because of its relationships with outcomes of placement experiences.

Supervision

Supervision is the practice of keeping in touch with students during placement to monitor their learning and their reactions to the experience. Both the staff in charge of the subject and the workplace supervisor may play a role in supporting the student and providing feedback on performance. This aspect of WIL placement curriculum design is one of the most variable across disciplines, and is affected by the degree of collaboration between universities and workplace placement providers. For instance, supervision by workplace supervisors is more formalised in many health-related disciplines, and education, than it is in business, political science or sociology. For some analysis of the differences between disciplines in this aspect of curriculum design see Smith, Ferns and Russell (2014b).

Preparation

Placement experiences for students can be enhanced both psychologically and educationally by adequate preparation. Billett has made the case for both preparation and debrief to enhance the educational worth of placements (Billett, 2009), but it is also worth remembering that placements in some disciplines present to students significant personal challenges. Preparation for the psychological aspects of placement can be seen to be a reasonable part of the duty-of-care of placement convenors (Bates, 2008). In the present study the questions about preparation focused on both educational and psychological aspects and also referred to the roles of both university subject convenor and workplace supervisor.

Debrief

Hand-in-hand with preparation, debrief is the process of 'looking back' and making sense of experiences after the fact, whether those experiences are of emotional or educational relevance (Billett, 2009; Mukohara et al., 2006; Rudolph, Simon, Raemer, & Eppich, 2008; Yule et al., 2008). The present study focused on both educational and psychological aspects and also referred to the roles of both university subject convenor and workplace supervisor.

A Focus on Integrative Learning – Assessment and Learning Activity

One of the educational goals of placements is to develop students' ability to integrate theory into practice. This is not to say that integrative learning is the only goal of work-integrated placements; indeed it is possible to articulate three broad categories of educational goal for placements: (a) experience the world of work; (b) developing or acquiring skills and attitudes; and (c) applying disciplinary knowledge in the workplace (Smith, 2014) where only the last of these is fully focused on integrative learning. Nonetheless, in this study the notion that integrative learning as a core goal is adopted and measures were deployed of

the degree to which the activities students engaged in, and the assessments they were subjected to, were focused on this important educational outcome. The importance of these two processes (the designed-in activities students are asked to do, and the assessments that are made of their development during placement), when focused on integration of theory and practice, has been shown in previous work (Smith & Worsfold, 2014, 2015; Smith, 2012).

These six curriculum dimensions then formed the basis of the measures of the curriculum factors reported in this study: authenticity, preparation, supervision, debrief, assessments focused on integration and activities focused on integration.

TABLE 1: Indicative items from each of six curriculum factor scales

Curriculum factor	Example item
Authenticity	How often did you contribute worthwhile outcomes for the organization (such as a product, or change in practice or policy)?
Preparation	I had a preparation program or resources that helped me prepare for the placement to help me maximise my learning whilst on placement
Supervision	I had regular contact with an academic supervisor from the university in order to discuss my learning whilst on placement
Debrief	I had time with my academic supervisor after the placement to reflect on my learning from placement
Activities focused on integration	How often did you reflect on applying your discipline knowledge in the workplace?
Assessments focused on integration	How often were you assessed on Your use of theory to justify practice decisions?

Employability

The conceptualisation of employability is, at best, unwieldy. One factor contributing to the unwieldiness of the concept of employability is that it is continuously evolving and grows over time by accretion. This is partly because it is a politicised notion (Smith et al., 2014a; Smith, 2016), the result of which is that over several years government - or industry-funded reviews - have added new skills to the list or refined existing skills to more sharply focus on workplace applications (Smith, 2016). A third reason is that the idea of employability is so broad as to include any and all possibly-relevant skills and abilities we could hope a graduate would have upon graduation (Smith et al., 2014a). Denise Jackson published a review in which she identified more than 40 separate skills/abilities in the employability literature (Jackson, 2010, 2013).

A related issue is the distinction between objective and subjective measures. Because skills and abilities are embodied and demonstrated through enactment, they are the sorts of things that are best measured by behaviouristic and observational protocols. On the other hand, it can be cost-prohibitive to gather data using those kinds of protocols. In the present case, more convenient and less costly alternatives were desired, thus the data on employability were derived from respondents' self-reports.

Since the research questions focused on the measurement of the impact of work-integrated learning on employability and not on any particular employability skill or domain of related

skills, a decision was taken to review the literature and identify the fullest range of employment-related skills/knowledge and skill/knowledge domains being referred to at the time. Recognising the resulting list would be impractically large for research purposes; the next step was to distil from this long list a short-list for use in the research project. The process used is reported in Ferns et al., (Ferns, Smith, & Russell, 2014; Smith et al., 2014a).

The result of this work was the generation of 45 items, to represent a variety of skill/knowledge domains. Exploratory and confirmatory factor analysis were then used to create an empirically defensible *latent construct* (Bollen, 1989) model of the dimensions of employability.

This resulted in six domains of employability that can be represented by the statement that employable graduates:

- are competent for autonomous, responsible and ethical practice;
- can work with other people effectively, fairly and cross-culturally;
- use information in judicious ways for specific work-related purposes;
- are willing to continue to learn to improve practice and are able to identify areas for self-development;
- integrate theory and practice;
- have confidence and self-awareness to seek and gain employment in a job market (Smith et al., 2014a, p. 146).

Table 1 shows indicative items from the six employability dimensions.

METHOD

Participants

Three-thousand three-hundred and thirty-six (3336) students from nine Australian universities were surveyed, giving 2200 useable (complete) results for the present study. Nine-hundred and ninety-seven (997) of these students had had a placement during their studies; these results are based on these 997 students' responses. The majority of these students are in the 18-30 age group (73%), female (72%), studying on-campus (75%) and studying full-time (80%).

Materials and Procedure

A survey instrument containing items related to both the independent and dependent variables was designed and deployed using *SurveyMonkey* (www.surveymonkey.com). Along with measures of the main research variables there were a number of other measures taken including demographics and items related to discipline, the use of simulation and career-development learning, and other related matters. The relationship between the main research variables only is reported here – that is, between the curriculum factors and the employability factors.

Independents

Twenty items measured the independent variables which were all related to features of the placements the students had experienced during their studies (authenticity of work done during placement – four items; assessment and activities designed to focus on integration of theory and practice during placement – 10 items; supervision whilst on placement – two items; preparation prior to, and debrief after, placement – four items).

Dependents

Forty-five items measured the employment-readiness factors. These were predominantly (43 items) self-appraisal items with the stem "Please rate your ability to do each of the following…" covering a range of skills, cognitive abilities, and professional practices. The final two items in the set had a different stem from the rest ("How confident are you that you are…") and these items dealt with readiness to commence work and ability to obtain work in the discipline being studied.

TABLE 2: Indicative items from each of six employability dimensions (short names in brackets).

Curriculum factor	Example items
Professional practice and standards (PPS)	• take responsibility and act alone with autonomy appropriate to my role and level of training • identify the standards of performance or practice expected in the workplace / my profession • take responsibility and be accountable for my workplace or professional practice, actions and decisions
Collaboration (COLLAB)	• work towards a compromise between opposing views when is it the best thing for the enterprise / organization. • interact effectively and respectfully with people from other cultures • listen empathetically, sympathetically and with compassion to colleagues in the workplace
Informed decision making (IDM)	• use information and my professional or workplace knowledge to come to reasonable decisions and then act on these • weigh up risks, evaluate alternatives, make predictions from data and apply evaluation criteria to options
Lifelong learning (LLL)	• identify the skills I lack / need to improve to be effective in the workplace • identify the knowledge I lack / need to improve to be effective in the workplace
Integrate theory and practice (INTEG)	• apply knowledge and skills gained in my studies to the workplace • recognize and value the role of theoretical ideas in work or professional contexts
Commencement readiness (CR)	• effectively seek work relevant to my studies; • commence a job in my field and be immediately effective as a worker / new professional

RESULTS

Descriptives and Validation of Measures

The measures were subjected to validation in the following way. First exploratory factor analysis (using principal axis factoring in SPSS v.22) was used to ascertain plausible factorial clusters and to reduce the items by retaining only those with clear and substantial loadings on factors. Then confirmatory factor analysis (using SEM in SPSS AMOS v.22) was used to confirm the fit of these factorial solutions to the data.

Independents

In this study the independent variables were the measures of the six curriculum factors (authenticity of placement; activities and assessments focused on integration of theory and practice; preparation/induction; supervision; debrief).   Measures of these were operationalized and validated in a previous study (Smith, 2012) and were used with one or two minor modifications for the present study. The factor analysis of the curriculum items (independent variables) revealed that those related to preparation, debrief and supervision during placement formed a single factor, but for this report, they are separated out to form three separate sub-factors and analyses are based on those three sub-factors. For the other three independents (authenticity, activities and assessments focused on integration) factor score calculations are as per the previous study. Full details of the factor analyses can be found in Smith (Smith, 2012) and Smith et al., (2014b). Confirmation of the curriculum factor model indicated moderate fit to the data (Chi2 = 1245.45 df = 155; RMSEA = .08 PCLOSE = .00; CFI = .923; GFI = .878; AGFI = .835; TLI = .906).

Dependents

Dependents were validated through an iterative process. First exploratory factor analysis (principal axis factoring with oblimin rotation in SPSS v.22) was conducted. Next trimming of items was done based on criteria (loadings <.45; cross loadings; theoretical incoherence). The factor solution derived was confirmed in SPSS AMOS v.22. Final trimming was based on modification indices, magnitude of loadings of items on factors. The final solution had good fit to the data (Chi2 = 474.79, df = 156; RMSEA = .045, PCLOSE=.951, Range = .041 - .050; CFI = .965; GFI = .954; AGFI = .938; TLI = .958).

After validation, scale scores for each respondent were calculated using the mean across the items for each of the scales. Descriptive data on those scales appears in Table 3.

TABLE 3: Reliability, means and standard deviations of calculated scale scores

Scale	α	Mean	S.D.	33P	66P
Authenticity (2.4.1,2,3,9)	.78	3.10	0.68	3.0	3.5
Preparation (2.5.8 and 2.5.9)	.89	3.28	1.16	3.0	4.0
Supervision (2.5.6 and 2.5.7)	.58	3.49	1.02	3.0	4.0
Debrief (2.5.10 and 2.5.11)	.95	3.16	1.25	3.0	4.0
TLA_INT3 - items (2.4.4, 5,6,7,8)	.90	2.96	0.77	2.6	3.4
ASSESST3 - items (2.5.1, 2, 3, 4, 5)	.90	2.88	0.76	2.6	3.2
LLL_Selfappraisal 4 items (37, 38)	.89	4.25	0.70	-	-
NTEG4 items (25, 26)	.78	4.13	0.69	-	-
WR4 items (1, 44, 45)	.77	3.73	0.86	-	-
IDM4 items (5,6,7,8)	.77	4.09	0.60	-	-
COLLAB4 items (10,11,13,14)	.79	4.28	0.57	-	-
PPS4 items (19,20,21,22,34)	.84	5.41	0.69	-	-

Bracketed numbers refer to item numbers in the survey instrument. Cronbach's alpha calculated using all 3336 cases as all participants completed the items for the work-readiness scales. The calculations of alpha for the curriculum factors based on 997 participants. "33P" and "66P" are the 33rd and 66th percentile values.

Relationships Between Measures

Pearson product-moment correlations were calculated between the independents and dependents and are displayed in TABLE 4.

TABLE 4: Pearson product-moment correlations of the curriculum factor variables and the employability variables

Scale	LLL	Integration	Work-readiness	Informed decisions	Collab & team	Prof pract & stds
Supervision	.25**	.29**	.24**	.25**	.20**	.24**
Preparation	.25**	.32**	.27**	.25**	.18**	.23**
Debrief	.17**	.24**	.18**	.16**	.10**	.12**
Asst align int	.28**	.34**	.30**	.25**	.28**	.29**
TLA align int	.36**	.42**	.33**	.36**	.33**	.37**
Authenticity	.29**	.37**	.38**	.37**	.33**	.34**

** < .01. (2-tailed); LLL=Lifelong learning (self-appraisal); ASST ALIGN INT=assessments aligned with integration; TLA ALIGN INT=learning activities aligned with integration.

For the purpose of the analyses, the 33rd and 66th percentiles of the distributions of each of the curriculum factors were calculated and used to divide the sample into three partitions for each curriculum variable – those who reported a "low" level of the variable were grouped together, as were those reporting "medium" and "high" levels respectively. This allowed grouping of cases and facilitated the conduct of an analysis of variance for each ofthe relationships between curriculum and outcome variables. For each analysis, post-hoc analyses were conducted using Dunnett's T3 (which does not require variances of the grouped cases to be equal and which keeps tight control over Type I error for post-hoc tests (Dunnett, 1955; Field, 2009, p. 374)).

In all cases the means were significantly different from each other in the direction predicted, and maintained hierarchical ordering (post-hoc tests using threshold p < .01). For each employability measure, the mean score of the group experiencing the higher levels of the curriculum factor, was higher than the score of the next two groups experiencing medium and low levels of the curriculum factor. Results are shown in Table 5. The Appendix contains the graphical representations of the same results which more clearly indicates the impact of the curriculum factors on the dependents.

Discipline Differences

Table 6 shows the correlations between the work-readiness variable and the six curriculum factor variables in various disciplines; using Cohen's (1988, pp. 77–81) guidelines. The majority of these are "medium" sized correlations according to their respective effect sizes (note also that they are all positive). This indicates the generalizability of the relationships graphed for the aggregate data, within discipline sub-groups, whilst also showing that there is some variation in the strength of association between the variables across disciplines.

Table 5: Means for each dependent variable (employability factors) at three levels of each independent (curriculum factors)

	Lifelong learning			Integration			Commencement readiness			Informed decisions			Collaboration & Comm'n			Prof Practices & Standards		
	Hi	Med	Low	Hi	Med	Low	Hi	Med	Low	Hi	Med	Low	Hi	Med	Low	Hi	Med	Low
Authenticity	4.08	4.35	4.50	3.93	4.23	4.46	3.46	3.84	4.17	3.90	4.18	4.41	4.11	4.37	4.52	4.56	4.45	4.15
Asssessment	4.02	4.22	4.46	3.83	4.12	4.39	3.38	3.74	4.00	3.94	4.02	4.29	4.12	4.21	4.47	4.55	4.24	4.16
Tlas	3.91	4.22	4.55	3.73	4.14	4.43	3.33	3.77	3.99	3.82	4.05	4.35	4.05	4.22	4.51	4.58	4.28	4.07
Debrief	4.16	4.25	4.55	4.01	4.20	4.42	3.61	3.80	3.98	4.02	4.10	4.33	4.23	4.23	4.52	4.59	4.29	4.28
Supervision	4.09	4.28	4.51	3.96	4.16	4.42	3.51	3.81	3.99	3.96	4.09	4.35	4.16	4.27	4.48	4.56	4.33	4.20
Preparation	4.09	4.31	4.58	3.95	4.21	4.49	3.51	3.85	4.09	3.96	4.14	4.36	4.18	4.28	4.53	4.63	4.33	4.22

All mean differences significant at p<.01 (Dunnett's T3)

Table 6: Correlations between trimmed work-readiness variable and the six curriculum factors in five disciplines

WR4 x	Natural & Physical Sciences	Health	Education	Business	Society & Culture
Sup1 Supervision 2.5.6 and 2.5.7	.354*	.303**	.261**	.301**	.219**
Sup2 Preparation 2.5.8 and 2.5.9	.386*	.345**	.386**	.234**	.219**
Sup3 debrief 2.5.10 and 2.5.11	0.145(n.s.)	.282**	.246**	.166*	.190*
Placement_Authenticity 2.4.1,2,3,9	.553**	.368**	.368**	.348**	.329**
ASSESST3 - items 2.5.1, 2, 3, 4, 5	.457**	.325**	.333**	.313**	.294**
TLA_INT3 - items 2.4.4, 5,6,7,8	.499**	.412**	.341**	.328**	.277**
	N = 37	N = 266	N = 170	N = 151	N = 142

*p<.05; ** p<.01 (both 2-tailed)

DISCUSSION

These results show the significant positive contribution that is made by the six curriculum factors, to a variety of quite different employability measures. This has implications for the quality assurance, evaluation, and design of work-integrated learning placements. These findings imply that attention should be paid to these six curriculum factors when work-integrated learning placements are being designed by staff alone, or in collaboration with employers and work-place supervisors during placements.

A validated model of the structural elements of work-integrated learning curricula enables more detailed analysis of the relative strength of association between these curriculum elements and various outcomes of interest. In the current case, the outcomes of interest are six dimensions of employability, and the study has shown that there are consistent moderate-sized associations between the curriculum factors and all six employability dimensions. This is *prima facie* a validation of both the use of work-integrated learning curricula to influence the development of employability, and the relative contributions of each curriculum factor. This in turn helps subject or unit coordinators to more self-consciously design, and evaluate, effective work-integrated learning curricula. The findings are consistent with the hypotheses that each of these curriculum factors will contribute positively to developmental outcomes for students, including, perhaps especially, those related to employability.

As to the practical implications for designers, readers will find the literature reviews in the various studies that underpin this research (Smith et al., 2014a, 2014b; Smith & Worsfold, 2014, 2015; Smith, 2012) useful in understanding both the practical aspects of implementation of the curriculum factors dealt with in this study, and their definition through measurement. In these studies, the meaning of the constructs and some of the implementation concerns are addressed, as is the operationalization of each construct for measurement purposes.

In any empirical research, the operationalization of theoretical constructs is a crucial step, but it is one that carries a degree of risk. In any operationalization there is the chance that some facets of multi-facetted constructs are privileged, whilst others are elided in the choice of measurement items. This study is no different from any other in this regard. In terms of the implementation of the curriculum factors explored in this study, there is a vast literature on each one, which cannot be rehearsed here; suffice to say that it is this very fact about WIL that makes it such a complex and comparatively expensive curriculum to "do well".

Whilst all of these aspects of curriculum experience can be orchestrated, designed, and quality assured by university-located staff responsible for WIL curricula, close collaboration and cooperation with workplace supervisors is a necessary condition for assuring that the curriculum is a high quality. This is because it is only through this collaboration that standards or improvements in the experiences (e.g. of authenticity, workplace supervision and so on) can be assured.

Limits of the Current Study.

The results reported here derived from questions answered by students in a survey context. The questions asked students to rate their own levels of ability in a range of employment related skills and abilities. Where the questions related to curriculum factors, they asked students to indicate the relative frequency of the occurrence of the experience described in the item (never – through frequently) and in the case of the supervision, debrief and preparation questions the response scales were Likert-type (strongly agree through strongly

disagree). The obvious flaw with these approaches is that they produce subjective data not objective data about the frequency of occurrence of curriculum factors our about the students' abilities. Thus, a future strong test of these results will be to conduct similar studies that use objective measures of these things; such work can be prohibitively expensive however, and logistically unmanageable on a large scale, which is why the present study did not attempt to do this.

Another limitation of this study is that it looked only at six dimensions of WIL curriculum design that students can experience; collaborative design activities between university coordinators and employers or other workplace representatives were not considered. *Collaborative design* is considered to be an important next frontier in research on WIL (Orrell, 2011). Because WIL curricula facilitate the student-to-professional identity transition, extending the universities boundaries to encompass input from those external to the institution (Ferns, Campbell, & Zegwaard, 2014) may become an important area of research as it relates to the quality of WIL curricula and to students' outcomes. The present study does not extend to this collaborative curriculum design arena.Further, depending on how intimately industry partners are involved with the collaborative delivery of the curriculum, our measures of learning activities and assessments may not include items that specifically address their role. For instance, some writers have argued for the close involvement of industry partners in delivery and assessment of students' performance in the workplace to ensure the development of workplace skills (Peach, Ruinard, & Webb, 2014; Zegwaard, Coll, & Hodges, 2003). The contribution of external partners is advantageous for staff, students, and institutions but potentially adds complexity to the assessment process.

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APPENDIX – Graphical representation of relationships between curriculum factors and six dependent (outcome) variables.

Legend for all Figures

⋯⋯ Lifelong learning	− − − − Informed decisions
—— Integration	— ·· — Collaboration & Comm'n
− − − Commencement readiness	— · — Prof Practices & Standards
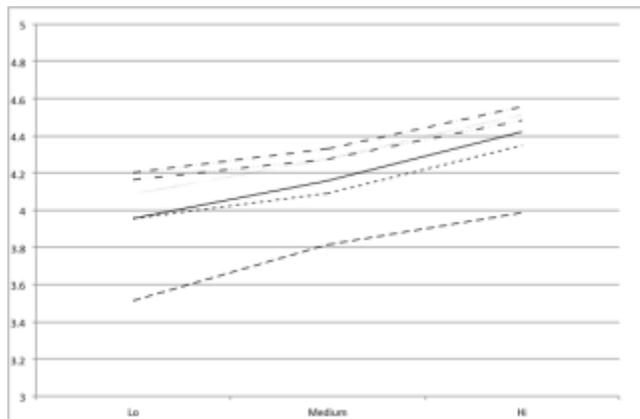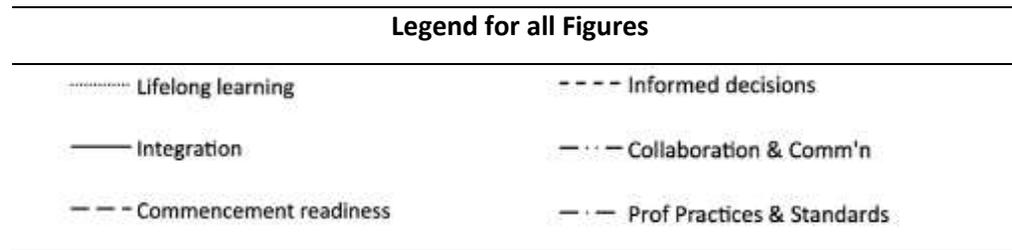
Figure 1: Mean outcome scores across three levels of supervision
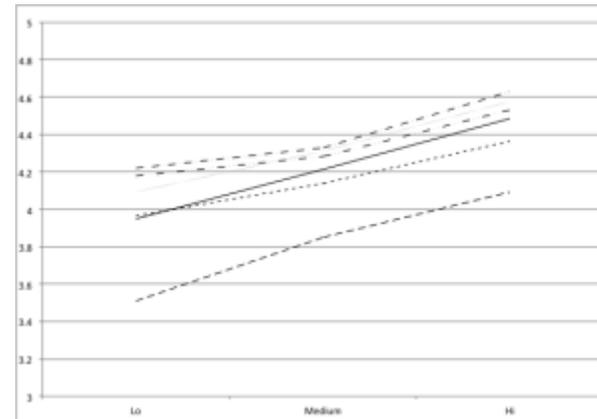
Figure 2: Mean outcome scores across three levels of preparation
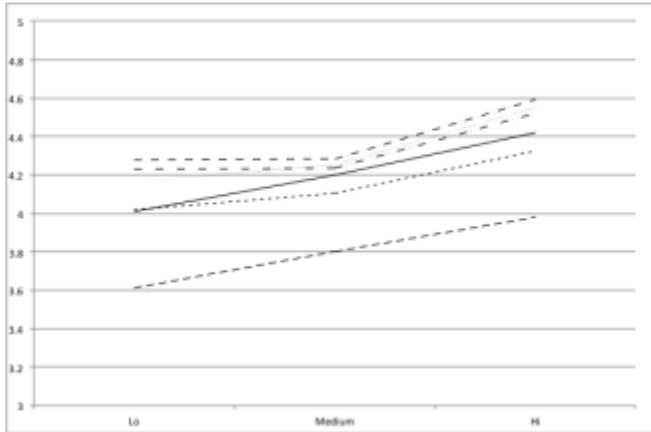
Figure 3: Mean outcome scores across three levels of debrief
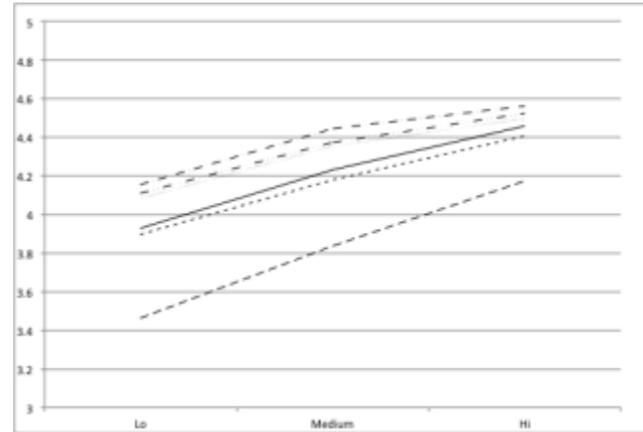
Figure 4: Mean outcome scores across three levels of authenticity of placement
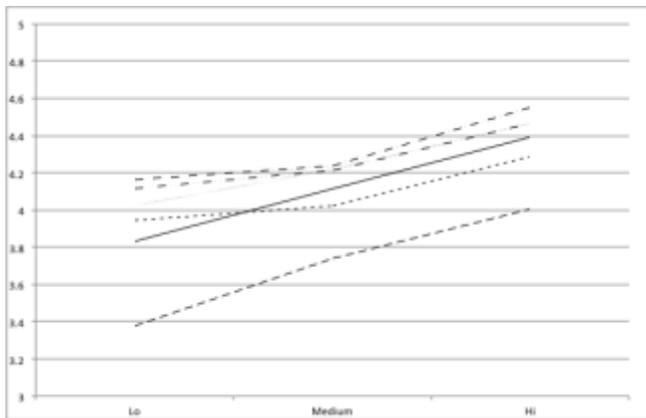
Figure 5: Mean outcome scores across three levels of assessments aligned with integration
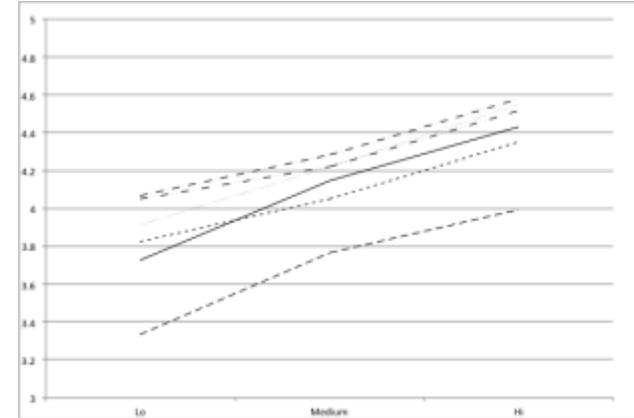
Figure 6: Mean outcome scores across three levels of Learning Activities aligned with integration

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 references).

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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.

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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.