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## Undergraduate reflective journaling in work integrated learning: Is it relevant to professional practice?

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## **Undergraduate reflective journaling in work integrated learning: Is it relevant to professional practice?**

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This paper presents the research findings from a study reviewing graduates' opinions on completing online reflective journaling tasks during work integrated learning as an undergraduate. The study was divided into two parts with an initial focus group conducted with six physiotherapy graduates seven months following graduation. Findings from the focus group guided the development of a questionnaire sent to graduates nine months after course completion. Results from both the focus group and questionnaire (n = 25) highlighted the benefits of online, structured, assessed reflective writing tasks. Graduates provided specific examples of their personal and professional development and perceived benefits from undertaking reflective journaling during work integrated learning. These findings may have application across a wide variety of tertiary courses of study with work integrated learning incorporated into curriculum. (*Asia-Pacific Journal of Cooperative Education*, 2013 14(3), 147-156)

Keywords: Reflection, Blogs, Work-integrated learning

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Universities are increasingly recognizing reflective practice as a graduate attribute although introducing reflective tasks into curriculum is a challenge for educators. Work integrated learning provides an ideal backdrop for reflection through exposure to real life or authentic critical incidents in the workplace. Reflective practice has been defined as an 'intentional and skilled activity in which a person analyzes and describes his or her thoughts, actions, feelings, and behaviors and makes judgments about their effectiveness' (Australian Physiotherapy Council, July 2006). Reflection for a specific learning purpose has been described as 'academic reflection' as opposed to personal reflections recorded in a private diary or journal (Ryan, 2011). Schon (1983) introduced the principles of 'reflection-on-action' and 'reflection-in-action' in the development of reflective practices for the professions. However, there is debate in the literature as to whether the incorporation of reflective practice tasks in professional courses, promotes deeper reflection. Boud and Walker (1998) expressed concern that reflective activities in higher education were becoming 'ritualized' with limited thought placed on appropriate context and outcomes. Negative feedback from students completing reflective tasks is a concern for educators trying to balance the development of this graduate attribute within a structured, assessed framework (Dean, Sykes, Agostinho, & Clements, 2012). Emphasis on reflective writing rather than academic writing and allowing the expression of feelings were two recommendations put forward to deal with the challenges of promoting reflection in professional education. Moon (2006) reported that emotion was an integral part of journal writing and likened journal writing to 'cognitive housekeeping' where students reorganized their 'knowledge and emotional orientations in order to achieve further insights'. Hatton and Smith (1995) developed a framework for describing the four levels of reflective writings, progressing from 'descriptive writing' where only a description of an event was provided with no discussion, to 'critical reflection' where multiple perspectives and contexts were considered.

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In the last ten years, there has been a significant increase in the literature available on reflective activities at tertiary level. The importance of providing students with the theories and knowledge to understand the reflective process was highlighted in one recent review (Smith, 2011). Smith explored the teaching of 'critical reflection' and emphasized the role of reflective practices in supporting professional development. The review, however, highlighted the difficulty of determining the most appropriate form and assessment for reflective tasks. Similarly, studies looking at the introduction of reflective practice components into curricula for the physiotherapy population have addressed different teaching and learning outcomes. Williams, Gemus, & Foster-Seargeant (2002) introduced reflective journal writing to physical therapy students going on a six week clinical placement, to determine if learning outcomes had been met. The journals were an integral assessment tool to determine professional behaviors and attitudes on placement. Despite the lack of formal training in reflective writing, the students appeared to adopt a more patient-centered approach in their reflections. By contrast, Donaghy and Morss (2000) developed a framework to guide reflective writing on clinical placement. The framework was introduced alongside a placement dialogue and written report. They noted that the quality of reflections improved following introduction of the framework and queried whether these changes in behavior would be sustained long-term. A review of three cohorts utilizing the framework, highlighted the use of structured reflective activities in the development of professional practices (Donaghy & Morss, 2007). Students reported improved personal insights, decreased client assumptions and identification of personal strengths and weaknesses. Roche and Coote (2008) reviewed students' perceptions of the value of a new reflective practice module introduced into a physiotherapy program in Limerick, Ireland. Focus groups were utilized, both pre and post completion of the module including one year following. Students' attitudes towards the use and value of reflection altered significantly through the study. The authors commented that reviewing graduates' perceptions of reflection would also be of interest to determine if the 'level of reflection' is sustained beyond graduation.

Despite an increasing number of studies addressing the value of reflective practice at tertiary level, there is a paucity of literature on how these reflective activities translate beyond graduation. Mann, Gordon, & MacLeod (2009) posed the question 'Do practicing health professionals engage in reflective practice?' in their systematic review of reflective practice studies from health professional education. Of the eight studies that addressed this question, six were from medicine and two from nursing. They highlighted that practitioners go through an 'anticipatory phase' of reflection informed by past experiences. Further, reflection could be encouraged by appropriate supervision in the workplace. Reflection was most widely utilized where circumstances were particularly new or challenging. This situation would arise more commonly for the newly graduated health professional. There have been no reported studies addressing the impact of reflective activities beyond graduation for the physiotherapy student population. Therefore the aim of this study was to explore physiotherapy graduates' perceptions of the relevance of undergraduate reflective practice activities to current professional practice.

## BACKGROUND

Physiotherapy students from the University of Notre Dame, Australia (Notre Dame) have undertaken reflective journal tasks during work integrated learning since the program's inception in 2003. Prior to 2009, students on clinical placement in second, third and fourth year were required to email three journal entries per week to the clinical education team. No

structure was provided for the journal entries and the task was assessed as a non-graded pass. Entries were frequently not completed and those submitted were often only at the level of 'descriptive writing', as described by Hatton and Smith (1995). In 2009, students commenced writing their journals in blog format to allow for easier access and connectivity whilst offsite on placement. Further, clinical educators could review blogs in real time, thus assisting students who reported concerns. Students were required to submit five entries per five week placement, three entries about specific situations as well as an initial and final reflection on their overall thoughts and feelings. The STARES (Situation Task Action Result Evaluation Strategies) framework for reflective practice was developed to assist students with structuring their thoughts when reflecting on a particular situation (Connaughton & Edgar, 2011). The framework included an evaluation of actions as well as strategies for change or improvement. Students were asked to base each STARES entry on one of the domains of the Assessment of Physiotherapy Practice (APP) (Dalton, Keating, & Davidson, 2009). From 2010 onwards, all year level groups going on clinical placement were assessed on their reflective journal entries and a weighting of 20 percent of their clinical grade was applied to their journals. This decision was based on evidence from the literature (Biggs & Tang, 2007) that students place more value on assessed items, thus the 20 percent weighting was added with the aim of improving students' commitment to complete the task to the best of their ability.

## METHODS

The study participants were Notre Dame physiotherapy graduates from 2010. Ethics approval was gained from the Human Research Ethics Committee of The University of Notre Dame Australia (011013F). The study took place in two stages. In stage one, graduates were contacted by email seven months after completion of their degree and were invited to attend a focus group on reflective practice. Six graduates attended the focus group held after hours and onsite at the university. Participants provided informed consent and were offered no monetary support for attendance at the session. The focus group was moderated by a member of the clinical education team, least known to the attendees. The session was semi-structured with opportunity for informal discussion. Two additional members of the clinical education team attended the focus group and acted as scribe and recorder. The session was audio recorded with the permission of the participants and further transcribed following the event. Data from the focus group was manually coded by the researchers into concepts and further into relevant categories of data, with stages of analysis conducted as recommended by Braun and Clarke (2006).

Stage two of the study comprised the development of a questionnaire which was emailed to all 2010 graduates. The question selection was based on categories extracted from the focus group data as well as surveys developed previously for the physiotherapy student population on the introduction of a reflective practice unit (Roche & Coote, 2008) and for the oral health student population, on reflective writing experiences (Tsang & Walsh, 2010). The questionnaire was also reviewed by colleagues for feedback and recommendations prior to release. The final questionnaire consisted of 31 statements, each with a five point Likert scale (Brill, 2008) as well as five open-ended questions pertaining to participants thoughts on the STARES framework, reflective practice then (as a student) and now (as a graduate), peer review of reflections and the use of blogs as a medium (Tables 1-4). Participants completed the questionnaire anonymously via an online survey engine and were not required to provide personal or demographic details. The response rate for completion of the

questionnaire was 42% (n=25). Descriptive statistics were calculated for each statement within the questionnaire.

## RESULTS

### *Focus Group*

The focus group commenced with a general discussion on 'what is reflective practice?' The graduates had quite differing views on what they considered to be reflective practice in their current employment. It varied from being a form of self-evaluation through to feedback from multiple sources. They were quoted as saying there were 'different ways of doing it' both 'informal and formal' as well as 'verbalizing' thoughts. They highlighted their progression from reflecting-in-practice to now reflecting-on-practice with statements including 'you're doing it in your head', it is 'self-questioning', 'automatic' and you are 'doing something meaningful with it'.

One participant commented that reflective practice is 'finding those gaps in your knowledge and actually addressing them as well'. While another felt it was 'improving yourself as a clinician'.

Participants were asked to reflect on their thoughts on the role of reflective practice as an undergraduate. They agreed that they would have liked the 'bigger perspective' to be emphasized earlier as they completed reflective journal tasks because they 'had to do it to pass'. One participant commented that they resented being 'forced to do it'. However, there was general consensus that reflecting became easier as they progressed from second year to final year, with one graduate commenting that it has 'been ingrained and now it is more natural'.

When asked about the use of a blog, participants liked the online medium and easy access for their reflections. One graduate commented that they still 'get moments where I'm ... going to blog about this'. Access to other students' blogs 'gave ideas' on placement and continued access to their blogs after graduation assisted with writing selection criteria for job applications.

There was generally a positive response in the discussion on the assessment of reflections. One participant noted that 'it needs to have marking criteria because no-one's going to care about it', with another commenting that it was 'positive in the long run'. One topic that did bring about considerable debate however was the concept of formal peer assessment. There was agreement that it could be an option to comment in another student's blog but there was concern regarding compulsory assessment rather than 'reading out of interest'. Participants reached consensus regarding utilizing blogs to share information and articles from professional development sessions within the year group. They also agreed that blogs in general were helpful because you could 'interact with each other more' while not on university campus.

The graduates were positive in their comments regarding the use of a framework for reflection commenting that it was 'logical' as well as in 'interview format' which assisted greatly in their recent job interviews. Two participants concurred that there was some uncertainty over what to include in each section of the STARES framework. However, one participant noted that the framework was so ingrained that she had utilized the format to report a critical incident that occurred in the hospital setting since graduation.

TABLE 1. Graduate ratings on statements in relation to blogs

| Statement   | Strongly Disagree | Disagree   | Neutral   | Agree      | Strongly Agree |
|---|-------------------|------------|-----------|------------|----------------|
|   | %<br>(N)          | %<br>(N)   | %<br>(N)  | %<br>(N)   | %<br>(N)       |
| Blogs were easy to use                                  | 0<br>(0)          | 8<br>(2)   | 16<br>(4) | 64<br>(16) | 12<br>(3)      |
| Blogs were easy to access                               | 0<br>(0)          | 20<br>(5)  | 16<br>(4) | 60<br>(15) | 4<br>(1)       |
| There were technical difficulties posting blogs         | 0<br>(0)          | 20<br>(5)  | 28<br>(7) | 48<br>(12) | 4<br>(1)       |
| I would have preferred feedback to be posted on my blog | 20<br>(5)         | 52<br>(13) | 4<br>(1)  | 16<br>(4)  | 8<br>(2)       |

TABLE 2. Graduate ratings on statements in relation to STARES

| Statement  | Strongly Disagree | Disagree  | Neutral   | Agree      | Strongly Agree |
|--|-------------------|-----------|-----------|------------|----------------|
|  | %<br>(N)          | %<br>(N)  | %<br>(N)  | %<br>(N)   | %<br>(N)       |
| The STARES format guided my reflection   | 0<br>(0)          | 4<br>(1)  | 4<br>(1)  | 52<br>(13) | 40<br>(10)     |
| Having a format to follow made reflecting easier                                   | 0<br>(0)          | 8<br>(2)  | 12<br>(3) | 36<br>(9)  | 44<br>(11)     |
| More guided questions would have assisted writing STARES                           | 4<br>(1)          | 12<br>(3) | 20<br>(5) | 40<br>(10) | 24<br>(6)      |
| The STARES format was logical  | 0<br>(0)          | 0<br>(0)  | 20<br>(5) | 48<br>(12) | 32<br>(8)      |
| I would have preferred more education on what was expected from the STARES entries | 0<br>(0)          | 36<br>(9) | 8<br>(2)  | 36<br>(9)  | 20<br>(5)      |
| Writing in the STARES format was useful to debrief                                 | 4<br>(1)          | 12<br>(3) | 24<br>(6) | 40<br>(10) | 20<br>(5)      |
| STARES entries were more worthwhile when they were assessed                        | 4<br>(1)          | 4<br>(1)  | 12<br>(3) | 36<br>(9)  | 44<br>(11)     |
| Feedback on my STARES was timely   | 0<br>(0)          | 16<br>(4) | 20<br>(5) | 48<br>(12) | 12<br>(3)      |
| There was not enough feedback on my STARES   | 0<br>(0)          | 36<br>(9) | 24<br>(6) | 24<br>(6)  | 16<br>(4)      |
| I was clear on what to include in the S (situation)                                | 0<br>(0)          | 12<br>(3) | 4<br>(1)  | 60<br>(15) | 24<br>(6)      |
| I was clear on what to include in the T (task)                                     | 0<br>(0)          | 16<br>(4) | 8<br>(2)  | 48<br>(12) | 28<br>(7)      |
| I was clear on what to include in the A (action)                                   | 0<br>(0)          | 12<br>(3) | 16<br>(4) | 44<br>(11) | 28<br>(7)      |
| I was clear on what to include in the R (results)                                  | 0<br>(0)          | 12<br>(3) | 4<br>(1)  | 48<br>(12) | 36<br>(9)      |
| I was clear on what to include in the E (evaluation)                               | 4<br>(1)          | 16<br>(4) | 8<br>(2)  | 44<br>(11) | 28<br>(7)      |
| I was clear on what to include in the S (strategies)                               | 0<br>(0)          | 20<br>(5) | 16<br>(4) | 36<br>(9)  | 28<br>(7)      |

TABLE 3. Graduate ratings on statements in relation to reflective practice

| Statement   | Strongly Disagree | Disagree   | Neutral   | Agree      | Strongly Agree |
|---|-------------------|------------|-----------|------------|----------------|
|   | %<br>(N)          | %<br>(N)   | %<br>(N)  | %<br>(N)   | %<br>(N)       |
| I resented being forced to do reflections on clinical practice                                      | 12<br>(3)         | 40<br>(10) | 28<br>(7) | 8<br>(2)   | 12<br>(3)      |
| The purpose of completing reflections was unclear as a student                                      | 16<br>(4)         | 56<br>(14) | 8<br>(2)  | 20<br>(5)  | 0<br>(0)       |
| Finding something to reflect on was easy  | 4<br>(1)          | 36<br>(9)  | 36<br>(9) | 20<br>(5)  | 4<br>(1)       |
| I referred to my STARES entries after graduation  | 32<br>(8)         | 28<br>(7)  | 4<br>(1)  | 20<br>(5)  | 16<br>(4)      |
| Being forced to reflect helped prevent me from repeating mistakes                                   | 8<br>(2)          | 24<br>(6)  | 24<br>(6) | 40<br>(10) | 4<br>(1)       |
| The purpose of completing reflection has become clear now I am working                              | 8<br>(2)          | 16<br>(4)  | 12<br>(3) | 44<br>(11) | 20<br>(5)      |
| Being forced to reflect as a student assisted me with the transition from undergraduate to graduate | 12<br>(3)         | 20<br>(5)  | 20<br>(5) | 36<br>(9)  | 12<br>(3)      |
| Since graduation I reflect on my actions whilst I'm working   | 0<br>(0)          | 4<br>(1)   | 4<br>(1)  | 48<br>(12) | 44<br>(11)     |
| Since graduation I reflect on my actions outside work hours   | 0<br>(0)          | 12<br>(3)  | 16<br>(4) | 40<br>(10) | 32<br>(8)      |

TABLE 4. Graduate ratings on statements in relation to peer review

| Statement                                 | Strongly Disagree | Disagree   | Neutral   | Agree     | Strongly Agree |
|---|-------------------|------------|-----------|-----------|----------------|
|   | %<br>(N)          | %<br>(N)   | %<br>(N)  | %<br>(N)  | %<br>(N)       |
| Peer review of blogs would be beneficial  | 40<br>(10)        | 20<br>(5)  | 20<br>(5) | 20<br>(5) | 0<br>(0)       |
| Peer review of blogs should be compulsory | 44<br>(11)        | 52<br>(13) | 4<br>(1)  | 0<br>(0)  | 0<br>(0)       |
| Peer review of blogs should be assessed   | 44<br>(11)        | 44<br>(11) | 8<br>(2)  | 4<br>(1)  | 0<br>(0)       |

### Questionnaire

Statements pertaining to the use of blogs as a medium are presented in Table 1. Graduates' perceptions of blogs were that they were easy to use (76%) and access (64%), however greater than half (52%) reported technical difficulties with posting. The majority (72%) did not want feedback posted on their blog.

As presented in Table 2, graduates agreed that the STARES format guided their undergraduate reflections (92%) and provided a format to make it easier for them to reflect (80%). They reported finding the format logical (80%) with only a small percentage of respondents indicating that they were unclear on what to include in their entries. Respondents suggested that more guided questions (64%) and more education on

expectations for the STARES entries (56%) would have been useful. Sixty percent found that their STARES entries were a useful debriefing tool. Eighty percent of respondents agreed that entries were more worthwhile once STARES were assessed and only 16% felt that feedback was not timely. Graduates reported finding the format useful when applying for jobs and preparing for interviews.

In relation to reflective practice (Table 3), the majority of participants indicated that the purpose of completing reflections was clear to them and they did not resent being forced to complete entries. However, many reported difficulty identifying a situation to reflect on. Only a few graduates have referred to their STARES entries since graduation but the majority agreed that they reflect on their actions while working and even outside of work hours.

In response to questions about peer review of blogs (Table 4), there was a negative response with participants disagreeing with any benefits to peer review (60%), making peer reviews compulsory (96%) or assessing peer review postings (88%). Comments included peer reviews would 'stop people from being as honest and decrease the desired effect'.

In response to the open ended question regarding what reflective practice means to graduates in current terms, the comments were very similar to the focus group with one graduate stating that it was 'a tool to help make you a better clinician'. Another graduate summarised that they use reflective practice 'to evaluate my clinical decisions so I can work out how to improve/optimize an outcome'.

## DISCUSSION

The primary aim of this research was to explore graduates' perceptions of the relevance of reflective practice as a student to their current professional practice. The first hurdle in achieving this aim was evidenced by the observation that graduates surveyed in both the focus group and the questionnaire had very diverse ideas about 'what is reflective practice?' Graduates' views on the topic varied from self-evaluation, to feedback from multiple sources although there appeared to be a common thread that reflective practice would assist to improve them as clinicians. The diversity of responses raised the issue of what are the expected outcomes of introducing undergraduates to reflective practice techniques? Further, how well are these expected outcomes conveyed, taught and measured?

The focus group and questionnaire explored graduates' experiences of utilizing the STARES framework for their reflective entries. The framework was identified as an appropriate tool, with the logical format guiding undergraduates in reflective practice. Students reported utilizing the STARES framework for debriefing following critical incidents, highlighting that work integrated learning is ideal for reflective tasks through exposure to authentic workplace situations. Further, students reported that they provided example STARES entries for job applications and acknowledged the benefits of having ready-made evidence for employability.

It was identified that some students required more education and guidance on the type of experiences or critical situations to reflect upon. Further, a greater understanding of clinical educators' expectations would have been useful to guide the development of their reflective practice skills. Donaghy and Morss (2007) reported similar findings with students identifying difficulties with selection of an appropriate patient case to review. This issue has been acknowledged by the authors and further education on recognizing critical situations for reflective writing as well as guidance on appropriate context (Boud & Walker, 1998) and

levels of reflective writing (Hatton & Smith, 1995), are to be introduced into curriculum. Future research will include an evaluation of the revised educational content and student feedback.

The introduction of assessment to the development of reflective practice skills is a contentious issue. As noted in the literature, assessment is essential for students to place value on their work (Biggs and Tang, 2007), though is assessment of reflective tasks warranted? Connaughton and Edgar (2011) evidenced improvement in the quality of STARES entries following the introduction of assessment. Eighty percent of respondents to the questionnaire indicated that their STARES entries were more worthwhile once they were assessed, indicating that there is a place for 'academic reflection' (Ryan, 2011) in the curriculum.

The blog medium was widely recognised as being easy to access and use, however, more than half of the respondents had some technical difficulties when posting blogs. The decision to use this medium was based on cost efficiency, timely access and also to allow students ongoing access to their reflective entries following graduation. It was noted when the medium was introduced, the majority of undergraduates had no previous experience and were not literate in the use of a blog. Tuition sessions were introduced to the program and ongoing education and practice will continue to assist with technical issues experienced.

Graduates reported both in the focus group and questionnaire that they accessed other students' blogs for ideas and interest. However, they responded strongly against the suggestion of compulsory peer assessment or peer feedback posted on blogs. Peer review and assessment has been noted in the literature as a useful learning tool for formative feedback (Ladyshevsky & Gardner, 2008) however the authors support the feedback from graduates. Undergraduates will continue to have access to each other's blogs for interest and sharing of ideas only.

The implementation of the assessable STARES framework in the work integrated learning environment appeared to assist the transition from undergraduate to graduate. Respondents reported that reflection on their real life work experiences became easier and eventually 'ingrained'. The majority stated that they now reflect on their actions while working. Despite one student in the focus group resenting being 'forced' to complete reflections, this study highlighted the value of repetition of the reflective practice process in the clinical setting. Further education, guidance and clarification around reflective practice, critical incidents and expectations within the workplace setting will be essential to promote the purpose of reflective practice in the work integrated learning environment and facilitate the transition from student to reflective graduate.

The authors acknowledge the limitations of this study which include the small numbers of participants in both stages. Due to the availability of graduates, only one focus group of six participants was possible. The design of the study required the online survey to be conducted a significant period of time after graduation to gain a sense of the relevance of reflective practice skills to work practices. Sampling bias may have affected the results of both the focus group and questionnaire as the graduates that did respond may have been more positive regarding their reflective journaling experiences. Further, they were required to remember experiences from seven and nine months prior. Future prospective studies will address these limitations by following students through from commencement of clinical placements to graduation and beyond.

## CONCLUSION

This research identified that graduates who have undertaken structured reflective tasks as an undergraduate have varying and broad views on 'what is reflective practice?' The graduates acknowledged the value and relevance of assessed undergraduate reflective activities now that they are working and their role in the development of their current professional practice. The challenge for educators, particularly in the professions, is to incorporate reflective practice skills into curricula that provide context, are assessable and assist students to develop the graduate attribute of reflective practice.

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# Asia-Pacific Journal of Cooperative Education

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

Typically, authors receive the reviewers' comments about a month 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 webpage ([www.apjce.org](http://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.

Asia-Pacific Journal of Cooperative Education.

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