

Supporting placement supervision in clinical exercise physiology

REBECCA M. SEALEY¹

KERRIANNE WATT

James Cook University, Townsville, Australia

HERB GROELLER

University of Wollongong, Wollongong, Australia

JACQUELINE RAYMOND

KIERON ROONEY

The University of Sydney, Sydney, Australia

MEAGAN CRABB

University of Queensland, Brisbane, Australia

The continued engagement of the professional workforce as supervisors is critical for the sustainability and growth of work-integrated learning activities in university degrees. This study investigated factors that influence the willingness and ability of clinicians to continue to supervise clinical exercise physiology work-integrated learning opportunities and makes recommendations for future supervision engagement. Themes identified from a supervisor survey were: staffing and time availability; administrative processes and support; student quality, knowledge and attitudes; student learning experiences; supporting the profession; service benefit; clinical personal benefit; funding; workplace support; staff qualifications and experience; prior positive experiences; future recruitment; facilities and infrastructure; and supporting the university. The responses resulted in five key recommendations for future enhanced and sustainable placement supervision. These were: adoption of efficient supervision structures; development and use of a competency checklist; enhanced recognition of supervision; standardized placement paperwork and assessment tools; and broadening of placement scheduling. (*Asia-Pacific Journal of Cooperative Education*, 2015, 16(1), 53-69)

Keywords: Student placement, supervision, work-integrated learning, health professions, clinical exercise physiology

Work-integrated learning (WIL) experiences, for example, clinical placement, field-work, internships and cooperative education (Orrell, 2011), are increasingly prevalent in higher education to develop workforce entry-level competency (Hughes, 2002) and improve the workplace readiness of graduates (Billett, Sweet, & Glover, 2013). In disciplines experiencing increased workforce demand and increased student numbers, the demand for student placements must be met with a willingness and ability of the workforce to supervise the placements (Barnett et al., 2008; Ferguson, Haantjens, & Milosavljevic, 2013). The clinical exercise physiology profession is relatively new in Australia and has experienced rapid growth with a 451% increase in professional membership between 2003 and 2010 (Selig et al., 2011). Clinical exercise physiologists are allied health professionals who predominantly prescribe exercise to prevent, treat and manage acute and chronic conditions such as, but not limited to, cardiovascular disease, diabetes mellitus, cancer, stroke, osteoarthritis and mental illness. As part of their degree, students complete at least 500 hours of work-based placement, which occurs mostly in hospitals, health centers and private practice. Placement experiences primarily involve assessment and planning and delivery of exercise interventions. Placements are supervised preferentially by accredited exercise physiologists

¹ Corresponding author: Rebecca Sealey, Rebecca.sealey@jcu.edu.au

with at least two years of clinical experience, or by other allied health clinicians with exercise management experience.

A common theoretical framework underpinning the importance of WIL is Kolb's Experiential Learning Theory, which refers to a combination of experiences, perceptions, cognitions and behaviors and is the integration of the prior learning theories of Lewin, Piaget, and Dewey (Kolb, 1984, p. 21-23). Kolb's Experiential Learning Theory is operationalized as a 4-stage cycle representing learning as a continuous process that is grounded in experience and involves observation, reflection, creating new knowledge and actively trialing this new knowledge. This cycle resonates with the underlying assumption of WIL that the formal classroom setting will not provide students with the opportunity to learn workplace-based skills and knowledge (Orrell, 2011).

Within the WIL environment, the supervisor is central to student learning; the supervisor facilitates exposure to authentic experiences, provides a role-model and enables the student to find the potential for learning in their experiences through ongoing reflective discussions, feedback and further exposure to relevant and authentic experiences (Rodger, Fitzgerald, Davila, Millar, & Allison, 2011; Våågstøl & Skøien, 2011). However, the pressure to deliver efficient, safe and quality care that achieves desired healthcare outcomes, yet works within budget restrictions, becomes a barrier to supervising WIL experiences due to the demand on staff resources that is additional to a clinical role (Rodger et al., 2008). In order for WIL to be successful with respect to transformational learning experiences, collaborative partnerships between stakeholders need to be developed (Fleming & Hickey, 2012). Stakeholder commitment of both time and resources is needed (Reeve & Gallacher, 2005), as is the shared understanding of the expectations and purpose of WIL (Patrick et al., 2008).

Well established professional disciplines report an extensive network of placement support and resourcing processes that have been developed and refined over time to meet the needs and expectations of the placement supervisors, the university and the students; and to enhance capacity. The speech and language pathology (McAllister, 2005) and nursing (Barnett et al., 2008; Lears, Olsen, Morrison, & Vessey, 1998) professions use centralized scheduling of student placements; while medicine, nursing and physiotherapy have well-established simulation training processes to compliment work placement (Hassam & Williams, 2003; Kreimeier, Boettiger, Dirks, Handley, & Nolan, 2009; Ladyshevsky, Baker, Jones, & Nelson, 2000). Standardized portfolios, competencies and evaluation tools are used in speech and language pathology (McAllister, 2005) and extensive collaborative support programs have been implemented in nursing and midwifery (Burns & Paterson, 2005). In contrast, tried and tested processes and resources are not yet readily available or are largely variable in clinical exercise physiology (Sealey et al., 2013; Sealey et al., 2014b). Instead, 'just in time' processes may be implemented to ensure that students are receiving work-based placement experiences and supervisors are receiving placement-based information and resources on an 'as needed' basis. While this short term approach is critical for the everyday roll-out of degrees, it may not align with long-term sustainability of high quality work-based placement learning experiences and supervision capacity.

Capturing the placement supervisor perspective on current placement supervision barriers and enablers would enable universities and the profession to address current needs and to design and implement strategies aimed at assuring the upward projection and sustainability of the WIL experience in clinical exercise physiology. Therefore, the aim of this paper is to investigate the factors that influence the willingness and ability of clinicians to supervise

clinical exercise physiology placements; and based on these factors, to make recommendations for enhancement of supervision engagement, based upon successful initiatives from other health disciplines.

METHODS

This paper focusses on the perspectives of clinical exercise physiology placement supervisors regarding their ability and willingness to supervise placements. The project was approved by the James Cook University Human Ethics Research Committee (approval number H4777). The methodological framework is mixed methods action research with frequency-based thematic analysis and narrative-style reporting of emergent themes.

Participants

Heads of disciplines/schools who deliver clinical exercise physiology-based degrees in Australia were invited to participate in the study. Nineteen (of twenty-four) universities provided written consent to participate by arranging for their clinical placement coordinators to email the survey link to placement supervisors.

Survey

A survey was designed to capture current practices within clinical exercise physiology placements throughout Australia. The survey questions were initially developed by the lead author and underwent three rounds of revisions by the authorship team representing four different universities across Australia. The final survey comprised of forty-one questions (Sealey et al., 2013) across five sections: supervisory experience, characteristics of current supervisory practices, processes associated with supervision, supervisor education and demographic descriptors (Sealey et al., 2013). The survey link was emailed via the university placement coordinators to industry-based clinical placement supervisors and remained open for six weeks. This paper reports selected demographic and supervisory experience data of the participants and focuses on the following two free-text questions:

1. Please detail any factors that promote your ability/willingness to supervise clinical exercise physiology student placements.
2. Please detail any factors that restrict your ability/willingness to supervise clinical exercise physiology student placements.

Data Analysis

Participant demographics were collected as categorical data based on the selection of the most appropriate listed response option and were reported as the number and proportion of total responses for each category. The responses to the two main free-text questions asking about factors that 1) promote and 2) restrict ability/willingness to supervise underwent a multi-step process of thematic analysis. Firstly, all authors met face-to-face to discuss the responses to clarify the process for allocating responses to themes. The authors then independently derived a list of emergent themes that were rooted in the wording and nuances of the discursive responses. All authors then discussed emergent themes and developed a final list of themes following discussion and consensus. Two authors then independently assigned each response to the final list of themes. The thematic analysis was confirmed by all authors, with any changes made only after full consensus was reached. There was no limitation for the total number of themes, nor for the number of themes that each response could be linked to. Responses were allocated to themes irrespective of the

direction (promote or restrict) of the response. To provide specific contextual relationships between the participant responses to the free-text questions and their actual experience as supervisors, the responses were compared between the following groups: male versus female; metropolitan versus rural, regional and remote; accredited exercise physiologist versus other allied health clinicians; fulltime versus part time or casual employment; no more than two years versus more than two year of supervision experience.

RESULTS

Demographics and Supervisory Experience

The number of potentially eligible supervisors is unknown and likely variable however we received 129 survey responses from supervisors affiliated with nineteen consenting universities. Inclusion criteria were: supervision within the past two years of clinical exercise physiology student/s, and at least one of the free-text questions was answered. Ninety-five participants met the inclusion criteria and, therefore, were included in the analysis

TABLE 1: Demographic information of the participating clinical placement supervisors

Demographic item	Predominant response(s)	Response frequency
Gender	Female	65% (50/77)
Age	<40 years	78% (60/77)
Profession	Accredited exercise physiologists	77% (59/77)
	Physiotherapists	10% (8/77)
Employment status	Full time employment	84% (65/77)
Employment sector	Private practice	42% (32/77)
	Public hospitals	18% (14/77)
Geographic location- self report*	Metropolitan	73% (56/77)
	Regional	22% (17/77)
	Rural	5% (4/77)
Geographic location – by postcode*	Major city	87% (67/77)
	Inner or outer regional	13% (10/77)
National representation**	Queensland	35% (26/75)
	New South Wales	28% (21/75)
	Western Australia	16% (12/75)
Supervision experience	3-10 years	53% (50/95)
	<3 years	38% (36/95)
Supervision model***	1 supervisor: 1 student	61% (58/95)

Geographic location* – self report refers to the supervisor's own classification of the location of their practice; while *Geographic location* – by postcode refers to the Australian Government, Australian Standard Geographical Classification – Remoteness Area classification of the location of the supervisors' practice, according to reported post codes. *National representation* refers to the Australian State or Territory in which the supervisor practices. ****Supervision model* refers to the ratio of the number of supervisors to the number of students that are being supervised, by that supervisor, at a given time.

Specifically, of the 129 supervisors that commenced the survey, two had not recently supervised and a further 32 did not respond to at least one of the free-text questions and, therefore, were excluded. All but one state or territory in Australia were represented in the study and participants supervised students from thirty-three different universities. Supervisors were predominantly accredited exercise physiologists with a wide range of supervision experience from one year to more than ten years and supervising on average one student per year to more than fifteen students per year.

Seventy-seven of the included participants provided demographic information (Table 1). In general the demographic profile indicated a young supervisory workforce based predominantly in metropolitan cities.

Sub-group Analysis

No differences in the response nuances or themes were identified when responses were compared between the various sub-group comparisons of supervisor experience, therefore, themes and factors are presented for the whole sample.

TABLE 2: Themes for factors that promote and that restrict supervisor willingness or ability to supervise placements.

Theme	Number of responses
Promote	
Supporting the profession	28
Service benefit	24
Student learning experience	23
Administrative processes, organizational support & relationships	19
Student quality, prior knowledge and attitudes	17
clinical personal benefit	16
Staffing, time availability, workload allocation	10
Workplace support	6
Future recruitment	5
Prior experience (with students)	5
Funding	4
Staff qualifications and experience	3
Supporting the university	3
Restrict	
Staffing, time availability, workload allocation	40
Administrative processes, organizational support and relationships	30
Student quality, prior knowledge and attitudes	21
Student learning experience	15
Funding	11
Workplace support	7
Staff qualifications and experience	5
Facilities and infrastructure	4
Service benefit	4
Prior experience (with students)	1

Themes for Factors That Promote and That Restrict Ability/Willingness to Supervise

Fourteen themes were identified across both free-text questions, with thirteen identified in the 'promote' responses and ten identified in the 'restrict' responses (Table 2). The themes are reported in the following sub-sections in descending order of total response numbers, with examples of both promoting and restricting quotes provided, where appropriate.

1. Staffing, time availability and workload allocation (50 total responses: 10 promoting, 40 restricting)

Supervisors were willing to offer placements if they had available staff, for example, "being able to select the dates that students attend placements. This allows for me to ensure adequate staffing and adequate supervision" (Participant 39), and "being well staffed this end also helps" (Participant 52). However inadequate staffing, lack of time, loss of time to perform work duties while supervising, and requests to take students from too many universities were commonly reported barriers. For example, "it is often very time consuming and costly as a self-employed private practice owner to provide supervision for students" (Participant 40), "it takes a lot more time. Students' feedback and discussion following groups and often the efficiency and effectiveness of doing things is reduced with students performing the tasks" (Participant 16), and "having commitments to too many unis/overlap of students. Only one EP and having requests to have up to three to five students at one time" (Participant 80).

2. Administrative processes and organizational support and relationships (49 total responses: 19 promoting, 30 restricting)

Supervisors indicated that when effective partnerships were formed with a university, and when good communication and organization existed, their willingness to continue to supervise student placements was promoted. For example one supervisor commented, "supportive university i.e. assist/ intervene if there are student issues, attempt to make contact with placement sites and build relationships here instead of just placing them with a workplace and expecting workplaces to 'look after' the students" (Participant 82). This response indicates the importance of university involvement to expand beyond just the logistical organization of placements. Restricting factors included paperwork requirements (too much, too complicated, too time consuming), placement scheduling restrictions and last minute modifications, and feeling pressured to take too many students (and from too many universities). Example responses were: "extensive time is required for all students to complete satisfactory [professional organization] log books, supervision over clientele sessions, continuous education and adjusting placement times as well as correspondence between students and university supervisors" (Participant 30), "guidelines regarding best practice for clinical supervision would help develop consistency for all students, work sites and supervisors" (Participant 84), "lack of organization of the university in regards to organizing placements... being pressured from students and the unis to find extra hours for students who need it, when we are at full capacity of students" (Participant 49), and

Universities changing course and subject timetables at short notice has disrupted our student prac schedules. In the past we have accommodated students all year round, since approximately 2010 this has ceased and students are not utilizing holiday times and end of year break. (Participant 31)

Some supervisors also reported that invitations to networking activities and having access to university resources would contribute to their willingness to continue to supervise clinical placements. For example, “promotes networking opportunities and links with universities” (Participant 57), and “access to university research and resources” (Participant 67).

3. Student quality, prior knowledge and attitudes (38 total responses: 17 promoting and 21 restricting)

Students who demonstrated an ability to perform clinical skills, a good understanding of the field, were prepared for placement and were flexible with hours, and displayed good interpersonal skills, enthusiasm, a learning attitude, motivation and engagement and initiative, promoted supervisors’ willingness to provide placement supervision. For example, “enthusiastic students that are well informed and ready for prac” (Participant 29), “high level of student engagement and initiative, students who ask questions but also listen. Students who are confident in their clinical knowledge...” (Participant 82), and “students willing to learn, students being punctual and showing initiative” (Participant 86).

Alternatively, students who were unprepared, had insufficient clinical knowledge and/or skills, lacked interest, were unwilling to learn, were unmotivated or not enthusiastic or were inflexible with placement hours, restricted supervisors’ willingness to supervise placement. For example, “I have found that students that have come here are unwilling to learn and take on the culture of the prac site. It is all about them and not about the experience” (Participant 4), “if students are not self-motivated they can be difficult to manage” (Participant 47), and “lack of student enthusiasm/initiative” (Participant 52). Furthermore students’ inability to sufficiently speak or write in English, and students who just complete the hours as a requirement for professional accreditation were also factors that restricted willingness to supervise.

4. Student learning experience (38 total responses: 23 promoting and 15 restricting)

The ability to provide students with a worthwhile hands-on learning experience or exposure to a specialized client population promoted supervision willingness. For example:

I work with respiratory patients and coordinate pulmonary rehabilitation in a regional area and this is not an area that traditionally exercise physiologists have worked in and it is a great experience for students to experience working with this patient population. (Participant 12)

Alternatively, a limited client case load was a restrictive factor, for example:

Limited number of patient contact hours. We have specific hours that we run exercise rehab classes and assessments. Outside those hours the students can experience other experiences however they would be limited to what they can record for their logbook in accordance with ESSA practicum guidelines. (Participant 59)

5. Service benefit (28 total responses: 24 promoting and 4 restricting)

Supervisors mostly reported a workplace benefit with the presence of students effectively increasing the number of staff present within the facility. Benefits associated with the provision of clinical service included the ability for students to provide a helping hand or alternatively to free up staff to do other tasks. For example, “it’s great to have a helping hand for my practice” (Participant 34), and “additional support for running of our program - enhances service provision- frees up time for staff members to undertake other duties during

placement" (Participant 57). However, a small proportion of supervisors associated student clinical placement as negative and thus limit placement supervision due to the added work required of the supervisor during the placement period. For example, "I also spend a lot of time doing consultations, and whilst I always ask if the patient minds a prac student being present, I tend to avoid this as I don't want patients feeling uncomfortable" (Participant 61), and:

We don't have enough staffing to be able to provide good prac placements. Students can be helpful but also demanding. They can have positive and negative impact on our patient group. Our focus when at work is on our patients. (Participant 22)

6. Supporting the profession (28 total responses: 28 promoting and 0 restricting)

Supervisors were keen to supervise student placements as a means of supporting the profession, with the responses targeted at ensuring quality exercise physiology graduates and discipline professionalism, ensuring sufficient number of placements available to students, and enjoying mentoring future exercise physiologists. For example, "it is good to be able to pass on information to students studying clinical exercise physiology as I feel that it strengthens our profession and in turn will raise the profile of exercise physiology Australia wide" (Participant 91), and "I was a student too once and how difficult it is for students to gain placements" (Participant 40).

7. Clinical personal benefit (16 total responses: 16 promoting)

The process of supervising student placements positively contributed to supervisors' continuing education (for re-accreditation), promoted their own learning, and instilled positive feelings among staff, as demonstrated by the following responses, "I can count supervision hours towards re-accreditation" (Participant 6), "the students are invaluable as the Cardiac Rehab Nurses learn from the students about the latest developments in this area" (Participant 78), and "gives our business a great sense of pride when the girls graduate" (Participant 13).

8. Funding (15 total responses: 4 promoting and 11 restricting)

The provision of funding or payment for placements was reported as a promoting factor by four participants, while 11 participants indicated that the lack of funding was a negative factor. An example of a promoting quote is, "money gets paid from universities for students that will hopefully allow us to have a paid student coordinator for our health network" (Participant 5). The funding restriction is demonstrated in the response:

We do not receive any financial assistance from either the universities or [professional organization] to provide this service. If we had financial assistance for a role ..., we would be able to supervise more students throughout the year as well as minimise delay in the student accreditation process. (Participant 31)

9. Workplace Support (13 total responses: 6 promoting and 7 restricting)

Workplace support promoted placement supervision, while a lack of company support was prohibitive, for example, "supportive workplace that encourages student placement" (Participant 20), "I currently work at [company] and they have a strong student program and commitment to training students" (Participant 14), and "company specific protocols that limit the number students and placement hours" (Participant 72).

10. Staff qualifications and experience (8 total responses: 3 promoting and 5 restricting)

Existing qualifications and years of experience were reported as positive factors by some supervisors, as with regular training and supervision experience they had developed routine supervision processes. However, these factors were also noted as being restrictive by others, particularly those who were either not accredited exercise physiologists or had only recently started practicing. Example promoting and restricting quotes respectively include “I enjoy teaching students and am committed to the development of our future EP workforce. I have been an EP for 10 years and want to pass on my knowledge and experience” (Participant 4), and:

Restriction is the ask that students doing exercise physiology be supervised by a qualified exercise physiologist. Good as far as it goes but if the student seeks and is accepted into a health promotion service then of course the emphasis is health promotion and the qualified person to asses that student is the senior health promotion professional. We don't accept exercise physiology students unless that is clear and agreed. (Participant 1)

11. Prior positive experience with students (6 total responses: 5 promoting and 1 restricting)

Prior positive experience either with supervision of students, or during their own placement as a student, was a motivating factor for supervisors to continue to offer their service. For example, “willingness to continue to offer placements has been influenced by the excellent level of performance by previous students’ (Participant 23), and “found my own experience as a practicum student invaluable towards the formation of my career” (Participant 70). In contrast, one supervisor reported that a prior negative experience with supervising would limit their willingness to take on future students “if the student becomes more work than helpful (i.e., late, unwilling to learn, last minute cancellation etc) I am a little unwilling to take on another student straight afterwards” (Participant 61).

12. Future recruitment (5 total responses: 5 promoting and 0 restricting)

The process of using clinical placements as an opportunity for future recruitment was a factor that promoted supervisor willingness as indicated in the following quotes: “it is also good to see the final year EPs as this is our way of potentially employing” (Participant 10), and “over the years we have employed students post Prac” (Participant 13).

13. Facilities and infrastructure (4 total responses: 0 promoting and 4 restricting)

Small programs or facilities, and community-based services were mentioned as limiting factors due to a combination of restricted physical space and equipment, for example:

It is only a small gym facility so there can only be a maximum of one student on per shift but we are willing to take on more than one at a time (as long as their placement hours don't overlap). (Participant 43)

14. Supporting the university (3 total responses: 3 promoting and 0 restricting)

While twenty-eight respondents focused their responses on providing support to the profession, only three indicated that supporting the university was a factor that positively influenced their supervision decisions, with quotes including “enhancement of the university program” (Participant 51), and “like to give back to the university I attended” (Participant 69).

DISCUSSION

Willingness to supervise placements is influenced by the supervisors' perceived benefits and barriers. In other health disciplines perceived benefits include potential recruitment, development of staff supervision and clinical reasoning skills (Thomas et al., 2007), improved communication skills (Adams & Kilburn-Watt, 2000), and increased workplace satisfaction (Maloney, Stagnitti, & Schoo, 2013); while perceived barriers include lack of time, workload pressure, lack of space or resources (Thomas et al., 2007; Maloney et al., 2013), decreased productivity (Adams & Kilburn-Watt, 2000; Maloney et al., 2013) and non-cooperation by clients to be treated by a student (Maloney et al., 2013). In the current study enablers included supporting the profession, the service benefit and providing an authentic and worthwhile student learning experience; while the main barriers were inadequate staffing or time availability, administrative processes and lack of organizational support, and undesirable student attributes. The majority of responding supervisors were female, working full time, working in private practice in metropolitan cities and were less than 40 years old with 40% having no more than two years of supervision experience. These demographics indicate relative youthfulness and inexperience and a greater proportion of full time work compared to longer-established allied health disciplines (Barnett et al., 2008; Maloney et al., 2013; McAllister, 2005) and, therefore, offer a new placement supervision perspective that is highly relevant to emerging professions.

Resource implications, time commitments, expectations and mutual benefits associated with WIL experiences must be addressed in order to optimize the likelihood that transformative learning will be achieved (Fleming & Hickey, 2012; Patrick et al., 2008; Reeve & Gallacher, 2005). Content-based examination of the participant responses in the current study matched these considerations with five common procedural issues recurring throughout the fourteen identified themes. These issues were: funding and staffing restrictions, the influence that student ability and enthusiasm and supervisor expectations have on site productivity, recognition of supervision work, burdensome paperwork requirements and restrictive placement scheduling. Each issue will now be discussed and is accompanied by evidence-based recommendations stemming from the existing work-integrated learning literature within the health field.

Issue One: Funding and Staffing Restrictions. Recommendation One: Adoption of Efficient Supervision Structures

This project identified that while industry-based supervisors were generally willing to continue to supervise student placements, specific staffing restrictions and time limitations were likely to negatively influence this. As previously reported for other health professions, these restrictions include lack of time, loss of income and staff shortages (Barnett et al., 2008; Kauffman, Maloney, & Schoo, 2010; Maloney et al., 2013). Specifically, participants in the current study reported that funding restrictions were associated with the predominant lack of payment from universities to supervise students and a loss of income due to reduced client service provision. The issue of universities paying for placements is complex and is beyond the scope of this study as it requires comprehensive consideration across many stakeholders including government, higher education institutions, funding organizations and clinical practices. The reasons for the reported loss of income due to reduced service provision also requires further investigation because a study carried out on physiotherapy student placements reported that suitably experienced students were able to significantly increase clinician productivity, as measured by the number of patients seen per day and

daily billing of services (Schoen Dillon, Tomaka, Chriss, Gutierrez, & Hairston, 2003). Perhaps in preference to focusing on increasing funding for placements, the more efficient use of existing personnel may be sufficient to minimize the funding and staffing restrictions of placement supervision.

The lack of time and the staffing restrictions noted by the supervisors related specifically to the high supervision load already experienced by supervisors, the continued pressure to take on additional students and having insufficient staff to meet this demand. To address funding and staffing restrictions, the authors recommend that efficient supervision structures be adopted if not already in use. Such structures for consideration include team supervision strategies that incorporate interprofessional education (Buring et al., 2009) or multidisciplinary supervision (McAllister, 2005) and increasing the typical student-supervisor ratio from 1:1 to 2:1 or higher (Sealey et al., 2014a). An interprofessional education or multidisciplinary structure would increase supervisor numbers by allowing students to be supervised by health professionals from other disciplines and would concomitantly provide students with the opportunity to experience working within a multidisciplinary team. Other benefits of interprofessional education include enhanced collaborative working environment, enhanced delivery of service, enhanced quality of care (Hammick, Freeth, Koppel, Reeves, & Barr, 2007) and providing students with insight into other professions (Wilhelmsson et al., 2009). Multidisciplinary supervision has been reported for speech and language pathology (McAllister, 2005), and O'Keefe, Burgess, McAllister, and Stupans (2012) provide twelve practical tips for supporting student learning that should be considered for adoption when implementing multidisciplinary models of placement supervision.

Although the traditional one student to one supervisor model of supervision is most often used, it is very intense and limits placement capacity (Huddleston, 1999). The prevalence of the 1:1 model in clinical exercise physiology placement supervision is almost double that reported in occupational therapy (Sealey et al., 2013; Thomas et al., 2007). Physiotherapy has used a 2:1 student-supervisor model (Baldry Currens, 2003; Baldry Currens & Bithell, 2003; Lekkas et al., 2007) with the main motivator being to increase supervision capacity (Dawes & Lambert, 2010). Increasing the ratio of students to supervisors can offer a range of benefits. For students, these benefits include deeper learning, improved clinical competence, peer support, greater independence, and a wider range of clinical experiences (Baldry Currens, 2003). For supervisors, the benefits include students being less dependent on the supervisors, more time available for other duties and more efficient teaching (Baldry Currens & Bithell, 2003). The 2:1 model would also provide students with the opportunity to engage in peer-assisted learning which may increase confidence, reduce anxiety and provide collaborative engagement in joint problem solving activities (Henning, Weidner, & Jones, 2006; Huddleston, 1999) via sharing, cooperation and team work (Huddleston, 1999; Lekkas et al., 2007). In Huddleston's (1999) article, additional perceived benefits of the 2:1 placement model include increased service delivery and productivity, and increased supervision capacity. In recommending a shift toward a higher ratio model of supervision, that is a 2:1, 3:1 or higher, it must be noted that a perceived disadvantage has been the organization required by the supervisors (Huddleston, 1999), caseload difficulty (O'Connor, Cahill, & McKay, 2012), and the need for further education (Zavadak, Dolnack, Polich, & van Volkenburg, 1995). Therefore, training packages that focus on teaching small groups and facilitating effective peer learning opportunities should be made available to supervisors to facilitate the implementation of the 2:1 supervision model (Ferguson, 2005). Promotion of

increased student to supervisor ratios should alleviate supervisor concern of pressure to take more students despite operating at a full supervision and clinical load and therefore, increase future WIL opportunities for clinical exercise physiology students.

Issue Two: Influence of Student Ability and Enthusiasm and Supervisor Expectations on Site Productivity. Recommendation Two: Development and Use of a Competency Checklist

Supervisors indicated that students could effectively become an additional team member if they were confident, competent and engaged. This same viewpoint has been noted by Schoen Dillon et al. (2003) where students actively contributed to service provision. Similarly, students with good skills, knowledge and confidence have made the supervisor role less demanding (Ladyshewski, 1995; Maloney et al., 2013), and this positive contribution to service delivery has been shown to result in increased clinician job satisfaction (Maloney et al., 2013). Indeed in nursing and midwifery, second and third year students reportedly provide an overall cost benefit to the service provider in ward-based placements but not in community-based placements, suggesting the relative service benefit is service-dependent (Lloyd Jones & Akehurst, 2000). Conversely, supervisors in the current study reported that ill-prepared students were likely to create a workplace burden if workplace expectations exceeded the students' capabilities. This discrepancy between university and supervisor expectations has been noted previously (Barnett et al., 2008; Kevin, 2006).

In order to reduce the incongruity surrounding supervisor expectations of student ability and to meet the ever-increasing requirement for competency-based placement (McAllister, 2005), it is recommended that a competency checklist be developed for use during the placement process. Universities could supply each placement site with a completed competency checklist for each student as a way to assist supervisors in determining their expectations of the student, the student support needs and, therefore, staff workload requirements so that supervisors know in advance how site productivity may be altered. Early placements therefore, might focus on the establishment of basic professional skills and attributes, while later placements could be carried out in service-specific practices, when student competencies have increased to a level that may provide a service benefit to the clinician. The competency checklist should include professional attributes and knowledge and skill competencies. Scaffolding the workplace participation of the student to the competency checklist will then shape the student learning opportunities. For example, participating in 'already competent' tasks will reinforce student knowledge and skills, while participating in 'not yet competent' tasks will develop new knowledge and skills (Billett, 2002).

Issue Three: Recognition of Supervision Work. Recommendation Three: Enhanced Recognition for Supervision

Supervisors were keen to support their profession however supervision willingness may decline if the goodwill of the professional workforce disappears. Supervisors have previously indicated support for the receipt of financial remuneration or honorary payment for supervision (Hughes, 2002; Maloney et al., 2013), however this is not likely to be a sustainable option for universities. Therefore, other avenues for recognition and reward should be considered.

Supervisors reported satisfaction for being able to claim supervision hours towards their yearly professional accreditation, however the supervisors report dissatisfaction at how little the weighting is. It is, therefore, recommended that placement supervision contribute more

substantially toward professional accreditation requirements to provide ongoing incentive for supervisory service (Maloney et al. 2013). Supervisors also expressed a desire for improved networking and links with the universities and a desire for receiving a notional reward from the universities in recognition of their service. Indeed, the lack of reward has been reported as a common barrier to placement supervision (Barnett et al., 2008). A recommendation for 'rewarding' supervisors and improving links between the supervisors and the universities would be for universities to provide the placement supervisors with access to resources such as libraries (Rodger et al., 2008).

Issue Four: Burdensome Paperwork Requirements. Recommendation Four: Standardized Placement Paperwork and Assessment Tools

Paperwork requirements by the universities and the professional organization were seen to be complicated and time consuming and as noted previously, universities use different assessment tools within the same type of placement (Kevin, 2006), leading to potential confusion and misinterpretation by supervisors. Streamlining, simplification and standardization of paperwork across the stakeholders should reduce supervisor angst and effectively eliminate this commonly reported barrier to supervision.

It is, therefore, recommended that universities develop standardized assessment and evaluation tools for placement such as the COMPASS tool used in speech and language pathology (McAllister, Lincoln, Ferguson, & McAllister, 2006). The standardization of assessment and evaluation tools and paperwork should be accompanied by clear guidelines and training for use and clear student learning goals (Kevin, 2006; Pereira, 2008). It is also recommended that professional organizations ensure that any paperwork required for professional accreditation is time-efficient and easy to complete. Standardization of paperwork for industry-based placements might also encourage placement sites to supervise students from different universities at the same time (because the paperwork would be the same) and the students would receive the benefit of peer-assisted learning.

Issue Five: Restrictive Placement Scheduling. Recommendation Five: Broadening of Placement scheduling

At present placement is largely restricted to the second half of the final year of the degree following completion of the university-based theoretical knowledge and skill-set component of the clinical exercise physiology curriculum. The supervisors in this study reported that this restriction of placement scheduling to one half of the calendar year causes peaks and troughs in student placement demand throughout the year. A similar situation has been reported for nursing placement (Barnett et al., 2008). During the peak placement period the supervisors reported a high demand to supervise multiple students from multiple universities, placing an administrative strain on the workplace that appears to exceed the helping hand benefit reported when small numbers of highly competent students are completing placement. During the trough period, which appears to span from December until June, student placements are minimal and, therefore, the universities are missing out on a potential 15,000 placement days (based on 600 facilities offering just one, full time five week placement during this period).

It is recommended that stakeholders consider spreading placement across the full calendar year to increase student placement opportunities, however this would require a trade-off with student competency and placement expectations. The use of early placement experiences is becoming more common in the education of professionals (Hopayian, Howe,

& Dagley, 2007; Thistlethwaite & Cockayne, 2004) with the objective of early exposure related to scope of practice, introductory skills, communication, developing professional attitudes and building confidence (Basak et al., 2009; Hopayian et al., 2007; Howe, Dagley, Hopayian, & Lillicrap, 2007; Lam, Irwin, Chow, & Chan, 2002; Thistlethwaite & Cockayne, 2004). Early placement focused on basic professional skills and attitudes would also enhance the potential for interprofessional education or multidisciplinary supervision noted in models of placement where professional skills and behavior can be learned in areas other than that in which the student is training (Huddleston, 1999). For successful early inclusion of placement experiences, universities would need to provide supervisors with information including where the student is positioned within the degree structure, current student competency levels and expected learning outcomes and goals for that specific placement (Hill, Wolf, Bossetti, & Saddam, 1999). Another scheduling recommendation would be to consider non-traditional options for placement such as weekends, night-shifts and holiday periods (Health Workforce Australia, 2011), or to consider the adoption of longitudinal integrated placements (Daly, Roberts, Kumar, & Perkins, 2013; Walters et al., 2012) in place of the traditional block placement.

LIMITATIONS

The results of this study are limited to the scope and the nuances of the survey questions and by the subjective nature of the emergent thematic analysis. The results may also have been influenced by the uneven distribution of participants (mostly working in metropolitan, Eastern Australia). The recommendations are deliberately generalized in an attempt to be widely applicable and while they provide a basic guide to potential initiatives, the identified recommendations may not be transferable to all WIL placement sites or participating universities.

CONCLUSION

To the authors' knowledge this is the first paper to report at a national level on clinical exercise physiology WIL supervision experiences in Australia. This study has identified that future WIL supervision willingness and ability may be restricted by insufficient resourcing and administrative support; the perceived workload burden of supervision; poor student engagement or competency; and negative supervision experiences. However, it may also be promoted by enhanced resourcing through staffing or financial assistance; less burdensome paperwork; high student quality and enthusiasm; the workplace assistance provided by the students; and the continued desire to support the profession and the university. This paper outlines key recommendations to build work-based placement supervision engagement in order to meet the increasing demand of student placements in the growing clinical exercise physiology field. The recommendations for enhancing sustainable supervision engagement include maximizing supervision efficiency, being responsive to the interaction between student competency and workplace productivity, rewarding supervision service, reducing the perceived paperwork burden and standardizing paperwork and assessments, and optimizing placement scheduling. The recommendations are based on a shift toward efficient and sustainable supervision structures, documentation processes and scheduling and shared expectations.

It is expected that the integration of some or all of these recommendations into work-based student placement will enhance the engagement of the professional workforce with

placement supervision to ensure that industry and university sector demands are met. Future research should evaluate the effectiveness of the recommendations for enhancing clinical supervision capacity within the exercise physiology workforce and should develop standardized resources to assist supervisors with the experiential learning process.

ACKNOWLEDGEMENTS

This project was funded with a James Cook University 2012 Teaching and Learning Development Grant. The authors thank the nineteen Australian universities that assisted with the distribution of the survey link.

REFERENCES

- Adams, E. J., & Kilburn-Watt, E. (2000). Clinical supervision, is it mutually beneficial? *The Radiographer*, 47(3), 115-119.
- Australian Government Department of Health. (2007). *Australian Standard Geographical Classification - Remoteness Area (ASGC-RA)*. Retrieved from www.health.gov.au.
- Baldry Currens, J. (2003). The 2:1 clinical placement model – review. *Physiotherapy*, 89(9), 540-554.
- Baldry Currens, J., & Bithell, C. P. (2003). The 2:1 clinical placement model –perceptions of clinical educators and students. *Physiotherapy*, 89(4), 204-218.
- Barnett, T., Cross, M., Jacob, E., Shahwan-Akl, L., Welch, A., & Berry, R. (2008). Building capacity for the clinical placement of nursing students. *Collegian*, 15(2), 55-61.
- Basak, O., Yaphe, J., Spiegel, W., Wilm, S., Carelli, F., & Metsemakers, J. F. M. (2009). Early clinical exposure in medical curriculum across Europe: An overview. *European Journal of General Practice*, 15(1), 4-10.
- Billett, S. (2002). Workplace pedagogic practices: participation and learning. *Australian Vocational Education Review*, 9(1), 28-38.
- Billett, S., Sweet, L., & Glover, P. (2013). The curriculum and pedagogic properties of practice-based experiences: the case of midwifery students. *Vocations and Learning*, 6(2), 237-257.
- Buring, S. M., Bhushan, A., Broeseker, A., Conway, S., Duncan-Hewitt, W., Hansen, L., & Westberg, S. (2009). Interprofessional education: Definitions, student competency and guidelines. *American Journal of Pharmaceutical Education*, 73(4), 1-8.
- Burns, I., & Paterson, I. M. (2005). Clinical practice and placement support: Supporting learning in practice. *Nurse Education in Practice*, 5(1), 3-9.
- Daly, M., Roberts, C., Kumar, K., & Perkins, D. (2013). Longitudinal integrated rural placements: A social learning systems perspective. *Medical Education*, 47(4), 352-361.
- Dawes, J., & Lambert, P. (2010). Practice educators' experiences of supervising two students on allied health practice-based placements. *Journal of Allied Health*, 39(1), 20-27.
- Ferguson, A., Haantjens, A., & Milosavljevic, M. (2013). Evolution of the clinical educator role to increase student placement capacity: from traditional to innovative. *Nutrition & Dietetics*, 71(1), 51-56.
- Fleming, J., & Hickey, C. (2012). Exploring cooperative education partnerships: A case study in sport tertiary education. *Asia-Pacific Journal of Cooperative Education*, 14(3), 209-221.
- Hammick, M., Freeth, D., Koppel, I., Reeves, S., and Barr, H. (2007). A best evidence systematic review of interprofessional education: BEME guide no. 9. *Medical Teacher*, 29(8), 735-751.
- Hassam, M., & Williams, M. (2003). Education via simulation: Teaching safe chest percussion for pre-term infants. *Hong Kong Physiotherapy Journal*, 21(1), 22-28.
- Health Workforce Australia. (2011). *Mapping clinical placements: capturing opportunities for growth – supply (clinical training provider) study*. Retrieved from <http://www.hwa.gov.au/sites/uploads/mcp-cog-supply-report-a20111028.pdf>
- Henning, J. M., Weidner, T. G., & Jones, J. (2006). Peer-assisted learning in the athletic training clinical setting. *Journal of Athletic Training*, 41(1), 102-108.
- Hill, N., Wolf, K. N., Bossetti, B., & Saddam, A. (1999). Preceptor appraisals of rewards and student preparedness in the clinical setting. *Journal of Allied Health*, 28(2), 86-90.

- Hopayian, K., Howe, A., & Dagley, V. (2007). A survey of UK medical schools' arrangements for early patient contact. *Medical Teaching*, 29(8), 806-813.
- Howe, A., Dagley, V., Hopayian, K., & Lillicrap, M. (2007). Patient contact in the first year of basic medical training – feasible, educational, acceptable? *Medical Teaching*, 29(2-3), 237-245.
- Huddleston, R. (1999). Clinical placements for the professions allied to medicine, part 2: placement shortages? Two models that can solve the problem. *British Journal of Occupational Therapy*, 62(7), 295-298.
- Hughes, R. (2002). University-initiated strategies to increase supervisory capacity and benefits associated with dietetic student supervision – perceptions of dietetic placement sites. *Nutrition & Dietetics*, 59(3), 191-194.
- Kauffman, T., Maloney, P., & Schoo, A. (2010). Working in private practice. In K. Stagnitti, A. Schoo, & D. Welch (Eds.), *Clinical fieldwork placement in the health professions*. Melbourne, VIC, Australia: Oxford University Press.
- Kevin, J. (2006). Problems in the supervision and assessment of student nurses: can clinical placement be improved? *Contemporary Nurse*, 22(1), 36-45.
- Kolb, D.A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Kreimeier, U., Boettiger, B. W., Dirks, B., Handley, A., & Nolan, J. (2009). Simulation in medicine. *Notfell Rettungsmedizin*, Suppl 2(12): 49-52.
- Ladyschewsky, R. (1995). Enhancing service productivity in acute care inpatient settings using a collaborative clinical education model. *Physical Therapy*, 675(12), 1137-1139.
- Ladyschewsky, R., Baker, R., Jones, M., & Nelson, L. (2000). Reliability and validity of an extended simulated patient case: A tool for evaluation and research in physiotherapy. *Physiotherapy Theory and Practice*, 16(1), 15-25.
- Lam, T. P., Irwin, M., Chow, L. W., & Chan, P. (2002). Early introduction of clinical skills teaching in a medical curriculum – factors affecting students learning. *Medical Education*, 36(3), 233-240.
- Lears, M. K., Olsen, S. J., Morrison, C., & Vessey, J. A. (1998). A centralized, computerized, and relational data base for student clinical placements. *Journal of Professional Nursing*, 14(2), 97-101.
- Lekkas, P., Larsen, T., Kumar, S., Grimmer, K., Nyland, L., Chipchase, L., Jull, G., Buttrum, P., Carr, L., & Finch, J. (2007). No model of clinical education for physiotherapy students is superior to another: A systematic review. *Australian Journal of Physiotherapy*, 53(1), 19-28.
- Lloyd Jones, M., & Akehurst, R. (2000). Should service providers be paid for providing pre-registration clinical placements? *Journal of Advanced Nursing*, 32(2), 432-436.
- Maloney, P., Stagnitti, K., & Schoo, A. (2013). Barriers and enablers to clinical fieldwork education in rural public and private allied health practice. *Higher Education Research & Development*, 32(3), 420-435.
- McAllister, L. (2005). Issues and innovations in clinical education. *Advances in Speech-Language Pathology*, 7(3), 138-148.
- McAllister, S., Lincoln, M., Ferguson, A., McAllister, L. (2006). *COMPASS: Competency assessment in speech pathology*. Melbourne, Vic, Australia: Speech Pathology Association of Australia.
- O'Connor, A., Cahill, M., & McKay, E. A. (2012). Revisiting 1:1 and 2:1 clinical placement models: Student and clinical educator perspectives. *Australian Occupational Therapy Journal*, 59(4), 276-283.
- O'Keefe, M., Burgess, T., McAllister, A., & Stupans, I. (2012). Twelve tips for supporting student learning in multidisciplinary clinical placements. *Medical Teacher*, 34(11), 883-887.
- Orrell, J. (2011). *ALTC good practice report: Work-integrated learning*. New South Wales, Australia: Australian Learning and Teaching Council.
- Patrick, C.-J., Peach, D., Pocknee, C., Webb, F., Fletcher, M., & Pretto, G. (2008). *The WIL (Work Integrated Learning) report: A national scoping study*. Brisbane, Qld, Australia: Queensland University of Technology.
- Pereira, R. (2008). Practical practice pointers. Learning and being a first-time student supervisor: challenges and triumphs. *Australian Journal of Rural Health*, 16(4), 247-248.
- Reeve, F., & Gallacher, J. (2005). Employer-university 'partnerships': a key problem for work-based learning programmes? *Journal of Education and Work*, 18(2), 219-233.

- Rodger S., Fitzgerald C., Davila W., Millar F., & Allison, H. (2011). What makes a quality occupational therapy practice placement? Students' and practice educators' perspectives. *Australian Occupational Therapy Journal* 58(3): 195-202.
- Rodger, S., Webb, G., Devitt, L., Gilbert, J., Wrightson, P., & McMeeken, J. (2008). Clinical education and practice placements in the allied health professions: An international perspective. *Journal of Allied Health*, 37(1), 53-62.
- Schoen Dillon, L., Tomaka, J. W., Chriss, C. E., Gutierrez, C. P., & Hairston, J. M. (2003). The effect of student clinical experiences on clinician productivity. *Journal of Allied Health*, 32(4), 261-265.
- Sealey, R., Raymond, J., Groeller, H., Rooney, K., Crabb, M., & Watt, K. (2013). *Current practice of clinical exercise physiology placement supervision in Australia*. Retrieved from <http://researchonline.jcu.edu.au/27725/>
- Sealey, R., Raymond, J., Groeller, H., Rooney, K., Crabb, M., & Watt, K. (2014a). Clinical exercise physiology placement supervision processes and practices: Where are we and where to next? In: A. Edwards & A. Leicht (Eds), *Science of sport, exercise and physical activity in the tropics* (pp. 137-148). New York, NY: Nova.
- Sealey, R., Raymond, J., Groeller, H., Rooney, K., Crabb, M., & Watt, K. (2014b). Clinical exercise physiology placement supervision resources and training needs: Where are we and where to next? In: A. Edwards & A. Leicht (Eds), *Science of sport, exercise and physical activity in the tropics* (pp. 149-161). New York, NY: Nova.
- Selig, S., Coombes, J. S., Otago, L., Pascoe, D., Raymond, J., Torode, M., & Groeller, H. (2011). The development of an accreditation scheme for Accredited Exercise Physiologists in Australia. *Focus on Health Professional Education*, 13(2), 89-102.
- Thistlethwaite, J. E., & Cockayne, E. X. (2004). Early student-patient interactions: The views of patients regarding their experiences. *Medical Teaching*, 26(5), 420-422.
- Thomas, Y., Dickson, D., Broadbridge, J., Hopper, L., Hawkins, R., Edwards, A., & McBryde, C. (2007). Benefits and challenges of supervising occupational therapy fieldwork students: Supervisors' perspectives. *Australian Occupational Therapy Journal*, 54(S1), S2-S12.
- Våågstøl, U., & Skøien, A. (2011). A learning climate for discovery and awareness: Physiotherapy students' perspective on learning and supervision in practice. *Advances in Physiotherapy* 13(2): 71-78.
- Walters, L., Greenhill, J., Richards, J., Ward, H., Campbell, N., Ash, J., & Schuwirth, L. (2012). Outcomes of longitudinal integrated clinical placements for students, clinicians and society. *Medical Education*, 46(11), 1028-1041.
- Wilhelmsson, M., Pelling, S., Ludvigsson, J., Hammar, M., Dahlgren, L., & Faresjo, T. (2009). Twenty years experiences of interprofessional education in Linköping – ground-breaking and sustainable. *Journal of Interprofessional Care*, 23(2), 121-133.
- Zavadak, K., Dolnack, C., Polich, S., & Van Volkenburg, M. (1995). 2:1 collaborative models for clinical education. *Magazine of Physical Therapy*, 3(2), 46-54.



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 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.

Submitting Manuscripts

Before submitting a manuscript, please ensure 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 MS Word format, with manuscript word counts between 3,000 and 5,000 words (excluding references).

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 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.



EDITORIAL BOARD

Editor-in-Chief

Dr. Karsten Zegwaard

University of Waikato, New Zealand

Copy Editor

Yvonne Milbank

Asia-Pacific Journal of Cooperative Education

Editorial Board Members

Ms. Diana Ayling

Unitec, New Zealand

Mr. Matthew Campbell

Queensland Institute of Business and Technology, Australia

Dr. Sarojni Choy

Griffith University, Australia

Prof. Richard K. Coll

University of Fiji, Fiji

Prof. Rick Cummings

Murdoch University, Australia

Prof. Leigh Deves

Charles Darwin University, Australia

Dr. Maureen Drysdale

University of Waterloo, Canada

Dr. Chris Eames

University of Waikato, New Zealand

Mrs. Sonia Ferns

Curtin University, Australia

Ms. Jenny Fleming

Auckland University of Technology, New Zealand

Dr. Phil Gardner

Michigan State University

Dr. Thomas Groenewald

University of South Africa, South Africa

Dr. Kathryn Hays

Massey University, New Zealand

Prof. Joy Higgs

Charles Sturt University, Australia

Ms. Katharine Hoskyn

Auckland University of Technology, New Zealand

Dr. Sharleen Howison

Otago Polytechnic, New Zealand

Dr. Denise Jackson

Edith Cowan University, Australia

Dr. Nancy Johnston

Simon Fraser University, Canada

Dr. Mark Lay

University of Waikato, New Zealand

Assoc. Prof. Andy Martin

Massey University, New Zealand

Ms. Susan McCurdy

University of Waikato, New Zealand

Ms. Norah McRae

University of Victoria, Canada

Prof. Beverly Oliver

Deakin University, Australia

Assoc. Prof. Janice Orrell

Flinders University, Australia

Dr. Deborah Peach

Queensland University of Technology, Australia

Dr. David Skelton

Eastern Institute of Technology, New Zealand

Prof. Heather Smigiel

Flinders University, Australia

Dr. Calvin Smith

Brisbane Workplace Mediations, Australia

Prof. Neil Taylor

University of New England, Australia

Ms. Susanne Taylor

University of Johannesburg, South Africa

Assoc. Prof. Franziska Trede

Charles Sturt University, Australia

Ms. Genevieve Watson

University of Western Sydney, Australia

Prof. Neil I. Ward

University of Surrey, United Kingdom

Dr. Nick Wempe

Whitireia Community Polytechnic, New Zealand

Dr. Marius L. Wessels

Tshwane University of Technology, South Africa

Dr. Theresa Winchester-Seeto

Macquarie University, Australia

Asia-Pacific Journal of Cooperative Education

www.apjce.org

Publisher: New Zealand Association for Cooperatives Education