

# Examining the influence of selected factors on perceived co-op work-term quality from a student perspective

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This study discusses and tests a conceptual model of co-op work-term quality from a student perspective. Drawing from an earlier exploration of co-op students' perceptions of work-term quality, variables related to role characteristics, interpersonal dynamics, and organizational elements were used in a multiple linear regression analysis to predict co-op students' perceived work-term quality. A survey of co-op students ( $n = 1,937$ ) measured their perceptions of selected variables following a recent co-op work-term. Results show that the variables explained a large percentage of variance (51.4%) in the outcomes variable, suggesting the conceptual model does explain students' perceptions of quality. Implications for practice and for future studies are discussed. (*Asia-Pacific Journal of Cooperative Education*, 2016, 17(3), 265-277)

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The contributions of academic experiences to student development are well understood. Students' experiences in class can be designed to foster their personal and intellectual development (see Quayle & Harper, 2014). An emergent line of research suggests that students' work-integrated learning (WIL) experiences also contribute to student development. WIL experiences are those within programs that "intentionally integrate learning within an academic institution with practical application in a workplace setting" (Sattler & Peters, 2013, p. 13). The core WIL experience involves employment (e.g., co-op work-terms, internships, and placements) with an organization. While the literature suggests these experiences provide a number of benefits for students (see Dressler & Keeling, 2011), less research has focused specifically on the ways in which students' work experiences within WIL influence their development (Bartkus & Higgs, 2011; Hsu, van Eijck, & Roth, 2010).

One line of research suggests that student development is dependent on the quality of the work experiences. This is consistent with Dewey's (1938) original proposition that all learning comes from experience but that not all experiences are educative. For students to learn, develop, and grow, they not only require access to experience, but that experience must be of high quality. The current WIL literature is certainly interested in the quality of co-op experiences (Bartkus & Higgs, 2011; Hsu et al., 2010). However, as stated by Leslie and Richardson (2000) (in the context of tourism education), "concerns arise here not only about the ability of the sector to supply the necessary number of opportunities but also the quality of the opportunities" (p. 492). It is necessary to focus on improving the quality of work-term experiences in order to maximize the benefits for students and create sustainable co-op programs (Watson & Cates, 2014).

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Though there is an intuitive link between work-term quality and student development, quality is an elusive concept in the co-op literature (Leslie, 1994). Previous studies focus less on conceptualizing quality, particularly from students' perspectives. Instead, they focus on substitutes or closely related concepts such as benefits received (e.g., Riggio, Kubiak, Taylor, & Neale, 1994) or satisfaction (e.g., Apostolides & Looye, 1997). A number of earlier studies within the co-op literature suggest that high quality co-op work-terms involve relationships with other coworkers (Owens & Owen, 1981), relationships with supervisors (Apostolides & Looye, 1997; Wiseman & Page, 2001), and integration between work, academics, and careers (Coll, Eames, & Halsey, 1997; Wiseman & Page, 2001). In the context of high school students, Gamboa, Paixão, and de Jesus (2013) have argued that (internship) quality involves feelings of autonomy, social support, learning opportunities, supervisor training, and supervisor support.

These studies inform an understanding of the factors which comprise co-op students' perceptions of work-term quality. Learning, development, and relatedness with academics and careers seem central to quality work terms. More recently, Drewery, Pretti, and Pennaforte (2015) integrated existing literature to explore students' perspectives on co-op work-term quality. The authors used interviews with co-op students following a work-term to identify components of quality and their possible antecedents. However, this study was exploratory, and included only a small sample of students ( $n = 20$ ). Given that students are a central stakeholder in the co-op model, and that they are inevitably the consumers and evaluators of such experiences, it is important to develop a deeper understanding of students' perceptions of quality and the factors which influence it. As such the purpose of this study is to extend earlier work by discussing and testing a conceptual model of co-op work-term quality from students' perspective.

## LITERATURE REVIEW

### *Conceptualizing Co-op Work-term Quality*

In a recent study, Drewery et al. (2015) explored co-op students' perspectives of on the concept of quality in a work-term context. The study sought to reveal the core dimensions students use to evaluate the quality of their work-term experiences and to identify the factors to which students attribute quality. The study found that students assess the quality of their work experiences based on three dimensions: learning, impact, and relatedness. Each dimension is discussed below.

*Learning:* Perhaps above all else, co-op students identify learning – broadly defined – as a core component of work-term quality. When students believe that they have gained insight and knowledge, whether on a personal level (i.e., about personal interests, perspectives, or goals) or professional level (e.g., demonstrable skills, new knowledge of workplace procedures), they are more likely to identify the experience as being of high quality. This is consistent with previous research that highlights learning as the core value proposition of WIL experiences above and beyond other forms of employment (Smith, Brooks, Lichtenberg, McIlveen, Torjul, & Tyler, 2009). Co-op research suggests that work experiences provide opportunity for students to develop new skills and abilities (Ascher, 1994), and to develop an understanding of real-world issues and environments (Schambach & Dirks, 2002). Moreover, clarity into future work opportunities seems to be a recurrent theme in the co-op literature (e.g., Stern, Stone, Hopkins, & McMillion, 1990). Drewery et al.'s (2015) study suggests that students are aware of their own development, and focus on

the work-terms' contribution to their personal or professional development as an indicator of work-term quality.

*Impact:* Like non-WIL employees, co-op students want to make an impact during their work-term. The organizational behaviour literature refers to impact as the perception that one's work has made a meaningful or worthwhile contribution to the organization (Spreitzer, 1996). Earlier co-op literature suggested that co-op work experiences provide students an opportunity to add value to the employer (Ascher, 1994). More recent WIL literature suggests that students do add value to employers (see Braunstein, Takei, Wang, & Loken, 2011). Some co-op literature also suggests that co-op students (relative to non-co-op students) perceive that they have a significant impact on their organization (Stern, et al., 1990), and that impact is a fulfilling attribute of the job (Apostolides & Looye, 1997). This line of research reveals that students evaluate the degree to which this contribution has been made as part of their assessment of work-term quality.

*Relatedness:* Relatedness refers to the degree to which students perceive a connection between their work experience and their personal goals, motivations, or previous academic experience (Drewery et al., 2015). In other words, relatedness is a perception of the extent to which the work-term is relevant to previous academic experiences or imagined future work (e.g., future career paths, subsequent work-terms). Students seek work experiences that allow them the opportunity to try out academic theories in real-world contexts (Coll et al., 1997; Wiseman & Page, 2001), suggesting an important connection from academics to work. Indeed, work-terms can help contextualize knowledge or contribute to students' marketable skills through the integration of studies and so-called real-world experiences (Eames & Cates, 2011). This integration seems to be highly desired by co-op students and is need-satisfying. Evidence suggests that relatedness may be linked with co-op students' well-being and performance at work (Drewery, Pretti, & Barclay, 2016). Therefore, students rate work-terms that are connected more deeply to other facets of their academic studies and work as being of higher quality than those work-terms that are less connected (Drewery et al., 2015). This is consistent with previous work by Kolb (1984; 2014) who states that the relatedness or the ability to relate what one is learning to their previous knowledge is a pre-requisite for successful experiential learning endeavors.

#### *Proposed Factors that Influence Work-Term Quality*

Drewery et al.'s (2015) study highlighted a number of factors which students identified as influencers of work-term quality. These factors can be grouped generally into three main categories: characteristics of the role, interpersonal dynamics, and organizational elements. Each is discussed below.

*Characteristics of the role:* Students desire from their roles the clarity required to achieve goals, and the freedom required to achieve those goals independently of other parties (Drewery et al., 2015). Within the management literature, role clarity is discussed as the perception that adequate role-relevant information has been received (Lyons, 1971). Studies show that role clarity is linked with satisfaction (Hassan, 2013) and performance (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007) suggesting that co-op students who have a high degree of clarity may also perceive higher levels of impact.

That students in Drewery et al.'s (2015) study identified freedom to do their jobs as important is not surprising, given that both psychological empowerment theory (Spreitzer, 1995; Zimmerman, 1990) and the job characteristics model (Hackman & Oldham, 1976) highlights

the importance of autonomy in employees' roles. Moreover, organizational psychology research suggests that co-op students desire self-determination, a sense of choice and agency (Deci, Connell, & Ryan, 1989), while achieving goals at work.

Studies also show that factors which inhibit employees' role clarity or autonomy also decrease their enjoyment of, or performance in the role. For example, Stern, et al. (1990) found that job conflicts are negatively associated with (high school) co-op students' motivation to do good work, and positively associated with cynicism about work. Participants in Drewery et al.'s (2015) study also identified that obligations outside of work sometimes decrease their perceived quality of the work-term. Obligations tied to one's social or familial life (Carlson, Grzywacz, & Zivnuska, 2009), or academic work (e.g., taking a course during the work-term) may intrude on an otherwise high-quality experience.

*Interpersonal dynamics:* A study by Jones (2007) found that co-op students' interpersonal relationships (e.g., friendships) during a work-term contribute to the extent to which the work experience was personally meaningful. A central player in both Jones' (2007) and Drewery et al.'s (2015) study is the student's supervisor. Students desire a relationship with their supervisor which is characterized by guidance and mentorship (Pennaforde & Pretti, 2015). This is consistent with research following leader-member exchange (LMX) theory (Graen & Uhl-Bein, 1995) and perceived supervisor support (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002) which highlights employees' direct supervisors as an integral part of their work experiences. Studies within the co-op literature also highlight the important role of supervisors in contributing to high-quality work experiences (e.g., Apostolides & Looye, 1997; Wiseman & Page, 2001). Supervisors may be particularly positioned to influence students' learning (see Bezuijen, Dam, Berg, & Thierry, 2010; Walumbwa, Cropanzano, & Goldman, 2011) through direct mentorship and other forms of guidance. In addition, supervisors are a direct source of information regarding employee performance (Whitaker, Dahling, & Levy, 2007) meaning supervisors are positioned to give students feedback about the impact they have on the organization.

Students also look to other employees to support a high quality work-term (Drewery et al., 2015). Relationships with other co-workers that are characterized by trust, friendship, and coordination may contribute positively to the student experience. Coworkers are positioned to build social capital within organizations (Spagnolo, 1999), and coworkers are often instrumental in achieving goals (LePine, Methot, Crawford, & Buckman, 2012) meaning that coworkers may help support students' perceived impact. Additionally, organizational insiders can provide job or career relevant information which may help students to make connections between work and their academics. Indeed, a number of studies suggest that a high degree of collaboration or coordination between students and their immediate team members may contribute positively to their overall experience (Gittell, 2001; Gittell, Weinberg, Pfefferle, & Bishop, 2008). This is also consistent with Wiseman and Page (2001) who note that co-op students desire to be a part of a broader professional network.

*Organizational elements:* Students identified that organizations which support their personal development contribute to work-term quality (Drewery et al., 2015). One way organizations may do this is by creating what Marsick and Watkins (2003) describe as a learning environment. According to the authors (Marsick & Watkins, 2003; Yang, Watkins, & Marsick, 2004), a learning organization is characterized by its ability to create continuous learning opportunities; to promote inquiry and dialogue; to encourage collaboration and team learning; to create systems to capture and share learning; to empower people toward a

collective vision; and to provide strategic leadership for learning. These workplace attributes seem to align well with WIL pedagogy, and may provide students opportunities to seek connections between academics and work, contributing to both relatedness and learning. Moreover, Wiseman and Page (2001) found that students often look to immerse themselves in a “constructive learning climate” (p. 68) which centers on career development. This climate includes opportunities to network, to receive feedback, to be exposed to office politics, and to engage in a variety of tasks.

## METHOD

### *Participants and Procedure*

Following ethics approval, students at a large Canadian university who were enrolled as full-time undergraduates with at least one full year of studies, one previous work-term experience, and who had just returned from a work-term were invited to participate in an online survey via email. Participants were asked to reflect on their most recent work experience and then to respond to a number of questions regarding aspects of their experience. Approximately 5,000 invitations were sent, and 1,937 responses were collected.

### *Measures*

Participants completed a number of measures. Each measure was presented separate from other measures to increase the clarity of responses. For consistency, items for each measure were presented on a five-point Likert-type scale, where 1 = strongly disagree and 5 = strongly agree. Higher scores for each measure represent higher levels of the given construct.

Role clarity was measured using three items (e.g., “The amount of work, responsibility, and effort required in my job was clearly defined”) from Brown and Leigh’s (1996) psychological climate and effort measure. Autonomy was measured using one item (“I was given the freedom to complete work in the way that I determined was best”) from Spreitzer’s (1995) empowerment – self-determination subscale. Work-family balance was measured using six items (e.g., “I was able to negotiate and accomplish what was expected of me at work and outside of work”) from Carlson et al. (2009). Leader-member exchange was measured using six items (e.g., “I usually knew how satisfied my immediate supervisor was with my performance”) from Graen and Uhl-Bein’s (1995) LMX-7 instrument. Relational coordination was measured using seven items (e.g., “I communicated constantly with the people in my work group”) from Gittel’s (2001) relational coordination scale. Learning environment was measured using five items (e.g., “People helped each other learn in the organization”) from Marsick and Watkins’ (2003) dimensions of the learning organization questionnaire (DLOQ).

Consistent with earlier research (Drewery et al., 2015) quality was conceptualized as a composite of three lower-order factors: learning, impact, and relatedness. *Learning* was measured using five items (e.g., “This experience helped me to grow as an individual”) borrowed from Steger, Dik, and Duffy’s (2012) work as meaning inventory (WAMI). *Impact* was measured using three items (e.g., “My impact on what happened in my department was large”) from Spreitzer’s (1995) empowerment – impact subscale. Two aspects of relatedness were also captured. Relatedness (to academics) was measured using one item (“The work I did was applicable to what I learned in class”) developed for this study. Higher scores indicate a stronger or deeper connection between the work experience and students’ academic pursuits. Relatedness (to work) was measured using five items (e.g., “This job helped me to identify which long-term career paths interest me”) from Scholarios, Lockyer,

and Johnson's (2003) career expectations of students scale. Items were selected by the researchers based on their appropriateness for the current study context (i.e., co-op work-terms). Higher scores indicate a perception of more relatedness between the work experience and future career goals or paths. To create the composite measure of co-op work term quality, scores for each subscale were first calculated. Then, scores were transformed into standardized z-scores and aggregated (i.e., added together). This approach allowed each component of quality to be reflected in the overall score, with the assumption that each factor is equally important.

A number of control variables were also measured. Participants indicated the number of previous work-terms (between 1 and 6 or more) because the amount of previous job experience has been linked with employees' perceptions of the job experience (Russ & McNeilly, 1995). Participants also indicated the size of the team (1 = "Basically just me", 2 = 1-5 team members, 3 = 5+ team members) and the size of the organization (1 = 1-50, 2 = 51-100, 3 = 101-150, 4 = 151-200, 5 = 200+ employees) in which they worked. Finally, students indicated their faculty of study for the purpose of characterizing the sample (this was not included in analyses).

#### *Analysis Plan*

First, each measure was examined for normality. Then, descriptive statistics and frequencies were calculated and inspected. The composite reliability for each measure was calculated, and correlations were also obtained. Finally, data were analyzed in a multiple linear regression model using IBM SPSS (v22). The model follows the conceptual framework illustrated in Figure 1.

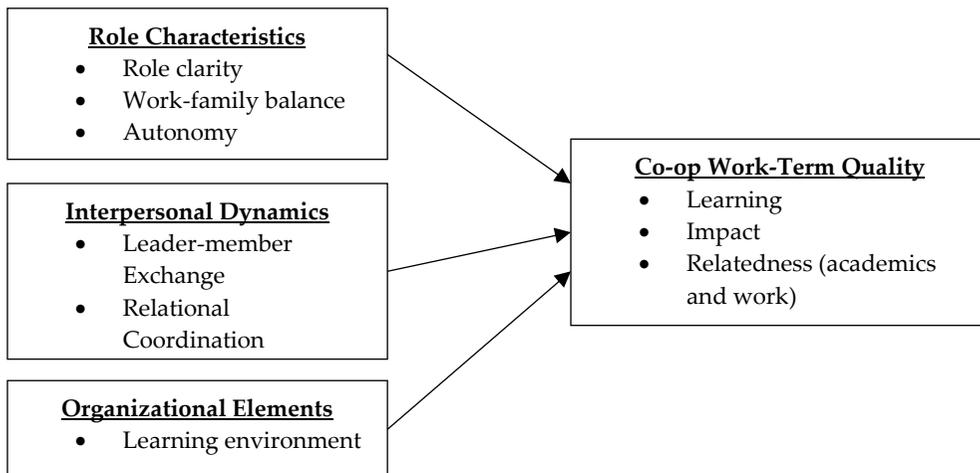


FIGURE 1: Conceptual model of antecedents to co-op students' perceptions of co-op work-term quality

## RESULTS

### *Description of Sample and Variables*

About half of the sample (48.7%) of participants were in their third year of study with the remaining participants being in their second year (20.7%) or fourth year (30.6%). Almost half

of the participants (44.5%) were in the Faculty of Engineering, about one-fourth (25.7%) were from the Faculty of Math, and the remaining third (29.8%) studied in Arts, Environment, Applied Health Sciences, and Science. A small proportion of students (8%) reported working mostly alone, while the majority (61.5%) worked in small teams (of one to five employees) or teams of more than five employees (30.4%). One fourth (23.8%) of the sample worked for small companies (one to 50 employees), another fourth (23.4%) worked for mid-sized organizations (51 to 200 employees) and roughly half (52.8%) worked for large organizations (more than 200 employees). Table 1 shows the means, standard deviations, reliabilities, and correlations for the study's main variables.

### Regression Analysis

A multiple linear regression analysis was used to examine the influence of the study's key variables on co-op work-term quality while controlling for number of previous work experiences, team size, and organization size. Results of the analysis (Table 2) showed that the number of employees in the co-op students' team does not impact their perceptions of quality, while the number of employees in the organization is negatively associated with quality. The number of work-terms is also positively associated with quality. All three role characteristics (role clarity, work-family balance, and autonomy) were positively associated with quality. With respect to interpersonal dynamics, relational coordination, but not leader-member exchange, was positively associated with quality. Finally, the learning environment was positively associated with quality. Variables in the model explained 51.4% of the variance in co-op students' reported co-op work-term quality.

TABLE 1: Means, standard deviations, reliabilities, and correlations for measures of co-op students' perceived work-term quality and its antecedents

	M	SD	$\alpha$	Pearson correlations 'r'						
				(1)	(2)	(3)	(4)	(5)	(6)	
(1) QL	14.540	2.611	--	--						
(2) LX	3.928	.765	.939	.562**	--					
(3) RC	4.076	.690	.931	.573**	.713**	--				
(4) WB	3.940	.709	.848	.620**	.555**	.570**	--			
(5) RC	3.581	.923	.864	.488**	.617**	.544**	.400**	--		
(6) LE	4.011	.767	.894	.624**	.749**	.711**	.632**	.534**	--	
(7) AU	4.163	.900	--	.431**	.558**	.527**	.459**	.314**	.509**	--

Notes: \*\* all correlations significant at  $p < .001$ ; QL = co-op work-term quality, LX = leader-member exchange, RC = relational coordination, WB = work-family balance, RC = role clarity, LE = learning environment, AU = autonomy

## DISCUSSION

Existing literature noted that most co-op students evaluate their co-op work-terms positively (e.g., Apostolides & Looye, 1997, Jiang, Lee, & Golab, 2015). This study extended insight to what exactly students are evaluating when they assess overall work-term quality, and the factors within the work-term experience that may influence this evaluation. Our results support the earlier work by Drewery et al. (2015) by providing empirical support for many of the pathways to perceived quality they had proposed. Results suggest that students with more work experience are likely to evaluate their work-terms as being of higher quality. This is possibly the case because senior students are typically given more responsibility, and therefore, see greater impact on the organization. Senior students may also be trusted more,

and therefore, have greater autonomy, and a greater freedom to explore connections between academics and work, which contributes to quality. Interestingly, team size does not influence work-term quality yet organization size does. Students in larger organizations tend to experience lower work-term quality, perhaps because it is more difficult to see the fruits of their labor, and so the perceptions of impact are lower.

#### *Role Characteristics*

Role characteristics demonstrated the greatest influence on co-op work-term quality. Role clarity significantly enhanced work-term quality. This is consistent with earlier research that suggests the psychological benefits of high performance (e.g., self-efficacy) that depend on role clarity may be absent when role clarity is low (Demerouti, 2006; Schaufeli & Bakker, 2010). Without an understanding of what to do, it is unlikely that students can experience the learning, relevance, and sense of impact that form perceptions of quality.

TABLE 2: Effects of selected factors on co-op students' perceived work-term quality

	Model 1		Model 2	
	$\beta$	SE	$\beta$	SE
Constant (unstandardized)	13.107 **	.268	2.379 **	.322
<i>Control Variables</i>				
Team size	.118 ***	.105	.028	.076
Organization size	-.027	.036	-.044 **	.025
Number of work-terms	.071 **	.039	.065 ***	.028
<i>Role Variables</i>				
Role clarity	--	--	.156 ***	.060
Work-family balance	--	--	.328 ***	.080
Autonomy	--	--	.055 **	.059
<i>Interpersonal Variables</i>				
Leader-member exchange	--	--	.017	.099
Relational coordination	--	--	.103 ***	.099
<i>Organizational Elements</i>				
Learning Environment	--	--	.215 ***	.095
	$R^2$	.018 **	.514 ***	
	$\Delta R^2$	--	.495 ***	

Notes.  $\beta$  = standardized regression (beta) coefficient; \*  $p < .01$  \*\*  $p < .05$  \*\*\*  $p < .001$

Similarly, higher perceptions of work-family balance are associated with higher perceptions of quality, which speaks to a wealth of literature regarding the importance of balancing the demands of work and other life domains (e.g., Carlson et al., 2009; Tausig & Fenwick, 2001). Indeed, the work-family balance measure had the strongest direct effect on co-op students' perceptions of work-term quality. Struggling to satisfy obligations between life's domains (e.g., work, academic studies, and family or friends) may be associated with low levels of learning, impact, and relatedness in the term. Finally, autonomy also demonstrated a positive effect on work-term quality. This finding is consistent with previously established links between job autonomy, job satisfaction, and psychological well-being (Chung-Yan, 2010) and suggests that empowering co-op employees to complete work autonomously is an important driver of successful co-op work-terms. Together, that all three role characteristics

in this study were important predictors of work-term quality supports Drewery et al.'s (2015) conceptual model.

#### *Interpersonal Variables*

Two interpersonal variables were assessed: leader-member exchange (LMX), and relational coordination. We used LMX to characterize a strong relationship between co-op employee and supervisor, which involves notions of support, guidance, and mentoring. Surprisingly, our results do not confer with previous studies. That is, LMX did not demonstrate a positive direct relationship with quality. This could be because the role of supervision may be more salient during socialization periods than during other stages of the work-term for co-op students, and because the supervisor may only indirectly influence quality through other mechanisms already captured in the study. By contrast, relational coordination, which was used to characterize a strong, supportive, and integrated connection between co-op employee and coworkers, was a strong predictor of quality. This suggests that the social fabric of the workplace, particularly with bonds built amongst team members, positively contributes to co-op students' experiences.

#### *Organizational Elements*

As a final direct effect, whether students perceived their organization to be a learning environment influenced co-op work-term quality. This finding reinforces the importance of supportive learning conditions to employees' experiences at work (Yang et al., 2004). It also supports the position that providing opportunities for exploration and for making connections between work, academic pursuits, and career aspirations enhances enjoyment of the co-op work term (Drewery et al., 2016). As well, this finding provides evidence that co-op work spaces can, do, and should focus on students' exploration and personal-professional development. When co-op students feel they have the freedom to explore opportunities, they are more likely to find personally relevant connections between academics and work, and are more likely to genuinely learn.

#### *Practical Implications*

This study may guide practice in a number of ways. Employers should first note what their co-op employees look for in a high-quality work-term (i.e., learning, relatedness, impact) and use practices that simultaneously fulfill organizational needs. This is most likely accomplished through the installation of an organizational culture that supports students' learning. This culture begins with setting clear goals and expectations which helps to direct students' behaviours in all cases, and may involve students, supervisors, and post-secondary institutions. Supervisors can further support clear goals by ensuring the effective organizational socialization of their co-op employees. This not only contributes towards role clarity for students but enhances their ability to perform (Bauer et al., 2007) and therefore, may contribute to their perceptions of impact. Socialization provides added benefit if it connects with students' career goals, because this informs a connection between academics and work – a highly desired trait of high-quality co-op work-terms. In this light, supervisors may aim to facilitate strong connections between new co-op employees and existing (perhaps more senior) employees because existing employees can provide a wealth of career-relevant and strategic knowledge to co-op students as they progress through their programs.

Supervisors may also consider empowering students with freedom and autonomy to explore problems and seek solutions, all while providing conditions that support clear purpose. This

could involve designing work that is beneficial to the organization but also involves creative connections and exploration for students. For example, students could be tasked with research projects which aim to address an existing problem for which the organization has no clear solution. Through exploration, students learn and also provide meaningful impact to the organization, all while working towards creating real value for the employer. Consequently, it follows that finding strategies to create high-quality work-terms may provide mutual benefit to both students and employers.

#### LIMITATIONS AND FUTURE RESEARCH

The sample for this study has a large percentage of students from science, technology, engineering, and mathematics (STEM) disciplines. Results may be more generalizable to a similar audience but less so to non-STEM programs (e.g., social sciences and the humanities). Moreover, the participants in this study comprise only one type of WIL program (co-op) suggesting that results may not translate to other WIL contexts. Future studies should address this by assessing the replicability of these results in non-STEM and non-co-op contexts.

Given the previous discussion regarding the potential contribution of co-op work-term quality to student development, a fruitful area of research would also involve examining the connections between co-op work-term quality and student development. Studies could borrow the conceptual model of co-op work-term quality assessed here and incorporate it into a longitudinal model of student development. Doing so would inform theory and practice regarding the contribution of students' work experiences to their overall development. Given that assessments of quality are indications that the co-op work-term has met or exceeded students' expectations (Oliver, 1980), are likely tied closely with students' satisfaction (Parasuraman, Zeithaml, & Berry, 1988), and perceived value (Kahneman & Snell, 1990), it is expected that quality may play a central role in the student experience.

#### CONCLUSION

This study contributed to the emerging WIL literature regarding the conceptualization, measurement, and understanding of co-op work-term quality from a student perspective. Previous research remained unclear regarding how students evaluate the quality of their co-op work-terms, and the factors which may enhance (or detract from) quality. In this study we discussed quality as a higher-order factor comprised of students' perceptions of learning, impact, and relatedness (both with academics and with future work). Furthermore, this study showed that characteristics of the role, interpersonal dynamics, and organizational elements all contribute to students' perceptions of quality. In doing so, this study informs theory and practice regarding the quality of work-terms in co-op programs.

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## REFERENCES

- Apostolides, V., & Looye, J. W. (1997). Student assessment of the co-op experience and optimum integration of classroom learning with professional practice. *Journal of Cooperative Education*, 32(3), 16-30.
- Ascher, C. (1994). Cooperative education as a strategy for school-to-work transition. *Centerfocus*, 3(22), 2-7.
- Bartkus, K., & Higgs, J. (2011). Research in cooperative and work-integrated education. In R. K. Coll & K. E. Zegwaard (Eds.), *International handbook for cooperative and work-integrated education: International perspectives of theory, research and practice (2<sup>nd</sup> ed., pp. 73-84)*. Lowell, MA: World Association of Cooperative Education (WACE).
- Bauer, T. N., Bodner, T., Erdogan, B., Truxillo, D. M., & Tucker, J. S. (2007). Newcomer adjustment during organizational socialization: A meta-analytic review of antecedents, outcomes, and methods. *Journal of Applied Psychology*, 92(3), 707-721.
- Bezuijen, X. M., Dam, K., Berg, P. T., & Thierry, H. (2010). How leaders stimulate employee learning: A leader-member exchange approach. *Journal of Occupational and Organizational Psychology*, 83(3), 673-693.
- Braunstein, L., Takei, H., Wang, F., & Loken, M. (2011). Benefits of cooperative and work-integrated education for employers. In R. K. Coll & K. E. Zegwaard (Eds.), *International handbook for cooperative and work-integrated education: International perspectives of theory, research and practice (2<sup>nd</sup> ed., pp. 277-286)*. Lowell, MA: World Association of Cooperative Education (WACE).
- Brown, S. P., & Leigh, T. W. (1996). A new look at psychological climate and its relationship to job involvement, effort, and performance. *Journal of Applied Psychology*, 81(4), 358-268.
- Carlson, D. S., Grzywacz, J. G., & Zivnuska, S. (2009). Is work-family balance more than conflict and enrichment? *Human Relations*, 62(10), 1459-1486.
- Chung-Yan, G. A. (2010). The nonlinear effects of job complexity and autonomy on job satisfaction, turnover, and psychological well-being. *Journal of Occupational Health Psychology*, 15(3), 237-251.
- Coll, R. K., Eames, C., & Halsey, E. (1997). Keeping the customer satisfied. *Journal of Cooperative Education*, 32(3), 31-40.
- Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology*, 74(4), 580-590.
- Demerouti, E. (2006). Job characteristics, flow, and performance: The moderating role of conscientiousness. *Journal of Occupational Health Psychology*, 11(3), 266-280.
- Dewey, J. (1938). *Education and experience*. New York, NY: Simon & Schuster.
- Dressler, S., & Keeling, A. (2011). Benefits of cooperative and work-integrated education for students. In R. K. Coll & K. E. Zegwaard (Eds.), *International handbook for cooperative and work-integrated education: International perspectives of theory, research and practice (2<sup>nd</sup> ed., pp. 261-275)*. Lowell, MA: World Association of Cooperative and Work-Integrated Education (WACE).
- Drewery, D., Pretti, T. J., & Barclay, S. (2016). Examining the effects of perceived relevance and work-related subjective well-being on individual performance for co-op students. *Asia Pacific Journal of Cooperative Education*, 17(2), 119-134.
- Drewery, D., Pretti, T. J., & Pennaforte, A. (2015, August). *Conceptualizing the quality of cooperative education workterm experiences: An exploration from the students' perspective*. Paper presented at the 19<sup>th</sup> WACE World Conference on Cooperative and Work-Integrated Education, Kyoto, Japan. Retrieved from <http://www.waceinc.org/kyoto2015/assets/proceedings/Drewery.pdf>.
- Eames, C., & Cates, C. (2011). Theories of learning in cooperative and work-integrated education. In R. K. Coll & K. E. Zegwaard (Eds.), *International handbook for cooperative and work integrated education: International perspectives of theory, research and practice (2<sup>nd</sup> ed., pp. 41-52)*. Lowell, MA: World Association for Cooperative Education.
- Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology*, 87(3), 565-573.
- Gamboa, V., Paixão, M. P., & de Jesus, S. N. (2013). Internship quality predicts career exploration of high school students. *Journal of Vocational Behavior*, 83(1), 78-87.

- Gittell, J. H. (2001). Supervisory span, relational coordination and flight departure performance: A reassessment of post-bureaucracy theory. *Organization Science*, 12(4), 468-483.
- Gittell, J. H., Weinberg, D., Pfefferle, S., & Bishop, C. (2008). Impact of relational coordination on job satisfaction and quality outcomes: A study of nursing homes. *Human Resource Management Journal*, 18(2), 154-170.
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, 6(2), 219-247.
- Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, 16(2), 250-279.
- Hassan, S. (2013). The importance of role clarification in workgroups: Effects on perceived role clarity, work satisfaction, and turnover rates. *Public Administration Review*, 73(5), 716-725.
- Hsu, P., van Eijck, M., & Roth, W. (2010). Students' representations of scientific practice during a science internship: Reflections from an activity-theoretic perspective. *International Journal of Science Education*, 32(9), 1243-1266.
- Jiang, Y. H., Lee, S. W. Y., & Golab, L. (2015). Analyzing student an employer satisfaction with cooperative education through multiple data sources. *Asia Pacific Journal of Cooperative Education*, 16(4), 225-240.
- Jones, J. (2007). Connected learning in co-operative education. *International Journal of Teaching and Learning in Higher Education*, 19(3), 263-273.
- Kahneman, D., & Snell, J. (1990). Predicting utility. In R. M. Hogarth (Ed.), *Insights in decision making: A tribute to Hillel J. Einhorn* (pp. 295-310). Chicago, IL: University of Chicago Press.
- Kolb, D. (1984). *Experiential learning as the science of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Kolb, D. A. (2014). *Experiential learning: Experience as the source of learning and development*. Upper Saddle River, NJ: FT Press.
- LePine, J. A., Methot, J. R., Crawford, E. R., & Buckman, B. R. (2012). A model of positive relationships in teams: The role of instrumental, friendship, and multiplex social network ties. In L. T. Eby & T. D. Ilen (Eds.) *Personal relationships: The effect on employee attitudes, behavior, and well-being* (pp. 173-194). New York, NY: Routledge.
- Leslie, D. (1994). TQM and student work experience (SWE). *Quality Assurance in Education*, 2(3), 26-32.
- Leslie, D., & Richardson, A. (2000). Tourism and cooperative education in UK undergraduate courses: Are the benefits being realised? *Tourism Management*, 21(5), 489-498.
- Lyons, T. F. (1971). Role clarity, need for clarity, satisfaction, tension, and withdrawal. *Organizational Behavior and Human Performance*, 6(1), 99-110.
- Marsick, V. J., & Watkins, K. E. (2003). Demonstrating the value of an organization's learning culture: The dimensions of the learning organization questionnaire. *Advances in Developing Human Resources*, 5(2), 132-151.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460-469.
- Owens, T. R., & Owen, S. K. (1981). Improving learning in the workplace. *Journal of Cooperative Education*, 18(2), 57-65.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual. *Journal of Retailing*, 64(1), 12-40.
- Pennaforte, A., & Pretti, T. J. (2015). Developing the conditions for co-op students' organizational commitment through cooperative education. *Asia-Pacific Journal of Cooperative Education*, 16(1), 39-51.
- Quaye, S. J., & Harper, S. R. (2014). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations*. New York, NY: Routledge.
- Riggio, R., Kubiak, C., Taylor, S., & Neale, P. (1994). Evaluation of a cooperative education program with an emphasis in industrial/organizational psychology. *Journal of Cooperative Education*, 29(1), 59-66.
- Russ, F. A., & McNeilly, K. M. (1995). Links among satisfaction, commitment, and turnover intentions: The moderating effect of experience, gender, and performance. *Journal of Business Research*, 34(1), 57-65.

- Sattler, P., & Peters, J. (2013). *Work-integrated learning in Ontario's postsecondary sector: The experience of Ontario graduates*. Toronto, Ontario, Canada: HEQCO.
- Schambach, T. P., & Dirks, J. (2002, December). *Student perceptions of internship experiences*. Paper presented at the International Conference on Informatics Education Research (ICIER), Barcelona, Spain. Retrieved from: <http://files.eric.ed.gov/fulltext/ED481733.pdf>
- Schaufeli, W. B., & Bakker, A. B. (2010). Defining and measuring work engagement: Bringing clarity to the concept. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research*, (pp. 10-24). New York, NY: Psychology Press.
- Scholarios, D., Lockyer, C., & Johnson, H. (2003). Anticipatory socialisation: The effect of recruitment and selection experiences on career expectations. *Career Development International*, 8(4), 182-197.
- Smith, M., Brooks, S., Lichtenberg, A., McIlveen, P., Torjul, P., & Tyler, J. (2009). *Career development learning: Maximising the contribution of work-integrated learning to the student experience. Final project report, June 2009*. Wollongong, NSW, Australia: University of Wollongong.
- Spagnolo, G. (1999). Social relations and cooperation in organizations. *Journal of Economic Behavior & Organization*, 38(1), 1-25.
- Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, 38(5), 1442-1465.
- Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. *Academy of Management Journal*, 39(2), 483-504.
- Steger, M. F., Dik, B. J., & Duffy, R. D. (2012). Measuring meaningful work: The work and meaning inventory (WAMI). *Journal of Career Assessment*, 20(3), 322-337.
- Stern, D., Stone, J. R., Hopkins, C., & McMillion, M. (1990). Quality of students' work experience and orientation toward work. *Youth & Society*, 20(2), 263-282.
- Tausig, M., & Fenwick, R. (2001). Unbinding time: Alternate work schedules and work-life balance. *Journal of Family and Economic Issues*, 22(2), 101-119.
- Walumbwa, F. O., Cropanzano, R., & Goldman, B. M. (2011). How leader-member exchange influences effective work behaviors: Social exchange and internal-external efficacy perspectives. *Personnel Psychology*, 64(3), 739-770.
- Watson, J., & Cates, C. (2014, June). *Creating sustainable cooperative education programs*. Paper presented at the 10<sup>th</sup> WACE International Symposium on Cooperative and Work-Integrated Education, Trollhattan, Sweden. Retrieved from: <http://www.waceinc.org/uwest2014/proceedings/US/Joy%20Watson%20-%20US.pdf>
- Whitaker, B. G., Dahling, J. J., & Levy, P. (2007). The development of a feedback environment and role clarity model of job performance. *Journal of Management*, 33(4), 570-591.
- Wiseman, R. L., & Page, N. (2001). Site supervisors' and students' perceptions of quality indicators of cooperative learning. *Journal of Cooperative Education*, 36(1), 61-75.
- Yang, B., Watkins, K. E., & Marsick, V. J. (2004). The construct of the learning organization: Dimensions, measurement, and validation. *Human Resource Development Quarterly*, 15(1), 31-55.
- Zimmerman, M. A. (1990). Taking aim on empowerment research: On the distinction between individual and psychological conceptions. *American Journal of Community Psychology*, 18(1), 169-177.





## About the Journal

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

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

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

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

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

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](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.

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

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

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

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



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