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# A behavior focused assessment of co-op performance: A comparison of co-op and non-co-op graduating students

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This paper investigates how student-workers' performance can be assessed through the notion of work-role performance, on the basis of three behavioral-related dimensions (proficiency, adaptivity, and proactivity), and proposes a definition of performance prior to graduation. By taking into account the accumulation of work experience, this article investigates first whether 1,310 cooperative education (co-op) students develop proficient, adaptive, and proactive performance behaviors toward the task and the team in the workplace and test the effect of the accumulation of work-experience of three cohorts. Second, it examines whether this work-role performance was different between 547 co-op students and 617 non-co-op students both with four months of work experience. Results showed that only team performance proficiency significantly increased with the accumulation of work experience for co-op students. Results did not show significant difference between co-op and non-co-op students with regard to work-role performance' scores. (*Asia-Pacific Journal of Cooperative Education*, 2016, 17(1), 61-74)

Keywords: Work-role performance, WIL, team, assessment, cooperative education, comparison workplace

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Work-integrated learning (WIL) programs have viewed performance as one of the main objectives for individuals in all WIL contexts. The notion of performance, oriented towards success in either academic goals (Tanaka & Carlson, 2012) or the workplace (Hodges, Eames, & Coll, 2014), is frequently used without strong agreement about what it covers. WIL literature has examined the factors leading to performance (Kelley & Gaedeke, 1990; Knight & Yorke, 2003) in academic (Tanaka & Carlson, 2012) and industrial contexts (Iqbal & Zenchekov, 2014; Rayner & Papakonstantinou, 2015) and also the issue of performance appraisal (Hodges et al., 2014; Ferns & Comfort, 2014; Peach, Ruinard, & Webb, 2014; Stiggins, 1987). Therefore, WIL literature has been focused on performance as a distal outcome of several 'sets' (e.g., competencies, skills) nurtured through WIL. One of the aims of WIL programs is to increase individuals' academic performance and prepare them for immediate performance in the workplace after graduation (Patrick, Peach, Pocknee, Webb, Fletcher, & Pretto, 2008; Peach & Gamble, 2011; Reddan & Rauchle, 2012). In WIL literature, the definition of performance remains unclear. In a general sense, performance is the "act or process of performing or carrying out, and the execution or fulfillment of something" (Performance, 2015).

Through WIL, the main objective for institutions and employers is to develop students' competencies and work-readiness skills (Bates, 2005; Freudenberg, Brimble, & Cameron, 2011; Hodges et al., 2014). Hence, performance in WIL may be defined as individual behaviors oriented to successfully achieve the full spectrum of objectives required in both academic and workplace environments. Individuals' performance in WIL also includes a temporal dimension, where the success achieved during each work term must increase with every consecutive work term, and continue in the workplace after graduation. This includes the ability to contextually replicate hard and soft skills (Hodges & Burchell, 2003), and the behavioral-related dimensions of performance developed through WIL.

This definition addresses the problem of assessing performance. Several attempts have been proposed to assess performance in academic and workplace settings (e.g., Dunn, Schier, &

Fonseca, 2012; Richardson, Jackling, Henschke, & Tempone, 2013; Sturre, Keele, Von Treuer, Moss, McLeod, & MacFarlane, 2012). While performance appraisal of academic abilities (the knowledge) is traditionally based on the grading system, performance appraisal of the work experience (the competencies) is traditionally based on Likert-type scales. These two separate and indirect assessments do not accurately evaluate the ways in which individuals develop through work-integrated learning. Assessing individuals' performance separately tends to take away the additional value of WIL programs: workplace readiness based on the alternation between the classroom and the workplace (Sattler & Peters, 2013). Attempting to capture all the effects of WIL programs on individuals' performance by focusing on the behavioral aspect of WIL seems an interesting approach when organizational behaviors developed through WIL meet employers' expectations (Boulton & Lucas, 2011). Indeed, assessing performance through the behaviors developed by WIL may capture how WIL programs nurture individuals' rapport to work, and what the sustainable behavioral outcomes of WIL are. Assessing WIL performance based on a behavior-focused approach may capture the effects of the alternation between the classroom and the workplace, and address how learning from both environments transforms into behaviors. We describe performance as a behavior through which individuals' work readiness can be assessed.

This research proposed to directly assess individuals' performance through WIL by examining performance as a behavior itself, on the basis of Griffin, Neal, and Parker's (2007) conceptualization of work-role performance which "describes the full set of work responsibilities in a role and [encompass's] both organizational context and individual work behavior" (Griffin et al., 2007, p. 329). According to role theory (Katz & Kahn, 1978), work-role performance is defined as the aggregate value to an organization of a set of behaviors that an employee directly and indirectly contributes to organizational goals (Borman & Motowidlo, 1993; Campbell, 1990). WIL programs aim to develop individuals' ability to adapt to new environments (Coll & Zegwaard, 2006), act proactively (Fleming, Martin, Hughes, & Winn, 2009), and work proficiently (Knight & Yorke, 2003) in their tasks and with their host team (Kelley & Gaedeke, 1990; Knight & Yorke, 2003).

Hence, the aim of this article is to propose a behavioral definition of individuals' performance through WIL. To do so, the research investigated whether WIL students develop proficient, adaptive, and proactive performance behaviors toward the task and the team in the workplace and whether these behaviors may be used as variables to assess student-workers performance. To investigate these questions, two steps were proposed. We first examined the behavioral-related dimensions of performance on 1,310 students enrolled in cooperative education (co-op; a form of WIL) (second to fourth year) in a North American university, with regard to the duration of work-experience (4, 12, and 20 months or greater). Second, we compared the results of these behavioral-related dimensions of performance on the 547 co-op students with four months of experience from the previous sample, with a sample of 617 non-co-op students with four months of work experience. We first present the supported theory, then explain the method, and finally highlight and discuss our results in order to provide theoretical implications as well as limitations and recommendations for future research.

## THEORETICAL ARGUMENT

The development of individuals' performance in the workplace varies depending on the environment of the host organization (Rayner & Papakonstantinou, 2015), personal self-

efficacy (Drysdale & McBeath, 2014; Rampersad & Patel, 2014), individual skill sets (Ferns & Comfort, 2014), and required hard and soft skills (Hodges & Burchell, 2003). According to role theory, which describes an organization as a “system of interdependent behaviors” (Katz & Kahn, 1978, p. 179), individuals’ work-role performance has two distinct components: task and social performance. Task-performance (Borman & Motowidlo, 1993) refers to the set of expectations for the role, often described in a job description (Griffin et al., 2007), while social-performance includes behaviors that contribute to the organization but deviate from the assigned responsibilities (Moorman, Niehoff, & Organ, 1993; Organ, 1988). Typically, there are three levels of investigation for role behaviors: task, team, and organization (Griffin et al., 2007; Neal, Yeo, Koy, & Xiao, 2012). In WIL contexts, the shortness of the work terms may develop only two levels of performance: one contributing to their immediate tasks, the other contributing to the success of their proximal environment - the team.

According to organizational literature, the development of these two levels may be based on three behavioral-related dimensions developed in the WIL context: proficiency (Griffin et al., 2007), adaptivity (Allworth & Hesketh, 1999; Griffin, Parker, & Mason, 2010; Huang, Zabel, Ryan, & Palmer, 2014; Pulakos, Arad, Donovan, & Plamondon, 2000), and proactivity (Crant, 2000; Griffin et al., 2010; Neal et al., 2012; Parker, Williams, & Turner, 2006). According to Griffin and colleagues (2007) proficiency refers to individuals’ fulfillment of the prescribed or predictable requirement of the role; adaptivity refers to individuals’ ability to cope with, respond to, and support change; and proactivity refers to the initiation of change, self-starting and future-directed behavior. Research has demonstrated that individuals in WIL may be able to behave proficiently and efficiently (Boulton & Lucas, 2011; Knight & Yorke, 2003), to adapt in an always-changing environment (Clarke, 1997; Coll & Zegwaard, 2006; Cooper, Orell, & Bowden, 2010), and to behave proactively (Clarke, 1997; Fleming et al., 2009; Iqbal & Zenchekov, 2014).

These behaviors tend to be oriented to task-performance in order to successfully reach employers’ expectations such as ability to work under pressure, self-confidence, self-management, problem solving, decision making, analytical skills, and readiness to explore and create opportunities (Done, 2011; Bovinet, 2007; Kelley & Gaedeke, 1990; Knight & Yorke, 2003). As such, through WIL, individuals may develop task-performance – which refers to behaviors that contribute to individual effectiveness – with three components (proficiency, adaptivity, and proactivity) as described below.

Individual task proficiency reflects the degree to which an employee meets the known expectations and requirement of his or her role as an individual (e.g., ensures core task are completed properly). Individual task adaptivity reflects the degree to which individuals cope with, respond to, and/or support changes that affect their roles as individuals (e.g., adjust to new equipment, processes, or procedures in core tasks). Individual task proactivity refers to the extent to which individual engage in self-starting, future-oriented behavior to change their individual work situations (e.g., initiates better way of doing core tasks). (Griffin et al., 2007: pp. 331-332)

Given these arguments, the following is hypothesized:

*Hypotheses 1a to c: In the workplace, student-workers develop task performance (proficient [1a], adaptive [1b], and proactive [1c])*

In addition to task-performance, individuals in co-op tend to orient their behaviors to contribute to team performance in order to successfully reach team expectations, such as

proficiency in networking and teamwork, communication, and ability to cope with uncertainty (Kelley & Gaedeke, 1990; Knight & Yorke, 2003). As such, through co-op, individuals may develop team performance – which refers to behaviors that contribute to team effectiveness – with three components (proficiency, adaptivity, and proactivity) as described below.

Team member adaptivity reflects the degree to which individuals cope with, respond to, and/or support changes that affect their role as member of a team (e.g., responds constructively to team changes). Team member proficiency, describes behaviors that can be formalized and are embedded in a team or group context (e.g., coordinate work with team members). Team member proactivity reflects the extent to which an individual engages in self-starting, future-directed behavior to change a team's situation or the way the team works (e.g., develop new methods to help the team perform better). (Griffin et al., 2007, p. 332).

Given these arguments, the following is hypothesized:

*Hypotheses 2a to c: In the workplace, student-workers develop team performance (proficient [2a], adaptive [2b], and proactive [2c])*

While student workers may nurture behavioral-related to task and team performance through WIL, their development may be different in accordance to the duration of cumulated experience. Some WIL programs, such as cooperative education programs, can deliver up to 24 months of individuals' work experience (e.g., the engineering co-op program at the University of Waterloo, Ontario). The body of WIL literature has shown that the more the students gain work experience, the more they can master work expectations. For example, employability skills, such as workplace know-how or transferable skills, tend to be better improved at the end of a co-op program than at the beginning (Richardson et al., 2013). As student-workers develop more and more competencies and work-related skills such as thinking skills, communication, and organizational effectiveness (De Lange, 2002; Ferns & Moore, 2012) through the repeated alternation of work-term, they may become able to master work-role performance. By enhancing their ability in technical skills, creative thinking, and problem solving (De Lange, 2002), they may increase their task performance by gaining more and more work experience. By improving their ability to work with others (Trede, 2012), to collaborate in team work (McDonald & Ogden-Barnes, 2013), they may increase their team performance by gaining more and more work experience. Given these arguments, the following is hypothesized:

*Hypotheses 3a to c: In the workplace, the more work experience gained by student-workers, the more they develop task performance (proficient [3a], adaptive [3b], and proactive [3c])*

*Hypotheses 4a to c: In the workplace, the more work experience gained by student-workers, the more they develop team performance (proficient [4a], adaptive [4b], and proactive [4c])*

Griffin and colleagues' (2007) work-role performance conceptualization has been designed for and tested on permanent employees, and so the specificity of individuals involved in WIL programs with regard to Griffin and colleagues' (2007) definition should be controlled on non-WIL students. Numerous studies have shown a difference between WIL and non-WIL students, and especially a positive value of cooperative education with respect to individual development of skills, competencies and behaviors as well as employer expectations (e.g., Drysdale, Goyder, Nosko, Easton, Frank, & Rowe, 2007; Gardner & Choi, 2007; Hanneman &

Gardner, 2010; Stern, Finkelstein, Urquiola, & Cagampang, 1997; Walters & Zarifa, 2008). Hence, individuals involved in WIL programs may behave differently with respect to task and team performance than individuals involved in scattered work experiences during their studies. Given these arguments, the following is hypothesized:

*Hypotheses 5a to c: In the workplace, the development of task performance (proficiency [5a], adaptivity [5b], proactivity [5c]) is different for WIL and non-WIL students*

*Hypotheses 6a to c: In the workplace, the development of team performance (proficiency [6a], adaptivity [6b], proactivity [6c]) is different for WIL and non-WIL students*

## METHODS

### *Participants and Procedure*

After ethics approval, immediately after the end of a work-term for co-op students, and on the basis of 4-months minimum of work-experience (self-arranged work experience, such as summer employment) for non-co-op students, 16,805 students enrolled in a North American university (8,416 in cooperative education program and 8,389 not in a WIL program) received an email inviting them to participate in an online survey in November 2014. A cooperative education program is a program of "semester-long paid work placements that are an integral part of an academic degree program based on alternating academic and work terms" (Kramer & Usher, 2011, p.4). Data were collected cross-sectionally, with six cohorts for co-op students (1 to 6 work-terms completed), and two cohorts for non-WIL students (4 months of work experience or no experience). Students were undergraduates in their second to fourth year of studies. In total, 5,583 (response rate=31.9%) participants completed the survey and received \$6 each in remuneration. The final sample of respondents (4,707) was comprised of 2,905 co-op students and 1,802 non-co-op students.

### *Sample for Hypotheses One to Four (step 1)*

Three cohorts from the initial sample of 2,905 co-op students were mobilized to test the accumulation effect of work experience, that is 1,310 respondents, including 48.9% male and 51.1% female ranging in age from 18 to 25 years (mean=20.51; SD=1.71). Students from all university faculties (Applied Health Studies [8.9%], Arts [17.2%], Engineering [27.8%], Environment [10.8%], Math [20.2%], and Science [15.2%]) were included in the sample. Respondents were 547 (41.8%) with four months experience, 531 (40.5%) with 12 months experience, and 232 (17.7%) with 20 or higher months of experience.

### *Sample for Hypotheses Five and Six (step 2)*

In order to compare the behavioral-related dimension of performance on co-op and non-co-op students, we used one cohort of co-op students with 4 months of experience (N=547), and one cohort of non-co-op students (N=617) with 4 months of experience as detailed in Table 1. Non-co-op students were asked whether they had 4 months of work-experience or not. Because the sample of non-co-op was too small, we did not separate the samples of non-co-op students with regard to the year of study.

TABLE 1: Characteristics of the sample respondents for the comparison between co-op and non-co-op students

		Co-op students	Non-Co-op students
<b>Number</b>		547	617
<b>Gender</b>	M	56.3%	33.8%
	F	43.7%	66.2%
<b>Age</b>	Mean	19.4(SD=.88)	21.77 (SD=3.92)
<b>Size of organization</b>	1-50	35.1%	45.8%
	50-200	21.4%	23.2%
	>200	43.5%	31%
<b>Length of experience</b>	4 months	100%	100%
<b>Year of study</b>		2 <sup>nd</sup>	2 <sup>nd</sup> (277), 3 <sup>rd</sup> (137), 4 <sup>th</sup> (203)
<b>Faculties</b>	Arts	19.7%	37.4%
	Applied health science	0.9%	11.3%
	Engineers	37.7%	0%
	Environment	8.6%	7.9%
	Maths	30.2%	12.9%
	Science	2.9%	30.2%

### Measurement Instruments

Due to the caution required to assess workplace performance through WIL programs (Hodges & Burchell, 2003; Hodges, Eames, & Coll, 2014; Stiggins, 1987), two instruments were used to test the hypotheses and compare the results. First, existing published and validated scales of the construct measure were used, after having been trial-tested with a small sample of respondents. All items were measured using a 5-point Likert-type scale from 1 (very little) to 5, (a great deal). Demographic variables were also collected (gender, length of experience) to determine if the respondent sample was representative of the population. Second, respondents (only co-op students) were asked on a 7-point Likert-type scale what score they received from their supervisor's official appraisal (Employer Evaluation Form) on their last work-term, from 1 (outstanding) to 7 (unsatisfactory). These results have been compared with the database at the Career Centre of the University. Results fit with the database but could not be included in the research due to ethics.

Work-role performance was measured with 18 items from Griffin and colleagues' (2007) scale measuring the extent to which participants performed in their task and their team, with three behavioral-related dimensions: proficiency (3x2 items), adaptivity (3x2 items), and proactivity (3x2 items). An example item is "I coordinate my work with my co-workers". Cronbach's alphas were .84, .78, .89 for task proficiency, adaptivity, and proactivity, and .74, .76, .81 for team proficiency, adaptivity, and proactivity.

### RESULTS

Data were tested using descriptive statistics (means and standard deviation), t-test to compare the scores of the components with the test value fixed at 2.5 at the 95% confidence level, and one-way ANOVA (with Levene test for the homogeneity of variances) to test the difference between co-op and non-co-op students and to test the effect of the length of

experience on the variables. The Tukey post hoc range test, which is recommended for large samples (Kirk, 1982), was used to specify the variations of the means.

*The Assessment of Performance on Co-op Students and the Duration Effect*

Descriptive statistics for the variables are shown in Table 2. Means show that among the three components of task performance, proficiency was the highest (M=4.35; SD=.57), followed by adaptive (M=4.17; SD=.50) as well as among the three components of team performance, where proficiency was the highest (M=4.21; SD=.55), followed by adaptivity (M=4.11; SD=.42). The proactivity component had the lowest means for task performance (M=3.70; SD=.88) and for team performance (M=3.63; SD=.82). With regard to the length of experience, the means stayed quite equal between four and twelve months of work experience, with a decrease for task adaptivity (-0.01) and task proactivity (-0.07). All means however increased between four and twenty months of work experience, and between twelve and twenty months of work experience, but with low increasing scores (maximum of +0.11 for team proficiency). With regard to the Employer Performance Evaluation Form, all means increased slowly (-0.02 each time) between four and twelve, and twelve and twenty months of work experience. Results from the student *t* test showed that the means differences were significant and positively different from 2.5. Therefore, hypothesis 1a, b, c and 2a, b, c were supported. In the workplace, WIL students develop task performance (proficient [1a], adaptive [1b], and proactive [1c]) and team performance proficient [2a], adaptive [2b], and proactive [2c]).

TABLE 2: Means and standards deviation for Co-op students with 4, 12, and equal or greater than 20 months of work experience

		4 months		12 months		≥20 months	
		M	SD	M	SD	M	SD
<b>Task performance</b> (1=very little)	Proficient	4.35	.57	4.35	.54	4.40	.62
	Adaptive	4.17	.50	4.16	.47	4.19	.51
	Proactive	3.70	.88	3.63	.83	3.71	.93
<b>Team performance</b> (1=very little)	Proficient	4.21	.55	4.28	.53	4.32	.59
	Adaptive	4.11	.42	4.12	.40	4.16	.46
	Proactive	3.63	.82	3.64	.81	3.72	.85
<b>SRE (1=outstanding)</b>		2.1	.91	1.9	.84	1.7	.77

Notes: M= mean; SD= standard deviation; N=1,310 (547 with four months of work experience, 531 with twelve months, and 232 with twenty months)

To test whether the means differences were statistically significant between performance components and length of experience, we mobilized one-way ANOVA between four and twelve months, four and twenty months, and twelve and twenty months. Results were all insignificant between four and twelve, and twelve and twenty months of work experience. Results between four and twenty months of work experience (Table 3) also showed low significance. Only team performance proficiency (F=4.340; p=.013) had statistical mean differences. The Tukey post hoc range test showed a difference between 4 and 20 months of work experience for team proficiency (MD=.11; p=.019).



TABLE 3: One-way ANOVA between four and twenty months of work experience with task and team performance as dependent variables and length of experience as factors

		Sum of squares	df	Mean square	F	Sig.
<b>Task performance</b>	Proficient	.360	2	.180	.557	.573
	Adaptive	.096	2	.048	.199	.820
	Proactive	1.977	2	.988	1.308	.271
<b>Team performance</b>	Proficient	2.595	2	1.298	4.340	.013
	Adaptive	.331	2	.166	.936	.392
	Proactive	1.310	2	.655	.961	.383

Notes: Sig. p<.05; N=779 (547 with four months of work experience and 232 with twenty months)

Therefore, hypotheses 3a, b, and c were not supported. In the workplace, whether the student-workers had more work experience had no influence of their development of task performance (proficient [3a], adaptive [3b], and proactive [3c]). Hypotheses 4b and c were not supported. In the workplace, additional work experience had no influence on student-workers' development of team performance (adaptive [4b], and proactive [4c]). However, hypothesis 4a was supported when adjusted as follows. In the workplace, the more the student-workers gained work experience (more than 16 months), the more they developed team performance proficiency (4a).

*The Comparison Between Co-op and Non-Co-op Students*

Results, as shown in Table 4, on the descriptive statistics comparing co-op and non-co-op students, showed that among the six components of work-role performance, only the mean for task-adaptivity was higher for co-op students with 4 months of work experience than for non-co-op students with the same duration of work experience (M=4.17; SD=.50; M=4.13; SD=.39 respectively). The sample of non-co-op students in their second year of study was too small (277) to be compared with co-op students. However, results were similar to all the non-co-op respondents. Mean for non-co-op students in their second year task proficiency [4.42], task adaptivity [4.20], task proactivity [3.82], team proficiency [4.33], team adaptivity [4.14], team proactivity [3.79].

TABLE 4: Means and standard deviations for the variables for co-op and non-co-op students

Length of experience		Co-op students		Non-co-op students	
		4 months		4 months	
		M	SD	M	SD
<b>Task performance</b>	<b>Proficient</b>	4.35	.57	4.40	.44
	<b>Adaptive</b>	4.17	.50	4.13	.39
	<b>Proactive</b>	3.70	.88	3.76	.71
<b>Team performance</b>	<b>Proficient</b>	4.21	.55	4.26	.42
	<b>Adaptive</b>	4.11	.42	4.11	.30
	<b>Proactive</b>	3.63	.82	3.74	.67

Notes: N=547 for co-op students; 617 for non-co-op students

To test whether the means differences were statistically significant between performance components and co-op/non-co-op students, we mobilized one-way ANOVA. Results (Table

5) showed that between co-op and non-co-op students, on the same basis of length of experience (4 months), there were no statistical mean differences.

TABLE 5: One-way ANOVA (between groups) between co-op and non-co-op students

		Co-op/non-co-op students with 4 months of work experience				
		Sum of square	df	Mean square	F	Sig.
<b>Task performance</b>	<b>Proficiency</b>	.021	1	.021	.064	.800
	<b>Adaptive</b>	.004	1	.004	.016	.898
	<b>Proactive</b>	.663	1	.663	.856	.355
<b>Team performance</b>	<b>Proficient</b>	.171	1	.171	.571	.450
	<b>Adaptive</b>	.099	1	.099	.554	.457
	<b>Proactive</b>	.051	1	.051	.076	.783

Notes: Sig.  $p < .05$ ; N=547 for WIL students and 617 for non-WIL students (4 months)

Therefore, hypothesis 5 (a to c) and 6 (a to c) were not supported. In the workplace, on the basis of the same length of work experience (four months), the development of task performance (proficiency [5a], adaptivity [5b], proactivity [5c]) and of team performance (proficiency [6a], adaptivity [6b], proactivity [6c]) was not different for WIL and non-WIL students.

## DISCUSSION

The findings of this research supported that co-op students develop behavior-related dimensions of work performance all along their work-terms, but did not support the hypotheses of an increase in performance with the accumulation of work experience. Neither supported was the hypothesis that co-op students had higher performance than non-co-op students. Findings showed that, while the conditions and environments in which individuals may develop performance toward organizational goals are always changing (Ferns & Comfort, 2014), both individuals and employers reported high scores of co-op students' task and team performance at the end of every work-term. Through co-op, individuals successfully fulfilled the requirement of their task and team performance and succeeded in scoring a high performance regardless of the duration of experience accumulated. While individuals' co-op performance is oriented toward two components, the task and the team, results showed that task performance had higher means than team performance, indicating that individuals were less likely to orient their behaviors to an interpersonal perspective than to an individual perspective when performing in an organization. However, the accumulation of work experience ( $\geq 20$  months) allows co-op students to nearly fill the gap between task and team performance' scores. In this research, the accumulation of work experience itself made no significant difference between the development of each behavioral-related dimension of performance (except for team performance proficiency with the addition of 16 months of experience), but showed an individuals' ability to almost equally perform in the task and in the team after twenty months of cumulated work experience. Work-integrated learning, which refers to "educational activities that intentionally integrate learning within an academic institution

with practical application in a workplace setting” (Sattler & Peters, 2013, p. 13) seems, thanks to the accumulation of work-terms, to develop individuals more skillful, more confident (Fleming et al., 2009), and more capable in orienting their behaviors toward task and team performance. By knowing how the workplace works, and increasing their self-awareness, co-op students behave in a more proficient, adaptive, and proactive manner in the workplace either in the task or in the team performance.

We defined individuals’ WIL performance in the introduction as “individual behaviors oriented to successfully achieve the full spectrum of objectives required in both the academic and workplace environments”. Our results allow us to specify this definition as individuals sets of behaviors which are proficiently, adaptively, and proactively oriented toward task and team effectiveness, to successfully achieve objectives of performance required in the workplace environment. This definition fits with the mobilization of a behavioral scale - initially built for permanent employees (Griffin et al., 2007) - to directly assess individuals’ work-role performance. WIL students in short term contracts were able to develop the same set of performance-related behaviors as permanent employees. Hence, in a WIL performance appraisal perspective, this research demonstrated the value of assessing individuals’ workplace performance as a set of behaviors that aligns with employers’ expectations (Boulton & Lucas, 2011). Assessing performance with a behavior-focused approach tried to avoid the separation of individuals’ assessment between the outcomes which come from the classroom and those from the workplace, and fully capture the results of the alternation between classroom and workplace. However, this method of assessment cannot specify which aspects are outcomes from the classroom or from the workplace and how the synthesis works, and so requires further research. These results indicate wholeheartedly that WIL students should be thought of as full-time staff during the work term to increase their scores in performance, particularly in proactivity. WIL students, by feeling like ‘one of the gang’, could act more proactively, and bring new ideas and perspectives from the classroom to the workplace, which highlights the benefits of alternating between the classroom and the workplace.

Second, in the comparison between co-op and non-co-op students with four months of experience, findings did not show statistical and significant difference between the two populations with regard to their work-role performance. Acquiring work experience through cooperative education did not lead to higher performance scores as compared to work experience arranged by the non-co-op students, separate from the university, as reported in previous research on other topics (e.g., Purdie, Ward, McAdie, King, & Drysdale, 2013) on self-efficacy, procrastination or motivated strategies for learning). This lack of difference in the results may raise a critical point in the way of how co-op/WIL programs are designed and what are the aims and expectations for the three main WIL stakeholders (students, employers, educational institutions) with regard to WIL programs. By referring to Sattler and Peters (2013) definition of WIL, WIL programs should be designed in order to develop individuals’ added-value with respect to workplace-readiness. In other words, WIL programs should develop higher individuals’ score associated with work-readiness purpose (e.g., work-role performance) than for individuals gaining work experience through scattered experiences (Drysdale et al., 2007; Gardner & Choi, 2007; Hanneman & Gardner, 2010; Stern et al., 1997; Walters & Zarifa, 2008), and so only relying on themselves, without an organized support. These findings highlight a recurrent issue with WIL programs (e.g., Dean, Sykes, Agostinho, & Clements, 2012; Patrick, Peach, Pocknee, Webb, Fletcher, & Pretto, 2008), that is the coordination, the links, and the interrelations between the three main WIL stakeholders,

which are often discontinuous instead of being continuously associated all along the programs in order to provide the 'perfect' assessment of performance. For individuals to be the prime actors of their education to accrue skills or knowledge (Sturre et al., 2012), they have to build the connection between all the stakeholders, and during all the temporalities of WIL programs. But building that on their own at the starting point of their program might be difficult and so both employers and educational institutions should strongly connect in order to develop a significant difference for individuals enrolled in WIL programs. More coordination is needed between all WIL stakeholders in order to address this issue. Here, the involvement of the faculty members beside the WIL practitioners (e.g., students coordinators, account managers) might play an interesting role in order to activate individuals' active learning in the classroom and in the workplace. Further research should compare not only the starting point of workplace experience, but also the difference at the end of the undergraduate degree to see whether any differences appear.

Finally, this research, by bringing a behavior-focused definition of performance in WIL studies, raises some limitations and addresses some other implications for further research. Concerning the limitations, the sample of non-co-op students limited the possibility of cohorts' length of experience-based comparison with the sample of co-op students. With respect to the comparison, while the control variables did not show a large difference between the two samples, all the environmental variables influencing individuals in the workplace have not been controlled, especially the specificity of work experience encountered by co-op and non-co-op students. The non-exact composition of respondents in each cohort could limit the validity of this research.

With regard to future WIL research on performance, researchers should favor longitudinal designs rather than multiple cohort designs in order to compare the time effects instead of the cohort effects, and to examine whether performance in one workplace is predictive of performance in another workplace. Also, future research on performance should examine the relationship between competencies and performance in order to clearly understand the link between these two notions, separate the antecedents from the outcomes (Birkett, 1993), and understand which antecedents lead to work-role performance. Finally future research on performance, defined as a behavior, should examine the link between this concept and the notion of self-efficacy, which is frequently mentioned in WIL studies (e.g., Drysdale & McBeath, 2012; 2014; Zegwaard & McCurdy, 2014).

To conclude, this research proposed a behavior-focused approach to assessing individuals' workplace performance, based on Griffin and colleagues (2007) multidimensional conceptualization of work-role performance. Results showed that in the workplace, WIL students develop similar proficient, adaptive, and proactive task and team performance regardless of the duration of work experience, except for team performance proficiency which significantly increases between four and twenty months of work experience. On the basis of the same length of work experience (4 months), the development of task performance (proficiency, adaptivity and proactivity) and of team performance (proficiency, adaptivity, and proactivity) was not different for co-op and non-co-op students.

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