Are work-integrated learning (WIL) students better equipped psychologically for work post-graduation than their non-work-integrated learning peers? Some initial findings from a UK university[2]

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Work-integrated learning (WIL) provides an opportunity to develop the skills, knowledge, competence, and experience, which increase employability and lead to more satisfying careers. Research indicates that WIL results in improved academic- and occupationally-related outcomes. However, there is a paucity of quantitative research examining the psychological impact of WIL. The study aimed to determine whether students who pursue WIL in the UK, differ significantly in terms of self-concept, self-efficacy, hope, study skills, motivation, and procrastination than students who have not participated in WIL. The methodology used a cross-sectional analysis of a large sample (n=716) of undergraduate students at the University of Huddersfield, UK. Results showed significant differences predominantly centred upon measures which pertain to students' confidence in setting and attaining goals. The increased hope and confidence in goal attainment suggest that gaining work experience perhaps enhances the ability to set and achieve goals once in the work force. *(Asia-Pacific Journal of Cooperative Education, 2013, 14(2), 117-125)*

Work integrated learning (WIL) is where students participate in educational activities in the workplace. They engage in work practices in an occupational setting, and the aim of this is to provide students with realistic experiences of workplace demands and practices. Work integrated learning activities occur in many forms and can range from internships, practicums, field/clinical placements and professional work placements through to field observations and shadowing. It has been suggested that WIL enhances skills, knowledge, competence, and experience that increase employability and lead to more satisfying and well paid careers (Bates, 2008; Green, 2011; Powell, Tindal, & Millwood, 2008). It is widely agreed that graduates with work experience are more likely to secure employment than graduates without (Pedagogy for Employability Group, 2004; Powell et al., 2008).

However, the value of WIL for the students is likely to transcend the improvements to students' likelihood of securing employment (Costley, 2007). Through WIL, students are afforded a rich, novel, active, contextualised learning experience in which they may develop and grow personally as well as professionally (Garnett, 2005, cited in Costley, 2007). Key aspects of this personal and professional growth are an acculturation to a community of practice and the opportunity to authentically contribute to a communal enterprise (Lave & Wenger, 1991). Other experts highlight the valuable nature of the 'cognitive apprenticeship'

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which students enter when commencing WIL (Brown, Collins, & Duguid, 1989), in which novice students are supported and guided by an expert towards competency. Personal skills and professional competencies which have been cited as outcomes of WIL include decision making, interpersonal and self-management skills, the application of theoretical knowledge in workplace environments, professional networking, professional behaviour, and leadership (Costley, 2007; Crebert, Bates, Bell, Patrick & Cragnolini, 2004; Dreuth & Deuth-Fewell, 2002; Lizzio & Wilson, 2004; Rickard, 2002).

It is also believed that the psychological attributes resulting from the experience of WIL are likely to surpass the development of novel competencies. Research by Allen and van der Velden (2007) suggests that WIL students are not only able to engage more readily with the world of work, but they also engage with themselves and the wider environment differently. They go on to suggest that the predominant effect of WIL is students' development of a more positive view of their chances of gaining employment rather than the development of specific competencies or an occupational advantage later on (Allen & van der Velden, 2007). Qualitative studies indicate that WIL influences students' view of themselves in terms of their self-esteem (Crebert et al., 2004) and self-efficacy (Cuzzi, Holden, Rutter, Rosenberg & Chernack, 1996). Consistent with this, Kolb's model of experiential learning suggests that students are likely to learn about themselves as well as for themselves in a work-based context and through the process of reflection (Kolb, 1984).

In addition, students who have taken part in WIL are reported to attain better degree outcomes (Powell et al., 2008) and are likely to have improved study skills and motivation (Fortune, Lee & Cavazos, 2005). However this is the matter of some debate (Allen & van der Velden, 2007; Hughes, Moore & Bailey, 1999). A further issue raised by researchers is whether WIL changes the student or whether a different kind of student elects to undertake WIL (Thomas, 2011). The psychological outcomes of WIL have recently been investigated in terms of learning outcomes and how these may relate to a successful transition to the labour market (Drysdale, Goyder, Nosko, Easton, Frank & Rowe, 2007; Drysdale, Goyder & Cardy, 2009; Drysdale & Chiupka, 2011; Drysdale, Dressler, Johansson, Zaitseva, Chiupka, Clifford, et al., 2011). More specifically, the Drysdale et al. (2011) international study identified a range of differences between students who had participated in WIL and those who had not. Interestingly, there were mixed findings with respect to the effects of WIL. Overall, it appeared that math and problem-solving self-concepts were stronger for WIL students; however, non-WIL students reported more confidence in their critical thinking. Further research on Canadian students found similar findings, with WIL students reporting higher levels of confidence, but little difference being found between WIL and non-WIL students in other areas (Drysdale & McBeath, 2012). These conflicting results suggest that this area needs to be further researched quantitatively to establish whether the psychological differences between learners post-WIL would be of value.

In this growing area of research interest, the objective of this study was to replicate the study by Drysdale et al., (2011) and Drysdale and McBeath (2012) to determine whether certain UK students who pursue WIL have significantly higher self-concept, self-efficacy, hope, and study skills/motivation and significantly lower procrastination compared to students who pursue a more traditional degree programme. This could establish whether and how WIL adds value to the UK university curricula.

METHODOLOGY

Sample

A self-selected sample of undergraduate students, from all academic schools at the University of Huddersfield, UK (n=716), was recruited via email and posters placed in and around the university buildings for participation in the study. All undergraduate students across the four years of study were invited to participate. Due to the range of WIL opportunities on offer, students were at different stages of WIL experiences at the point of data collection (towards the end of the academic year), with some having completed at least one or more WIL experiences, some being part way through, and some not having had any WIL experience at all. Participants were recorded as either WIL (n=228 [32%], 40 males, 188 females) or non-WIL students (n=488 [68%], 137 males, 351 females).

Design

A cross-sectional analysis of students was adopted to accommodate the varied WIL programmes available at the University of Huddersfield, enabling wide participation from all schools. Psychological measures, demographic, and educational data were collected via an online survey from participants at the end of their academic year. Although results unique to University of Huddersfield students are presented in this paper, the overarching project is part of a larger international comparative research study, designed and led by Drysdale et al. (2011) at the University of Waterloo (Canada).

Measures

Five instruments measuring the psychological attributes of interest (see below) were selected based on their psychometric properties and usability. These measures were then compiled into a single questionnaire. However, for this study, some of the items were slightly modified from the original questionnaire developed by Drysdale (Drysdale *et al.*, 2011). The main changes were an Anglicisation of the questionnaire, to ensure that terms were well understood by UK students. Additionally, some extra questions related to demographics and type of WIL experience were collected, again due to differences in course design and structure in the UK compared to the international partner Universities.

The self-report measures of psychological functioning are described below and included: *Trait Hope Scale; Procrastination Assessment Scale; Self-Description Questionnaire III; College Academic Self-Efficacy Scale; and Motivated Strategies for Learning Questionnaire.*

1. *Trait Hope Scale* (*THS*: Snyder et al., 1991).

This is an eight item scale which measures Hopes and Goals, with two subscales: *pathways* – developing the means to meet goals, and *agency* – the confidence to attain goals. Reliability scores of the total scale range from 0.74 to 0.84 for internal consistency and 0.73 to 0.85 for test-retest correlations. This scale has a minimum score of 8 and a maximum score of 64.

2. *Procrastination Assessment Scale – Students* (*PASS*: Solomon & Rothblum, 1984).

This is a twelve item scale which measures procrastination, the postponement of goals and tasks. For the total score, the test-retest correlation was 0.80. This scale has a minimum score of 12 and a maximum score of 60.

3. *Self-Description Questionnaire III* (*SDQ-III*: Marsh & O'Neill, 1984).

This is a 52 item scale which measures self-concept, a set of learned perceptions, beliefs and opinions that individuals hold about themselves. The following factor subscales were selected for this study: Math, Verbal, Academic, Problem Solving and General Esteem. Reliability coefficients for each of the subscales range from in the .80s and low .90s. The maximum score for any one domain on this scale is 80.

4. *College Academic Self-Efficacy Scale* (*CASES*: Owen & Froman, 1988).

This is a 33 item questionnaire which measures the degree of confidence participants believe they have in various academic settings. Alpha internal consistency in two different trials was reported to be 0.90 and 0.92. This scale has a minimum score of 33 and a maximum score of 165.

5. *Motivated Strategies for Learning Questionnaire (MSLQ*: Pintrich, Smith, Garcia & McKeachie, 1993).

The MSLQ assesses motivation and learning strategies by University and College students. It is designed to measure these constructs for a single course. This has been modified to measure a general approach for all academic subjects.

Demographic and educational data

In addition, the following self reported demographic and educational information was collected: Age; Gender; Subject area; Current year of degree; Current academic attainment.

Ethical Considerations

Ethical approval has been obtained from the School Research Ethics Panel, School of Human and Health Sciences, University of Huddersfield. The research was executed in accordance with the British Psychological Society (BPS) Code of Ethics and Conduct.

RESULTS

A third of the sample reported having undertaken at least one placement. There were no statistically significant differences between WIL and non-WIL students in current academic achievement, as can be seen in the Current Marks section displayed in Table 1, or age. For further demographic and educational information regarding the sample see Table 1.

Psychological profile of WIL versus non-WIL students

Independent samples T-tests revealed some significant psychological differences between WIL and non-WIL students (see Table 2). Students who pursue WIL at the University of Huddersfield had significantly higher hope trait, higher agency, and lower test anxiety than their non-WIL counterparts.

TABLE 1.   Demographic and educational details for the current sample

		All students (n=716)		WIL students (n=488)		Non-WIL students (n=228)	
Mean age *(SD)*		26.48 *(9.25)*		26.57 *(8.57)*		25.93 *(9.39)*	
		Frequency	% of sample	Frequency	% of sample	Frequency	% of sample
Gender	Male	177	25%	40	18%	137	28%
	Female	539	75%	188	82%	351	72%
School	Applied sciences	78	11%	22	10%	56	11%
	Art Design & Architecture	102	14%	16	7%	86	18%
	Business	104	15%	21	9%	83	17%
	Computing & Engineering	26	4%	1	0%	25	5%
	Education & Professional Development	93	13%	43	19%	50	10%
	Human & Health sciences	216	30%	108	47%	108	22%
	Music, Humanities & Media	95	13%	17	7%	78	16%
	Other	2	>1%	0	>1%	2	0%
Current marks	<40% / fail	4	1%	2	1%	2	0%
	40-49%/ 3rd class	43	6%	20	9%	23	5%
	50-59%/ 2:2 class	188	26%	52	23%	136	28%
	60-69%/ 2:1 class	364	51%	112	49%	252	52%
	70%+/ 1st class	117	16%	42	18%	75	15%

There were, however, no significant differences in overall measures of academic self efficacy, or procrastination. There were also no significant differences in any of the SDQ subscales (math self concept; verbal self concept; academic self concept; problem solving self concept; and general esteem) or any of the MSLQ subscales (intrinsic goal motivation; extrinsic goal motivation; cognitive rehearsal; cognitive elaboration; cognitive organisation; critical thinking; time and environment management; and effort regulation) with the exception of test anxiety. Table 2 documents the T-test outcomes and mean scores by WIL participation for all significant measures.

TABLE 2.   T-test outcomes and mean scores *(SD)* by WIL participation

	All	WIL	No WIL	
	Mean *(SD)*	Mean *(SD)*	Mean *(SD)*	*t*
Trait hope (THS)	51.87 *(6.74)*	52.50 *(6.77)*	51.56 *(6.70)*	1.70*
THS subscale: agency	26.03 *(3.87)*	26.53 *(3.88)*	25.78 *(3.84)*	2.36**
Procrastination (PASS)	30.66 *(8.48)*	30.28 *(7.79)*	30.86 *(8.81)*	-0.81
Academic self-efficacy (CASES)	118.76 *(18.30)*	119.22 *(17.41)*	118.53 *(18.76)*	0.41
MSLQ subscale: Test anxiety	17.87 *(5.26)*	18.48 *(5.43)*	17.57 *(5.16)*	1.89*

* Sig. (1-tailed) at 0.05 level; ** Sig. (1-tailed) at 0.01 level

DISCUSSION

Our study sought to determine whether students who pursue WIL have significantly higher self-concept, self-efficacy, hope, and study skills/motivation and significantly lower procrastination when compared to their peers pursuing non-WIL degrees, in order to establish whether and how WIL adds value to university curricula. The results indicate that there are some psychological differences between students who had undertaken WIL and those who had not. Those who had taken part in WIL appear to be more hopeful and more confident in attaining their goals than their non-WIL peers. It is apparent that of the five measures utilised, the only significant differences in psychological profile centred predominantly upon measures that pertained to students' confidence in goal setting and goal achievement. This is consistent with previous evidence suggesting that WIL enhances confidence (Cope, Cuthbertson & Stoddart, 2000; Crebert, et al., 2004; Ward, 2009).

Proudman (1992, pp. 20-22) described experiential education as an opportunity for the student to 'connect the head with the body, heart, spirit and soul' and it has been suggested that the overall learning that students are involved in will be determined by a combination of the senses, emotions, cognition and actions (Carver, 1996). A belief in one's ability to succeed and the ability to project this belief to the outside world is, according to Dacre Pool and Sewell's model of graduate employability (2007), an essential predictor of later success in securing employment. However, the current finding that students who participated in WIL were less anxious contradicts previous findings by Drysdale et al. (2011) and thus is an area necessitating further research. Notably, contrary to existing literature, there were no significant differences in measures relating to learning behaviours such as procrastination or learning strategies (Fortune et al., 2005), or in academic achievement (Powell et al., 2008). One possible explanation of this is the specificity of the experiential differences between WIL and non-WIL students. WIL students have an additional opportunity to experience and learn about themselves in a novel, work-based context (Garnett, 2005, cited in Costley, 2007), to challenge themselves (Engel, 1997) and to authentically contribute to an enterprise (Lave &

Wenger, 1991); however, the focus of that enterprise is beyond academia, and it follows that students' personal development has a correspondingly expansive external focus.

An important caveat to our findings, however, is the use of a cross-sectional design, as this precluded understanding whether the psychological differences reported are resulting from WIL or whether students who participate in WIL are different prior to commencing WIL, which we consider to be the main limitation of this study. For example, Drysdale et al., (2007) found that students selecting WIL tend to be more focused and goal oriented than their non-WIL peers. This requires further research on a global level. In addition, the use of a non-random self-selected sampling method may have allowed some bias to occur (Winship & Mare, 1992). A further limitation is the manner in which the data were reported - all data consisted of self-reports and thus subject to the established range of validity issues (Tourangeau & Yan, 2007). Future studies employing a pre-post design are indicated to further enhance a growing understanding of the potential psychological impact of WIL. In addition, longitudinal studies which document the occupational outcomes of WIL versus non-WIL students would be of value in establishing the specific interactions between psychological factors, WIL and employability.

IMPLICATIONS AND CONCLUSIONS

The finding that certain student attributes are more strongly affected by WIL than their behaviours, suggests that WIL has a much wider reaching influence than simply moulding better students, the effect is one of a more hopeful and confident adult, perhaps better equipped emotionally to face the challenges of the employment market and life beyond. Thus, the evidence suggesting that individuals benefit in a variety of other ways, particularly reduction in anxiety, increases in agency and confidence, adds further impetus for the use of WIL in education. However, the findings also suggest that the wholesale implementation of WIL in education needs to be considered with caution. It was disappointing, and somewhat contrary to existing literature (Green, 2011), that this study suggested that there does not appear to be any benefit to pure academic achievement in undergoing a WIL experience. The organisational costs of WIL programmes delivered need to be considered in line with the benefits. In the light of this study's findings, which show that students feel better, but do not change behaviours or improve grades, we would not be able to unequivocally advocate that all programmes incorporate a WIL component. However, further work is clearly required in this area. For example, for this study, it may have been the nature of the cross-sectional method that any changes in final year students' academic achievement were not identified. A future longitudinal study would allow comparison of grades before and after WIL experiences. In addition, any effects of multiple placements have not yet been explored. These two aspects need to be researched in the future, before unequivocal support to WIL in the curriculum can be provided.

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