

**Does work integrated learning better psychologically prepare
British students for life and work?**

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Employability, psychological factors, work integrated learning

Abstract

Background

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 better occupational outcomes and improved academic and occupationally related skills. However, there is a paucity of quantitative research examining the psychological impact of work integrated learning.

Aims and Objectives

The objective of the study was to determine whether students who pursue WIL have significantly higher self-concept, self-efficacy, hope, study skills, motivation and lower procrastination than students who have not participated in WIL.

Methodology

A cross sectional analysis of a large sample (n=716) of undergraduate students at the University of Huddersfield, across years of study and academic schools. Demographic information plus information regarding educational attainment, work related activity and subject area was collected. The following psychological measures were administered: the Trait Hope Scale, the Procrastination Assessment Scale – Students, the Self-Description Questionnaire III (Marsh & O’Neill, 1984), the College Academic Self-Efficacy Scale and the Motivated Strategies for Learning Questionnaire.

Results

Significant differences in psychological profile centred predominantly upon measures which pertain to students’ confidence in themselves and their abilities (the Trait Hope Scale, THS subscale: agency and MSLQ subscale: test anxiety). **Conclusions.** Our findings suggest that students’ emotions and cognitions are more strongly affected by WIL than are their behaviours. The

increased hope and confidence suggest that WIL students are, in some ways, better equipped for life and work.

Background

Work integrated learning provides an authentic experience of work or professional practices and typically occurs in a workplace, community, studio or practice setting. These experiences provide students with opportunities to develop skills, knowledge and competence (Bates, 2008; Boud & Falichikov, 2006; Collin & Tynjala, 2003; Crebert *et al.*, 2004; Rhodes & Shiel, 2007) which may in turn lead to increased employability and more satisfying careers (Bates, 2008). The occupational and academic impacts of work integrated learning such as better careers, salaries and degree outcomes are becoming established (Powell *et al.*, 2008). In addition, a range of personal skills and professional competencies have been cited as outcomes of work integrated learning, such as decision making, interpersonal and self management skills (Costley, 2007; Crebert *et al.*, 2004), the application of theoretical knowledge in workplace environments and professional networking, behaviour, and leadership (Costley, 2007; Crebert *et al.*, 2004, Dreuth & Deuth-Fewell, 2002; Lizzio & Wilson, 2004; Rickard, 2002).

However, the psychological outcomes of work integrated learning are not yet fully established or understood and have been contested by some (Allen & van der Velden, 2007). Furthermore, the impact of work integrated learning on psychological variables such as hope, self-efficacy and self-concept have, to the authors' knowledge, yet to be researched quantitatively. In response to this, the objective of our study was to determine whether 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.

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 for participation in the study. Participants were recorded as either placement (n=228 [32%], 40 males, 188 females) or non-placement students (n=488 (68%), 137 males, 351 females).

Design

A cross-sectional analysis of students was adopted to accommodate the varied placement programmes available at the University of Huddersfield enabling wide participation from all schools. Psychological measures, demographic and educational data were collected from participants at the end of their academic year. Although results unique to University of Huddersfield students are presented in this paper, the project itself is part of a much larger international comparative research study, designed and led by Drysdale *et al.* at the University of Waterloo (Canada) examining psychological outcomes on a global level (see Drydale *et al.*, 2011).

Measures

Participants completed a battery of valid and reliable measures of psychological functioning; all measures were self-report and are described below;

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 pathways to meet goals and *agency* – the confidence to attain goals. Reliability scores of the total scale range from .74 to .84 for internal consistency and from .73 to .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 .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 have been 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. This scale has a minimum score of 52 and a maximum score of 416
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 .90 and .92. This scale has a minimum score of 33 and a maximum score of 165.
5. *Motivated Strategies for Learning Questionnaire (MSLQ: Pintrich et al., 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. This scale has a minimum score of 44 and a maximum score of 308

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 University of Huddersfield School of Health and Human Sciences Research Ethics Panel. The research was executed in accordance with BPS Code of Ethics and Conduct.

Results

Demographic and educational information

A third of the sample reported having undertaken at least one placement. There were no significant differences between placement and non-placement students in current academic achievement ($\chi^2(4) = 7.47, p > .05$) or age ($t(714) = .87, p > .05$). For further demographic and educational information regarding the sample see Table 1.

Table 1: Demographic and educational details for the current sample

		All students (n=716)		Placement students (n=488)		Non- placement students (n=228)	
Mean age (<i>SD</i>)		26.48 (9.25)		26.57 (8.57)		25.93 (9.39)	
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%

Psychological profile of WIL versus non-WIL students

Independent samples T-tests revealed some significant psychological differences between WIL and non-WIL students. Students who pursue placements at the University of Huddersfield had significantly higher trait hope ($t(661) = 1.70, p < .05$), higher agency ($t(661) = 2.36, p < .01$) and lower test anxiety ($t(531) = 1.89, p < .05$) than their non-placement counterparts. However there were no significant differences in overall measures of self concept, academic self efficacy, motivation and study skills or procrastination. Table 2 documents the T-test outcomes and mean scores by placement participation for all measures plus the subscales reported as significant only.

Table 2: T-test outcomes and mean scores (*SD*) by placement participation

	All	Placement	Non-placement	<i>t</i>
	Mean <i>SD</i>	Mean <i>SD</i>	Mean <i>SD</i>	
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**
Self-concept (SDQ)	289.19 43.74	288.09 42.58	289.75 44.36	-0.42
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
Motivated strategies for learning (MSLQ)	220.08 24.70	221.78 24.06	219.23 25.00	1.12
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

The results indicate that there are some psychological differences between students who had undertaken placement(s) versus those who have not. Those who have taken part in placement(s) appear to be more hopeful, more confident in attaining their goals and less anxious about tests than their non-placement peers.

It is apparent that of the five measures utilised, the significant differences in psychological profile centred predominantly upon measures which pertain to students' confidence in themselves and their abilities. This is consistent with previous evidence to suggest that an improvement in students' confidence is a key outcome of work integrated learning (Cope, 2000; Ward, 2009). Proudman (1992, p20-22) 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, cognitions and actions (Carver, 1996).

Notably, contrary to existing literature (Powell *et al.*, 2008), there were no significant differences in measures relating to learning behaviours such as procrastination or learning strategies, or in academic achievement. One possible explanation of this is the specificity of the experiential differences between placement and non-placements. Placement students have an additional opportunity to experience and learn about themselves in a novel context, however in terms of the experience of academia WIL and non-WIL students are on a level playing field.

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 placements etc, which we consider the main limitation of this study. Future studies employing a pre-post design are indicated

to further enhance our growing understanding of the potential psychological impact of work integrated learning. In addition longitudinal studies which document the occupational outcomes of placement versus non placement students would be of value in establishing the specific interactions between psychological factors, placements and employability.

Conclusion

In sum, our findings suggest that work integrated learning psychologically prepares British students for life and work via increased confidence in themselves and their abilities. Our finding that students' emotions and cognitions are more strongly affected by placements than their behaviours, suggests that work integrated learning has a much more wide reaching influence than simply moulding better students, the effect is one of a more hopeful and confident adult, better equipped emotionally to face the challenges of the employment market and life beyond. Indeed, models of graduate employability suggest that self-confidence and self esteem are key facilitators of later employment, and this belief in one's ability to succeed and the ability to project this belief to the outside world is, according to Pool & Sewell (2007), essential.

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Lisa Ward
Fiona Purdie

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Today's presentation

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- **Background to the study**
 - Joining the international work integrated learning project
 - Placements at the University of Huddersfield
 - What we know from the literature about the psychological effect of WIL
- **Methodology**
 - Design
 - Measures
 - Sample
- **Results**
 - Does WIL influence students psychologically and in what way?
- **Implications**
 - For the academic community
 - For the University of Huddersfield
 - For HEIs nationally and internationally

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An international study...

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- Originated at the University of Waterloo (Canada)
- Definition: Co-operative Education, Placements, internships
- The largest Co-operative Education Provider in Canada with 15,000 students.
- WatCACE
- Found out about research at WACE

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An international study...

University of HUDDERSFIELD

Project Partners:

- Assoc Prof Maureen Drysdale, University of Waterloo, Canada
- Dr Kristina Johansen, University West, Sweden,
- Dr Sheri Dressler, University of Central Florida, USA
- Elena Zaitseva, Liverpool John Moores, UK

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Placements at the University of Huddersfield

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- 25,000 students
- 2011 fee 'free' placements, from 2012 - £500
- Sandwich Degrees
- Professional Placements
- Big Society Volunteering
- Simulation, Canalside Studios, Penfield

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The Background

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Graduate employment challenges:

- Record numbers of graduates in the UK (Chevalier & Lindsey, 2009)
- Increasing difficulty in securing employment post-university (Browne, 2010)
- Higher expectations as a result of tuition fee reforms (Browne, 2010)

Result: A challenge to design programs better equipped to enable students to acquire the skills, knowledge & experience that increase employability & lead to more satisfying careers.

A possible solution? WIL

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The documented benefits of Work Integrated Learning

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Occupational/academic benefits (Powell *et al.*, 2008; Bates, 2008):

- Better careers
- Better salaries
- Better degree outcomes

Specific competencies:
(Costley, 2007; Crebert *et al.*, 2002, Dreuth & Deuth-Fewell, 2002; Lizzio & Wilson, 2004; Rickard, 2002)

- Decision making
- Interpersonal and self-management skills
- The application of theoretical knowledge in workplace environments
- Professional networking and behaviour
- Leadership

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The documented benefits of Work Integrated Learning

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Psychological factors:

- A more positive view of chance of gaining employment over specific competencies or occupational advantage (Allen & van der Velden, 2007).
- Self esteem (Crebert *et al.*, 2002)
- Self efficacy (Cuzzi *et al.*, 1996).

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Research question

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Do students who pursue WIL have significantly higher self-concept, self-efficacy, hope, and motivation for study, and significantly lower procrastination, compared to students who pursue a more traditional degree programme?

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Questions

Sample

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- Self selected sample of undergraduate students, from all academic schools at the University of Huddersfield, UK (n=621)
- Placement: 33.3%/ non placement: 66.7%
- Males: 25% / Females: 75% (significantly more females undertake placements)
- Mean age (yrs): 26.5

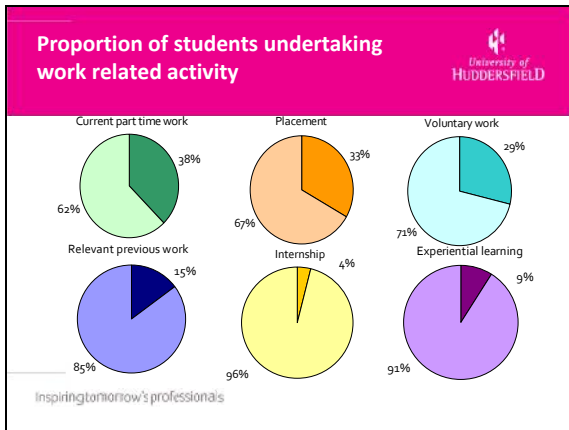
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Percentage of students per school, by placement participation

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School	Placement Participation	Percentage
Applied sciences	placement	10.8%
Applied sciences	no placement	13.4%
Art, Design & Architecture	placement	3.6%
Art, Design & Architecture	no placement	13.9%
Business	placement	14.4%
Business	no placement	3.6%
Computing & engineering	placement	13.1%
Computing & engineering	no placement	30.9%
Education & professional development	placement	13.1%
Education & professional development	no placement	13.1%
Human & health sciences	placement	13.1%
Human & health sciences	no placement	13.1%
Music humanities & media	placement	13.1%
Music humanities & media	no placement	13.1%

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Design

- Cross-sectional analysis
- Measures, demographic and educational data were collected from participants at the end of their academic year.
- Chosen to accommodate the varied placement programmes available at the University of Huddersfield

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Measures

Trait Hope Scale (THS): Snyder *et al.*, 1991, which measures hopes and goals

Procrastination Assessment Scale – Students (PASS): Solomon & Rothblum, 1984, which measures the postponement of goals and tasks.

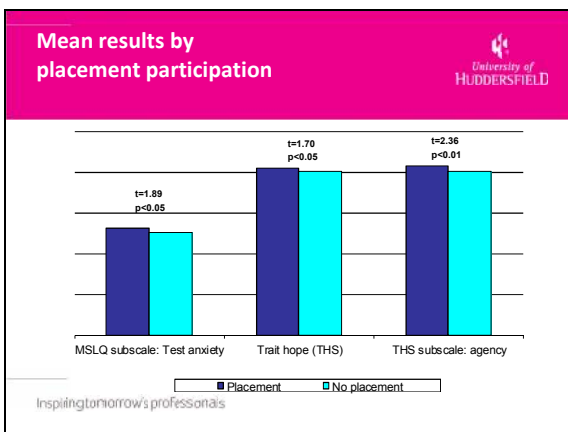
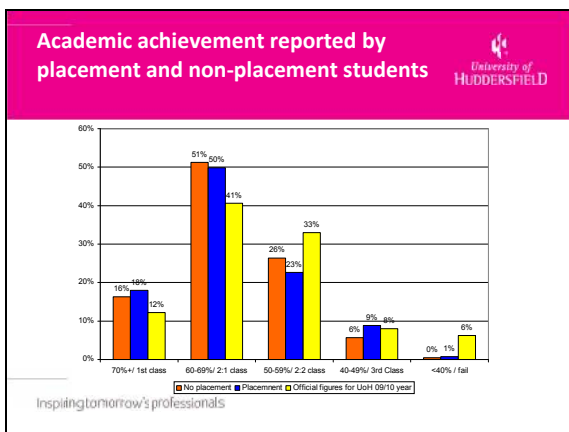
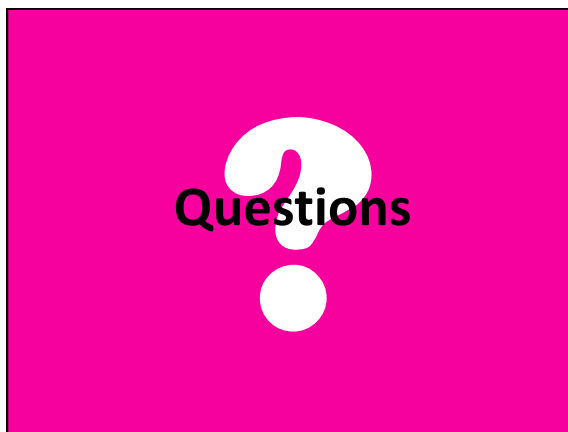
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College Academic Self-Efficacy Scale (CASES): Owen & Froman, 1988, which measures the degree of competence participants believe they have in various academic settings.

Motivated Strategies for Learning Questionnaire (MSLQ): Pintrich *et al.*, 1993, which assesses motivation and learning strategies by University students.

A range of demographic, educational and occupational information was also collected

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Theoretical implications 

- Our findings suggest that cognitions & emotions are most affected by WIL
- Findings are consistent with previous evidence to suggest that an improvement in confidence is a key outcome of WIL (Cope, 2000; Ward, 2009).
- Lack of significant differences in measures relating to learning behaviours, e.g. procrastination, learning strategies, or in academic achievement were found, contrary to existing literature (Powell *et al.*, 2008).


Why might this be?
The specificity of the experiential differences between placement and non-placement students.

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Practical implications
For the University of Huddersfield and beyond 

- Models of graduate employability suggest that self-confidence and self esteem are key facilitators of later employment (Dacre Pool & Sewell 2007).
- Changes in HE landscape with higher fees from 2012
 - Will two year degrees become the norm?
 - How can work related elements be better integrated into courses?
 - Will student stake on even more part-time jobs to pay for education?
 - Will employers still expect work experience?

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Limitations and directions for future research 


- Main limitation: the use of a cross-sectional design.
- Precluded understanding whether differences are a result of WIL or whether students who participate in WIL are different prior to commencing placement.
- Future studies employing a pre-post design are indicated
- Longitudinal studies documenting occupational outcomes of WIL vs non WIL students

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Next Steps 

- Secured funding for qualitative research. 'The more the merrier?': a qualitative examination of the contribution of multiple work integrated learning experiences to student learning, personal development and preparation for employment.'
- Looking for ongoing collaborations with our research partners.

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Conclusion 

Our findings suggest that work integrated learning has a much more wide reaching influence than simply moulding better students.

It's effect is one of a more hopeful and confident adult, better equipped emotionally to face the challenges of the employment market and life beyond.

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Up Coming Presentations 

- Impact Upon Teaching and Learning – **University of Huddersfield, Teaching and Learning Committee, September.**
- 'In the right placement at the right time? An investigation of the psychological outcomes of placement learning' **International Conference on Education and Educational Psychology (ICEEPSY 2011), Istanbul, October.**
- 'Learning beyond the lecture room: Do placements help students learn about themselves and for themselves?' **Psychology of Education Conference, Preston, November.**

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Thank you for your time
and attention

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