

## Investigating Work-Integrated Learning (WIL) Outcomes and Motivation to Learn

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**Abstract:** The elements of Work-Integrated Learning (WIL) such as work-based learning, integrated learning, and experiential learning have been widely integrated in the entrepreneurial learning and education. Nevertheless, there has been a lack of sufficient research concerning the outputs of WIL programs (e.g., undergraduate attributes, psychological attributes and learning outcome) for nurturing graduate entrepreneurship learning. The survey was conducted among 383 business degree undergraduates who have undergone various WIL programs. The results show that motivation to learn is affected by computing skills and mediated by self-esteem. Interestingly, entrepreneurial skills only influence motivation to learn through the self-esteem. The finding provides a valuable insight into the government, higher education providers and practitioners in developing strategies pertaining to the WIL environment for promoting graduate with entrepreneurship attributes.

**Key words:** Work-integrated learning, motivation to learn, self-esteem, entrepreneurial skills, computing skills, outcome

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### INTRODUCTION

The empowerment of entrepreneurship education is one of government of Malaysia's strategies to address the problems of unemployment among graduates. In fact, the development of an entrepreneurial mindset through entrepreneurial education plays a vital role in transforming Malaysia from a developing country to a higher income nation (MEM, 2013). The focal point of entrepreneurship education is the student's attributes and skills which can be developed through learning. The entrepreneurial learning process comprises of learning about entrepreneurship, learning through entrepreneurial pedagogy and learning for entrepreneurship (Gibb, 1999). Politis (2005) argues that "entrepreneurial learning is an experiential process in which knowledge evolves through experiencing, reflecting, thinking and acting. The elements of Work-Integrated Learning (WIL) such as work-based learning, integrated learning and experiential learning have also been integrated in entrepreneurial learning (Gordon *et al.*, 2012).

As a result, there are various conceptual models that have been proposed by academicians which linked entrepreneurial learning as the outcome of WIL. WIL can be defined as a holistic curricular approach which encompasses both theoretical and practical aspects of learning (Patrick *et al.*, 2008). It is commonly known as experiential learning, work-based learning, interactive learning approaches and cooperative education. WIL programs that are normally associated with

entrepreneurial learning are internship, community development, on-site visit, feasibility studies and small business consulting. Therefore the purpose of the current study is to validate the relationship between the outcomes of WIL's programs such as entrepreneurial and computing skills, self-esteem as the moderator and motivation to learn to address the lack of research with regard to WIL outcomes.

**Motivation to learn:** Motivation to learn is a construct synonymous with the concept of autonomous motivation and self-regulation orientation which can be regarded as important elements in entrepreneurship learning (Gelderens, 2010). A student ingrained with high motivation to learn is driven by a strong autonomous motivation which can escalate their entrepreneurial motivation, satisfaction, self-reliance and self-awareness. Entrepreneurial elements of WIL instil in students the likelihood of:

- Learning to appreciate entrepreneurial behaviour (e.g., what entrepreneur's do and why such behaviours are needed)
- Behave in an entrepreneurial manner (e.g., to take responsibility for learning, career and life)
- Become an entrepreneur (e.g., how to initiate and manage undertakings) (Gibb, 1999)

**Entrepreneurial skills:** Entrepreneurial skills are related to competence as the processes involve exploring

new opportunity and to be cognizant of risks creative and innovative in business or work and developing and implementing business plans to enable such opportunities to be realised (Jackson and Chapman, 2012). Entrepreneurial skills equip graduates with the finesse to face the ever changing work environment as such skills result in higher productivity and alertness to new opportunity.

**Computing skills:** Computing skills involve the competencies of knowledge and understanding of information and communication technology as well as the ability to use computer programs and related application which are associated with computers. Computing skills has become a necessity for graduating students in order to survive in the current research environment as businesses become more reliant on the software and the internet to conduct transaction.

**Self-esteem:** Self-esteem can be referred as the extent to which the individual believed him/herself to be capable, significant, successful and worthy. Self-esteem is a critical element as it affords the individual with the confidence to embark on new venture creation. It has been empirically proven that highly entrepreneurial individuals have high self-esteem compared to others (Robinson *et al.*, 1991). Exposure obtained during WIL generated entrepreneurial learning among university students this has influenced their self-esteem and entrepreneurial orientation (Wu and Wu, 2008).

**Research framework:** Figure 1 demonstrated the research framework of the study. Both variables included in the framework have been found as the outcomes of WIL programs based on past studies.

Nevertheless, there has been a lack of research concerning the relationship between undergraduate attributes (e.g., entrepreneurial and computing skills); psychological attributes (e.g., self-esteem) and learning outcome (e.g., autonomous motivation or motivation to learn) (Drysdale *et al.*, 2016) which can restrict the knowledge regarding to the role of WIL in entrepreneurial learning. This research also utilizes Self-Determination Theory (SDT) to explain the relationship between the outputs of WIL programs, since, entrepreneurship learning can be regarded as the consequence obtained from autonomous action (Gelderen, 2010). STD views individual as innately motivated to learn and to develop as long as the social environment provides for the person's basic psychological needs. From STD's perspective, WIL may provide undergraduates with the autonomy, competence and relatedness which can enhance their desire to learn and develop their competence. Based on Fig. 1, it is hypothesized that:

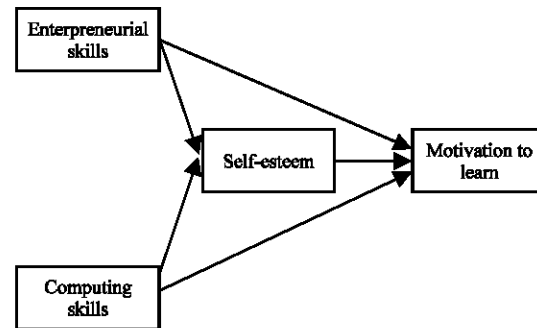


Fig. 1: Research framework

- H<sub>1</sub>: entrepreneurial skills positively affect self-esteem
- H<sub>2</sub>: entrepreneurial skills positively affect motivation to learn
- H<sub>3</sub>: computing skills positively affect self-esteem
- H<sub>4</sub>: computing skills positively affect motivation to learn
- H<sub>5</sub>: self-esteem positively affects motivation to learn
- H<sub>6</sub>: self-esteem mediates the relationship between entrepreneurial skills and motivation to learn
- H<sub>7</sub>: self-esteem mediates the relationship between computing skills and motivation to learn

## MATERIALS AND METHODS

Business degree students who have undergone various WIL programs including:

- Internship/placement/practicum
- Industry attachment
- Research assistantship (paid/unpaid)
- Teaching assistantship
- Job shadowing
- Volunteering (community service)
- Study abroad has been selected as respondents for this study

They are students from five Malaysian public universities. The questionnaire contained four constructs including; motivation to learn (seven items) adopted from Tuan *et al.* (2005) and Gibb (1999); self-esteem (five items) adopted from Rosenberg (1965)'s; self-esteem inventory; entrepreneurial skills (five items) adopted from Abdul Hamid *et al.* and computing skills (six items) adopted from Abdul Hamid *et al.* The constructs were measured based on 5-point Likert's scale that ranges from 1-5; where:

- Strongly disagree
- Disagree
- Neutral
- Agree and
- Strongly agree

The study utilizes a purposive sampling method as it targets a specific group of respondents. The study also applies self-administered survey questionnaire in collecting the data. The 500 questionnaires were distributed to students from five Malaysian public universities with 383 surveys returned completed indicating 76.7% rate of return (Haier Jr. *et al.*, 2016).

## RESULTS AND DISCUSSION

**Data analysis:** The usable questionnaires analysed in this study met the rule of thumb where the minimum number of respondents is 10-1 ratio of latent variables to be tested (Chin, 1998; Hair *et al.*, 2011). The relationships between the variables were analysed using Smart PLS 2.0 Software by conducting Partial Least Square (PLS) analysis. The reporting of the Partial Least Square-Structural Equation Modelling (PLS-SEM) analysis was accomplished by adhering to the guidelines by Hair Jr. *et al.* (2016). PLS-SEM analysed the research model in a two-step process. First step is the measurement model and second step of the analysis is the structural model (Chin, 2010). In assessing the measurement model, the validity and reliability of the relationships between the Latent Variables (LV) and any associated observable variables was assessed. In assessing the structural model the analysis was conducted for the relationships between the theoretical constructs (Table 1).

**Findings:** As Haier Jr. *et al.* (2016) illustrated in Table 1, 89 respondents were males (23.2%) and 294 were females (76.8%). A total of 370 (96.6%) of respondents has undergone internship/placement/practicum; 26 (6.8%) have undergone industry attachment; 8 (2.1%) have undergone research assistantship (paid/unpaid); 12 (3.15%) have undergone teaching assistantship; 4 (1%) have undergone job shadowing; 61 (15.9%) have undergone volunteering (community service) and 7 (1.8%) have undergone study abroad programs.

Based on Table 2 all the items have satisfactory indicator reliability (all of loading of each item at least 0.5) except for CS 3 item for computing skills which 0.5 (the item was excluded in our analysis). The CR values for all constructs are more than 0.7650 while AVE values for all constructs were higher than 0.5. Thus, based on Table 2, all the items used for the study have satisfactory indicator reliability according to Hair Jr. *et al.* (2016).

Based on Table 3, all the off-diagonal elements are lower than the square roots of the AVE (bolded on the diagonal). Hence, the results confirmed that the Fornell and Larcker's criterion has been met where each construct are distinct from one another (Chin, 1998). The validity of the structural model is assessed using the coefficient of determination ( $R^2$ ) and path coefficients. In addition, this study also assesses the mediating

Table 1: Results of respondent's profile

Descriptions	Frequencies	Percentage
<b>Gender</b>		
Male	89	23.2
Female	294	76.8
<b>Training programmes involved</b>		
Internship/placement/practicum	370	96.6
Industry attachment	26	6.8
Research assistantship (Paid/unpaid)	8	2.1
Teaching assistantship	12	3.1
Job shadowing	4	1.0
Volunteering (Community service)	61	15.9
Study abroad	7	1.8

Table 2: Results of measurement model

Measures	Items	Factors loading	AVE	CR
Motivation for learning	MOV 1	0.6806	0.5640	0.9000
	MOV 2	0.7302		
	MOV 3	0.8030		
	MOV 4	0.7564		
	MOV 5	0.7404		
	MOV 6	0.7583		
	MOV 7	0.7836		
Self-esteem	EST 1	0.8207	0.6700	0.9100
	EST 2	0.8434		
	EST 3	0.8374		
	EST 4	0.8017		
	EST 5	0.7869		
Computing skills	CS 1	0.7920	0.5300	0.8490
	CS 2	0.7027		
	CS 3	-		
	CS 4	0.7036		
	CS 5	0.7183		
	CS 6	0.7204		
Entrepreneurial skills	ES 1	0.8393	0.7650	0.7650
	ES 2	0.8905		
	ES 3	0.9015		
	ES 4	0.8943		
	ES 5	0.8443		

CR = Composite Reliability; AVE = Average Variance Extracted

Table 3: Results of discriminant validity

Variables	CS	ES	EST	MOV
CS	<b>0.7301</b>			
ES	0.3160	<b>0.8746</b>		
EST	0.2637	0.2457	<b>0.8185</b>	
MOV	0.3878	0.2320	0.4570	<b>0.7510</b>

Average Variances Extracted (AVEs) are shown (in bold) on diagonal

relationships that were proposed in the research framework. The coefficient of determination,  $R^2$  indicates the amount of variance in the dependent variables that is explained by the independent variables. The  $R^2$ -value of the study is 0.288 which indicates that the three latent variables (ES, CS and EST) moderately explained 28.8% of the variance in MOV. Based on Table 4 ES-EST ( $\beta = 0.1800$ ,  $p < 0.01$ ) and CS-EST ( $\beta = 0.2067$ ,  $p < 0.01$ ) were positively related to EST. Hence,  $H_1$  and  $H_3$  are supported. ES-MOV (0.0550,  $p < 0.01$ ) was negatively related to MOV, hence,  $H_2$  is not supported. In contrast, CS-MOV (0.2726,  $p < 0.01$ ) and EST-MOV (0.3717,  $p < 0.01$ ) were positively related to MOV. Hence,  $H_2$  and  $H_5$  are supported.

The bootstrapping analysis in Table 4 demonstrated that the indirect effect of  $\beta = 0.0813$  was significant with a t value of 3.2500 (ES-EST-MOV) and indirect effect of  $\beta = 0.0955$  was significant with a t-value of 3.1800

Table 4: Result of structural model (path coefficient)

Hypothesis	SE	t-values	Decision
H <sub>1</sub>	0.0535	3.3750	Supported
H <sub>2</sub>	0.0502	1.0872	Not supported
H <sub>3</sub>	0.0540	3.8255	Supported
H <sub>4</sub>	0.0489	5.5756	Supported
H <sub>5</sub>	0.0615	6.0424	Supported
H <sub>6</sub>	0.0250	3.2500	Supported
H <sub>7</sub>	0.0300	3.1800	Supported

\*p<0.05, \*\*p<0.01

(CS→EST→MOV). In addition as indicated by Preacher and Hayes (2008), the indirect effect of 0.0813, 95% boot Confidence Interval (CI): (0.0300, 0.1300) (ES→EST→MOV) and the indirect effect of 0.0955, 95% boot Confidence Interval (CI): (0.0400, 0.1500) (CS→EST→MOV) do not straddle a 0 in-between indicating there is mediation. Thus, H<sub>6</sub> and H<sub>7</sub> are supported.

### CONCLUSION

Based on the analysis conducted in the structural modelling, the result of the findings suggested that motivation to learn is affected by computing skills and the relationship is mediated by self-esteem. Interestingly, entrepreneurial skills only influence motivation to learn through the self-esteem. The finding provides a valuable insight for the parties, specifically the government, higher education providers and practitioners; involved in the formulation and design of higher education curriculum. Matters related to WIL programs can no longer be regarded as merely fulfilling the student's credit hours. WIL programs must be strategically and holistically designed as the student's participation in WIL is relevant in enhancing their soft skills and to be more precise to nurture their entrepreneurial behavior. This study also contributes to WIL's study by supporting the SDT views that autonomy (e.g., motivation to learn); competence (e.g., entrepreneurial and computing skills) and relatedness (e.g., self-esteem) are the outcomes of WIL programs.

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