

# Can A University Address The Graduate Skills Gap? An Analysis of a Business Schools' Preparation of Graduates for Employment in Malaysia

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## Article Info

Volume 82

Page Number: 1078 - 1087

Publication Issue:

January-February 2020

## Abstract

Today's graduate faces a disruptive labour market which requires a diverse skills set and an increasing importance placed on softer skills. The changing nature of employment places pressure on educational establishments to ensure graduates have appropriate skills to secure employment. The bridging of the graduate skills gap is a notion which is preoccupying employers and tertiary education providers and has resulted in a number of initiatives being implemented which disrupts the traditional academic curriculum, encourages more engagement with business and develops skills which allow graduates to compete against man and machine. Using an online google survey with 282 undergraduate students from a university Business School in Malaysia, the research examines student perspectives of their preparedness for employment and of the employability skills they are developing at the university. The research revealed that respondents felt their university experience prepared them for employment and that they developed their employability skills. The results consolidate existing research and takes research forward into understanding the importance of soft skills to graduate employability and bridging of the graduate skills gap.

## Article History

Article Received: 14 March 2019

Revised: 27 May 2019

Accepted: 16 October 2019

Publication: 06 January 2020

**Keywords:** Graduate skills gap; Employment; Soft employment skills; Labour market..

## Introduction

Unemployment and the consequences of a disruptive labour market will arguably impact current employees and future graduates, with employability seen as a central tenant to addressing graduate unemployment (Winterton and Haworth, 2013). It has been claimed that those lacking skills and an education may be particularly vulnerable (Marr, 2016; Schwab, 2016), graduates too may encounter difficulties securing employment as they are part of a group of individuals (aged 15-24) who are three times more likely to be unemployed than adults (Ibrahim and Mahyuddin, 2017). In Malaysia, of the 290,000 students who graduate every year from higher education providers, 1 in 5 are

unemployed (Leo, 2019) but who is to blame for this situation? According to recent discussion there are a number of inter-related factors which contribute to youth unemployment, including graduates to a varying degree. A lack of appropriate and relevant skills, which include digital literacy, problem solving and communication (including proficiency in English), salary expectations and the rise in the minimal wage (Farhan, 2019) have been argued to collectively impact on youth and graduate unemployment. The majority of these reasons can arguably be associated to education providers with commentators pointing to a "mismatch between the training provided at universities and skill sets required by employers...current university

curriculum does not reflect the current skill requirements” (Shanmugam, 2017, n/p).

The preparation of graduates for employment and the perception of that preparation by employers is often referred to as ‘graduate work readiness, (GWR)’ and the ‘graduate skills gap’. Collectively these terms have been used to evaluate the interaction of graduates with the labour market, yet with little agreed definition beyond emphasis on both supply-side and individual characteristics (Winterton and Turner, 2019). There has been much discussion around the best way forward to furnish graduates with the necessary employment skills set and what skills should be contained within the skills set (Andrews and Higson, 2008; Centre for the New Economy and Society, 2018; Yunus and Li, 2005), with responsibility residing with the government, employers and the education providers, often referred to as the ‘Triple Helix’. This research attempts to examine graduate perceptions of their preparedness for employment and the skills they are developing at university, which consolidates existing literature in the broad field of human capital and takes research forward with regards a university’s ability to engender employability skills, particularly soft skills among graduates.

### Literature review

Much has been discussed about the potential impact of the 4<sup>th</sup> industrial revolution on the lives of global citizens (Anon, 2019; Beraza, 2018; Elliott, 2017; Van Hooijdonk, 2017; Morgan, 2016; Schwab, 2016). This discussion has included the impact of technological developments such as Artificial Intelligence (AI) and machine learning on the labour market and the extent to which they will replace the human workforce (Manyika *et al.*, 2017). There has been no agreement on who will be impacted the most and which sectors would be adversely affected, however what is clear is that this industrial revolution will displace human capital, creating new jobs and unemployment. This raises two key questions, will this impact graduates or more likely the low skilled and lower educated (Marr, 2016; Schwab, 2016) and what can governments, employers and education providers do to future proof a graduates’ skills set to avoid further

unemployment among a Malaysian youth already three times more likely to be unemployed than the global average (Farhan, 2019).

As the skills required from graduates by employers move away from being predominantly technical toward a focus on emotional and social abilities (Kahn, 2017; National Center for O\*NET Development for USDOL, 2017), educational providers have to adapt and make changes to how task and skills are developed and measured through appropriate assessments (Autor, 2014, 2013; Lodder, 2016; Yunus and Li, 2005; Yusof and Jamaluddin, 2015). This will enable graduates to have a skills set which will permit them to compete in the labour market (Knight and Yorke, 2002). Disrupting the curriculum was previously a means of differentiating institutions in the market and increasing student enrolment, however it is rapidly becoming a necessity to meet the demands of government, employers and students. Many education providers have now successfully embedded curriculum flexibility and cross-disciplinary learning (Teng *et al.*, 2019), teaching subjects such as design thinking, the user experience (UX), creative thinking and problem solving, data and digital management and emotional intelligence (Gosh, 2017; Stigliani, 2017; Jameson *et al.*, 2016; Knemeyer, 2015). The infusion of these disciplines into curriculums already using work-based learning (WBL), internships and real-world scenarios (Divine *et al.*, 2015; Galloway, Marks and Chillias, 2014; King and Newman, 2009; Renganathan, Karim and Li, 2012; Turner, Kwong, Beard and Mulholland, 2018; Vos and Brennan, 2010) reflect the changing needs of the labour market and keep the graduates’ employability skills set relevant to the labour market.

Graduates are now required to have a softer dimension to their employability skills set, however it is perhaps unhelpful to categorise this skills set into hard and soft skills particularly given the lack of an agreed definition on what constitutes soft skills and the degree of overlap between commentators discussion of such skills (Beard, Schwieger and Surendran, 2007; Bennett, Dunne and Carre, 1999; Draycott and

Rae, 2011; Fiala, Gertler and Carney, 2014; Gallivan, Truex and Kvasny, 2004; Jackling and Natoli, 2015; Jameson *et al.*, 2016; Jones and Iredale, 2010; Turner and Mulholland, 2017; Vincent, 2017). The Goldsmiths soft skills inventory of 15 capabilities drawn from a study of previous models and frameworks, specifically the work of Beard, Schwieger and Surendran, (2007), Bennett, Dunne and Carre (1999) and Gallivan, Truex and Kvasny, (2004) does suggest a focus on soft skills however the title is perhaps misleading as the inventory refers to both hard and soft skills and is a reflection of the interdisciplinary and inter-related skills set required by employers. This makes the use of the Goldsmiths soft skills inventory in this research appropriate despite it being originally developed to investigate the relationship between academic achievement, skills, and employment following graduation. The inventory includes a set of key skills which reflect the research of the Centre for the New Economy and Society (2018) and the future of work, and are as follows: self-management, communicational, interpersonal, team-working skills, the ability to work under pressure, imagination/creativity, critical thinking, willingness to learn, attention to detail, taking responsibility, planning and organising skills, insight, maturity, professionalism and emotional intelligence (Chamorro-Premuzic, *et al.*, 2010). These skills will be evaluated to understand their impact on employability and address H1: there is a significant relationship between taught skills and employability preparation.

Embedding such skills into the curriculum is not as simple as say developing a module in emotional intelligence however, such is the nature of the labour market there is a requirement for graduates to be proficient in social and emotional interaction, able to understand themselves and reflect on their interaction with others in workplace (Ariely, 2017, Chui, Manyika and Miremadi, 2016). Employers require graduates “to recognise the meanings of emotion and their relationships and to reason and problem-solve on the basis of them” (Mayer, Salovey, Caruso and Sitarenios, 2001: 234) which means education providers have to think about not only what is taught, but how it is taught and perhaps why it is

taught in the wider context of the programme or course (Turner, 2019). This discussion reveals the perhaps contradictory notion of teaching ‘employability’ (Bhaerman and Spill, 1988), and whether the classroom is the most appropriate learning space in which to develop employability skills (Winterton and Turner, 2019). Should students be taught in a different learning space, perhaps having business take a more active role to hone their skills through employment-based training and experience (Cranmer, 2006) and therefore improving a graduates’ chances to secure suitable employment in a disruptive labour market (Ishengoma and Vaaland, 2016). There is an argument to suggest that students will decide the future relationship of education provider and employer as they take a more pro-active role in the self-management of their learning and careers (Bridgstock, 2011, 2009; Carpenter and Pease, 2013; Jackson and Wilton, 2017ab), considered a potential ‘fourth’ stakeholder in the Triple Helix (Winterton and Turner, 2019), essential to the success of bridging the skills gap and for GWR.

Research into GWR and the identified graduate skills gap in today’s labour market which includes discussion of the softer skills has been done previously (Bennett, Dunne and Carre, 1999; Chamorro-Premuzic, *et al.*, 2010; Coetzee and Beukes, 2010; Jameson, *et al.*, 2016; Pool and Sewell, 2007; Yorke and Knight, 2002), albeit not exhaustively. This research will consolidate existing research in the context of graduate employability and take research forward through developing understanding of student preparedness for the labour market and their perceptions of the skills they develop at university and their individual and collective relevance for employment.

### Methodology

In March and April 2018 the research used an online google survey to gain insight into graduate perspectives of their university experience in terms of the employability skills they develop and, how prepared those graduates feel for the future employment market. The research conducted quantitative research with 282 undergraduate students at a university in Malaysia using convenience sampling and adhering to the

institutions ethical procedures. The non-probability sampling approach was used, as the business school students involved in the study were conveniently available to participate in the research, i.e. those students who attended classes during these two weeks of the academic term and were willing to complete the google survey. The respondents were largely representative of business students at the university where the research was conducted. However, it is acknowledged that the sampling carries the limitation that only those students who attended the sessions in these two weeks were surveyed. This was not considered a major limitation as 282 respondents constituted a representative sample of the university population and 52% of the total number of students on the business programmes surveyed. The limitation of sample size is further being addressed in a larger, comparative study of universities in Malaysia and China. That research intends to develop the themes to emerge from this study, particularly those related to emotional intelligence and the role related skills play in GWR. A further limitation of the study is that the research could have benefitted from including interviews to explore themes to emerge from the survey. This limitation will be addressed in a larger study of Malaysian education providers including colleges and universities, which will take research forward in the area of GWR and the graduate skills gap.

To address the issues of understandability and reliability, a pre-test was conducted with 10 business school students and validity tests were performed on the data. Although respondents in the pre-test understood the wording of the questions and did not think there were any misleading or redundant questions one additional question was suggested by the majority of pre-test respondents and following reflection from the researchers, included in the final version of the online survey. That suggestion was to add the question, "I feel developing my softer employment skills at university will help me get employment". The majority of respondents' rationale for including this question was that it would assist the research gain a better understanding of the relationship between

developing soft skills respondents and securing employment.

### Results and discussion

The respondents were undergraduate students at a Business School, drawn from Diploma, Foundation and Degree courses. In terms of the background of these respondents, 52% were male and 48% female, with 77.5% aged between 17 and 22 years, figures representative of the undergraduate cohort at the university. Prior to gaining insight into respondent's perceptions of the soft skills they developed at university, they were asked whether they thought the university prepared them for the future employment market, the majority (84%) agreed. Respondents were then asked if they understood what soft skills were, 87.5% agreed they understood, and whether they felt their soft employability skills were developed at university, 82.6% agreed. The majority of respondents (87.2%) also agreed that they thought the soft skills they developed at university would help them gain employment. These descriptive statistics indicate that students understood the importance of soft employability skills on their employability prospects which is reflected in the literature (Turner and Mulholland, 2017; Chamorro-Premuzic, *et al.*, 2010) and acknowledge that these soft skills were being developed through the university curriculum. The extent to which each of the 15 tested variables were developed at university and their respective relationship with employability will be examined in the next section.

Prior to examining the 15 skills relationship with preparation for employment the study first conducted a maximum likelihood exploratory factor analysis on all items of the scale using the first dataset with a sample of 282 participants. The Kaiser-Meyer-Olkin's value was .936, and the Bartlett's test of sphericity was significant ( $p < 0.001$ ,  $\chi^2 = 1824.729$ ,  $df = 105$ ) supporting the adequacy of the sampling. Using a scree plot and considering factors with eigenvalue greater than one as the factor extraction criteria, one factor consisting of 15 items together accounting for 62.328% of the variance was extracted (Table 1). The factor loading of all items was greater than .5



and statistically significant (ranges from .694 to .849)

**Table 1. The results of performing exploratory factor analysis on the scale (N = 282)**

Items	Communalities (extraction)	Loading	Eigenvalue	Variance
Responsibility	.721	.849***	9.349	62.328
Emotional intelligence	.700	.836***		
Maturity	.691	.831***		
Willingness to learn	.681	.825***		
Planning	.679	.824***		
Professionalism	.670	.819***		
Critical thinking	.665	.815***		
Insight	.650	.806***		
Attention to detail	.606	.778***		
Interpersonal	.599	.774***		
Work under pressure	.575	.758***		
Self-management	.560	.748***		
Communication	.551	.742***		
Imagination	.521	.722***		
Team working	.482	.694***		

Subsequently, a maximum likelihood confirmatory factor analysis was performed to validate the factor structure obtained from the exploratory factor analysis using the second dataset consisted of 282 participants. The final model, consisting of one factor, was arrived after reviewing the model modification indices for sources of model misfit. More specifically, four pairs of items measurement errors were allowed to freely covary (see Figure 1). The measurement model showed a good fit  $\chi^2(86) = 200.350$ ,  $p < .001$ ,  $\chi^2/df = 2.330$ , goodness-of-fit index = .854, comparative fit index = .924, incremental fit index = .925, Tucker–Lewis index = .908, root-mean-square error of approximation = .097, and standardized root mean square residual = .048. All item loadings were greater than .5 and significant at 95% confidence level (z-value ranges from 7.332 to 10.364). Moreover, the construct showed a good internal consistency (Cronbach's alpha = .949) and good construct reliability (composite reliability = .949). In addition, the average variance extracted of the construct was .554 that

demonstrated good convergent validity (Pahlevan Sharif, Mostafiz, Gupta, forthcoming<sup>1</sup>).

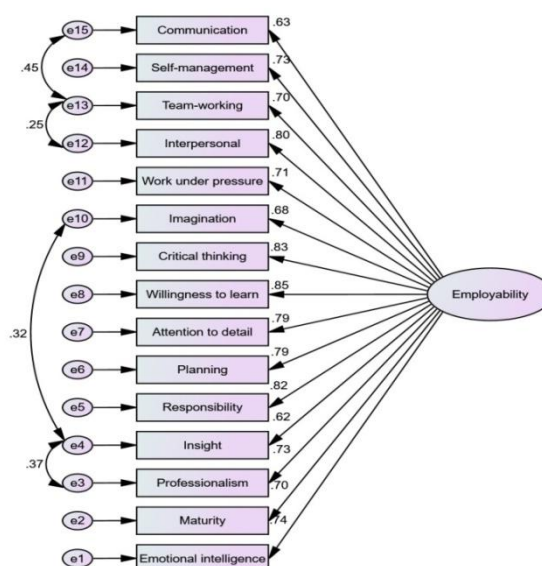


Figure 1. The results of performing confirmatory factor analysis on the scale (N = 282).

<sup>1</sup> Pahlevan Sharif, S., Mostafiz, M. I., & Gupta, V. (Forthcoming). Structural Equation Modeling in Nursing Research: A Systematic Review, *Nurse Researcher*.

The results show that respondents felt all 15 soft skills were developed through the curriculum and that there was a positive significant relationship between skill development and preparation for employment, supporting H1: there is a significant relationship between taught skills and employability preparation. The results support the work of Chamorro-Premuzic, *et al.*, (2010) and their research into the relationship between soft skills development and firstly academic achievement and secondly securing a desirable job following graduation. There were two further interesting findings which require further discussion, the first was that the majority of students felt that their communication skills were developed through the curriculum with a strong relationship between communication and employability. This result contrasts with previous research conducted at the same institution into the role of a business simulation game in developing communication skills (Turner, Kwong, Beard and Mulholland, 2018) and the literature which argues that in the opinion of employers, graduates lack appropriate communication skills (Farhan, 2019; Shanmugam, 2017). Such results shed light on the importance of embedding a variety of employability led initiatives into the curriculum and not just relying on WBL, business simulations and real-world assessments (Galloway, Marks and Chillias, 2014; King and Newman, 2009; Renganathan, Karim and Li, 2012; Vos and Brenan, 2010). The results also underline the apparent 'graduate skills gap' with students of the opinion that the curriculum developed their communication skills, but employers considering this an area for improvement among graduates.

The second interesting result was that respondents felt that their self-management and ability to take responsibility were developed through the curriculum. Based on the observations of the research team and the work of Carpenter and Pease (2013) it would appear that providing students with the academic freedom to choose and direct their own learning is working, with students acknowledging that the curriculum develops these particular skills, taking responsibility for their learning, developing a willingness to learn and a sense of maturity. Many education providers however do not provide students with self-

management, rather treating them as passive learners which will have negative consequences for them not only in their learning experience (Carpenter and Pease, 2013) but also in the labour market where employers value independence (Divine *et al.*, 2015).

### Conclusions

The research examined graduate perspectives of the employability skills they developed at university and how prepared students felt for the future employment market and found that the majority of respondents felt the university prepared them for the employment and developed a skills set which included self-management, communicational, interpersonal, team-working skills, the ability to work under pressure, imagination/creativity, critical thinking, willingness to learn, attention to detail, taking responsibility, planning and organising skills, insight, maturity, professionalism and emotional intelligence (Chamorro-Premuzic, *et al.*, 2010). The research reveals the importance of having a flexible curriculum and the facilitation of deep and life-long learning to develop graduates capable of making a positive impact on society and the economy. Such findings have implications for current research, they not only consolidate existing research in the areas of GWR and the graduate skills gap, it takes research forward through providing insight into what students perceive as helpful to their employability. The research indicates that if education providers move away from the tradition approach to learning, encourage active rather than passive participation and engender skills which prepare graduates for employment rather than preparing them to pass assessments they will not only improve student engagement they will avoid criticisms such as the one provided by Dato Sri Vijay Eswaran where he indicated that "Employers of today are looking for a certain type of skill set, and universities are unable to deliver. Our universities were designed in the 19th century, staffed by people from the 20th century, trying to create a workforce for the 21st century" (Anon, 2019b, n/p).

With regards, further research, the authors intend to conduct a comparative analysis across other

educational establishments in Asia and across disciplines to examine the role the curriculum plays in those institutions developing graduates' employability skills. This research will build on the work of Teng *et al.*, (2019) and the comparative evaluation of Malaysian and Chinese students and gain more insight from graduates on the emotional and spiritual intelligence embedded in the academic curriculum and the role they play in preparing the graduate for the employment market. Another area for further research is to incorporate a qualitative dimension to the research to investigate why students feel so strongly that the inventory of soft skills is being developed through the curriculum and what aspects of the university experience best prepare them for the employment market. A final area of further research would be to investigate the perspectives of those students who did not feel their employability skills were being developed during their time at university. Although these students were in the minority (no more than 20% of respondents disagreed with statements) which constituted less than 50 respondents, it still represents a large enough cohort of students whose employability needs are not being met. Understanding the perspectives of students who felt they developed and those who did not feel their employability skills were being developed is important in order to make it a more inclusive experience for all and improve the employability rates of all graduates in Malaysia.

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