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Graduate readiness for the employment market of the 4th industrial revolution

The development of soft employability skills

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Abstract

Purpose – The purpose of this paper is, first, to examine student perspectives of their university experience in terms of the soft employability skills they develop; second, how prepared those students feel for the future employment market and finally investigate whether there are differences in perceptions between Chinese and Malaysian students given their different educational experience.

Design/methodology/approach – In this study, 361 predominantly Chinese undergraduate students at two universities, one in China and the other in Malaysia completed the 15-item Goldsmiths soft skills inventory using an online survey.

Findings – The results, analysed using factor analysis and confirmatory factor analysis, indicated that the university curriculum develops student soft skills, particularly in the Malaysian university and supports the relationship between soft skill and student preparedness for employment. The results also indicate that compared with the respondents from the Chinese university, the Malaysian university respondents were more likely to be positive to statements concerning their respective university's ability to develop their soft skills.

Research limitations/implications – Such findings have implications for education providers and business in that it is important for universities to embed soft skills into the curriculum in order to develop graduate work readiness.

Originality/value – What this research contributes is not only consolidation of existing research in the contemporary context of a disruptive jobs market, it takes research forward through analysing student perceptions from two universities, one in Malaysia and the other in China, of the skills they develop at university and the importance of soft skills to them and their perceptions of future employment and employability. Such research will provide insight, in particular, into the role of education providers, the phenomena of underemployment among graduates in China, and be of practical significance to employers and their perception that graduates lack the necessary soft skills for the workplace (Anonymous, 2017a; Stapleton, 2017; British Council, 2015; Chan, 2015).

Keywords 4th Industrial revolution, Graduate skills gap, Academic curriculum, Soft employment skills

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Introduction

Youth unemployment (those aged 15–24) is a global issue, with this segment of the workforce exhibiting three times the unemployment than that of adults (Ibrahim and Mahyuddin, 2017). In 2017 global youth unemployment was estimated to be around 13 per cent (Anonymous, 2017b). Focusing on the two countries, which provide the context to this research, Malaysia and China, the figures, although lower that the global average, are still considered high with 10.8 per cent of the Malaysian and Chinese youth, unemployed in 2017 (Halim, 2018; Statista, 2018). Investigating the "(youth)" unemployment further to examine graduates in particular,

according to a recent Malaysian Ministry of Education report, only 53 per cent of the 273,373 graduates in 2015 secured employment within six months of graduation, 24 per cent of graduates were unemployed and 18 per cent engaged in tertiary studies (Shanmugam, 2017). The reasons cited for only 53 per cent securing employment, were the "mismatch between the training provided at universities and skill sets required by employers. Most university curriculum does not reflect the current skill requirements" (Shanmugam, 2017). In comparison, the unemployment rate of graduates in China would appear at least superficially, to be better than their Malaysian counterparts, with only 8.4 per cent of Chinese graduates finding themselves unemployed (Stapleton, 2017). However, the main issue surrounding graduate employment and unemployment in China appears to be around underemployment with many graduates finding only low-paid and/or part-time employment, lacking the soft skills for the workplace (Anonymous, 2017a; Stapleton, 2017; British Council, 2015; Chan, 2015). It is this point in particular which underpins this research, investigating the extent to which graduates lack the soft skills required for employment.

How higher and further educational establishments prepare students for employment, often referred to as the "(graduate skills gap)" has been a topic much discussed in the academic literature (Stapleton, 2017; Chan, 2015; Andrews and Higson, 2008; Yunus and Li, 2005). However, despite the discussion there still appears to be a lack of an accepted "(best way)" to equip students with the necessary "(hard)" skills required for employment and even less discussion of how best to equip graduates with the "(soft)" skills needed in an ever changing and disruptive job market (Chamorro-Premuzic *et al.*, 2010; Turner and Mulholland, 2017). This research will explore the growing importance of soft skills in business and assess, through student perceptions from two universities, whether such skills are being developed in a university curriculum and how prepared, they feel for employment.

Literature review

The fourth industrial revolution is an all-encompassing phrase, which refers to current and future developments in the use and usability of technologies, which are capable of transforming the workplace (Beraza, 2018; Elliott, 2017; Morgan, 2016; Schwab, 2016; Van Hooijdonk, 2017). Although the impact of these developments on the employment opportunities of graduates is not yet clear, it is likely that the fourth industrial revolution will create new jobs and unemployment in relatively equal measure. It is also likely that the impact of unemployment will be felt most among the low skilled and lower educated (Marr, 2016; Schwab, 2016) although according to Chui *et al.* (2016) no sector or employment class will be exempt from the effects of the fourth industrial revolution which has obvious implications for today's students and future graduates.

Soft employability skills

With the advent of this latest revolutionary phase of automation, the employability skills set required from graduates will inevitably shift from being more technically focused towards being more social and softer in nature (Kahn, 2017; National Center for O*NET Development for USDOL, 2017). In other words moving the skills focus away from simply developing hard skills which include team-work, project management, leadership, communication, creative thinking and problem solving, towards the development of soft skills (Turner and Mulholland, 2017; Department for Business Innovation and Skills, 2015; Fiala *et al.*, 2014; Draycott and Rae, 2011; Jones and Iredale, 2010).

Soft skills have been defined as "skills, abilities and traits that pertain to personality, attitude and behaviour rather than to formal or technical knowledge" (Moss and Tilly, 1996, p. 253) and are associated to interacting with other people and demonstrating social skills, including confidence and self-reflection (Beard *et al.*, 2007; Bennett *et al.*, 1999; Clarke, 2016; Gallivan *et al.*, 2004; Jameson *et al.*, 2016; Rao, 2014; Rao, 2013; Sail and Alavi, 2010). That is

not to say that hard skills are no longer important, rather digital disruption will necessitate the need for graduates to be multi-skilled, with social skills required to be infused with technical expertise (Sail and Alavi, 2010). According to a recent study by Development Economics Ltd (2015) on behalf of McDonald's UK, employers believed there was a soft skills gap in the UK workforce, with employees potentially held back because of a lack of these soft skills (Development Economics Ltd, 2015). According to employers, young people were particularly lacking the soft skills required for employment (British Chamber of Commerce, 2014). Underlying the global nature of this problem, similar findings are revealed in Asia and China, with Governments and employers encouraging universities to introduce soft skills to the undergraduate curriculum in an attempt to address an identified "(soft skills gap)" (British Council, 2015; Chan, 2015; Lee, 2016; Shakir, 2009).

In the Asian education system, there is a belief that rote learning and drilling students in an academic context can better prepare graduates for the workplace with exam performance perceived as an almost necessary and non-negotiable part of education (Teng and Turner, 2018). This focus on rote learning, memorising and regurgitating information through assessments and terminal exams arguably encourages surface learning as opposed to deep learning (Fry *et al.*, 1999) and is not conducive with encouraging the development of soft skills among students. Up until recently, the Chinese education system appeared to have made limited changes in its approaches to teaching and learning (Jin and Cortazzi, 2008) with Chinese universities still preoccupied with the more "(hard)" technical and quantifiable skills, developed through the study of theory and knowledge written in academic texts (Shouse and Ma, 2015). In the past ten years, however, both the Malaysian and Chinese Governments have introduced measures to address the issue of soft skills deficiencies in the curriculum and the employability skills gap of graduates. Malaysia has introduced various talent initiatives (Kumar, 2016) and China introduced "(Suzhi Jiaoyu (quality-oriented education))", to better prepare students with the attributes and personality traits for interpersonal interactions (Kipnis, 2011). Unfortunately, the skills gap appears to remain a challenge for education providers not only in Malaysia and China but globally, with recent studies reporting that many graduates feeling ill prepared for work, lacking the necessary soft skills (Verma *et al.*, 2018; British Council, 2015; Chan, 2015).

The role of education providers

The Chinese education system in particular not only lacks development of a student's soft skills, it also lacks an "(applied)" dimension which was one of the reasons behind the introduction of the "(Reform of Undergraduate teaching quality and teaching reform project in Colleges and Universities)" (MOE, 2011) by the Ministry of Education of China in 2011. With this initiative universities and colleges were to encourage faculty and students to take part in the National College Students' Innovation and Entrepreneurship Training Programme (simplified as NCSIE) (Shah *et al.*, 2015). The programme aimed at integrating various kinds of experimental and practical teaching resources to enhance university students' innovation and entrepreneurial ability so that they could solve practical problems in the real world (MOE, 2011). While such initiatives are to be welcomed they represent "(pockets of good educational practice)" and perhaps do not address a more fundamental issue regarding preparing the graduate for the employment market of the future.

When the research examines the interplay between the individual, the business and the labour market it can be observed that for graduates to remain competitive, the demonstration of academic intelligence is no longer enough. Graduates need experience, the ability to be mobile, to be able to solve complex issues, to possess the correct attitude and aptitude to meet the changing job categories, technological advancements and variations in how we assess task and skill (Biot, 2017; Autor, 2014, 2013; Yunus and Li, 2005; Yusof and Jamaluddin, 2015). The needs of business have changed, as have the learning needs of students and therefore the

onus is on education providers to be the conduit of this change (Lodder, 2016), able to educate a workforce capable of making an economic contribution to society (Development Economics Ltd, 2015; Knight and Yorke, 2002).

Given the fourth industrial revolution is evolving at such an accelerated rate (Elliott, 2017) it is becoming more problematic to forecast and predict the future which actually presents not only challenges, but also opportunities for education providers to rethink the traditional approaches to teaching and learning. Many universities, including the ones, which are the focus of this research, have disrupted their curriculum, embedding flexibility, cross-disciplinary learning and curriculum choice. One institution has introduced a new curriculum framework where graduates will become multi-skilled, globally and culturally adaptive and flexible to high job mobility through a curriculum of choice and employer-led initiatives. The other institution encourages students to study at least two "(innovative credits)" over the course of their studies, which include a summer internship or other outdoor internship, entrepreneurship training or employment skill training or practice. These institutions both reflect a changing employment market, where concepts such as design thinking, creativity, information and communications technology (ICT), problem solving, data and digital management, and the user experience (UX) are becoming the norm (Ghosh, 2017; Jameson *et al.*, 2016; Knemeyer, 2015; Sani, 2017; Stigliani, 2017). These concepts, which reflect the trends in the employment market, compliment some university curricula already focused on increased engagement with business through work-based learning (WBL), internships, simulations and real-world assessments (Galloway *et al.*, 2014; King and Newman, 2009; Renganathan *et al.*, 2012; Turner *et al.*, 2018; Vos and Brennan, 2010).

Goldsmiths soft skills inventory

Preparing the graduate for the workplace is more than simply engaging with business, education providers have to furnish the learner with a skills set which is difficult to automate, focusing on the complexity of social and human interaction and the self (Ariely, 2017; Chui *et al.*, 2016). The "ability to recognise the meanings of emotion and their relationships and to reason and problem-solve on the basis of them" (Mayer *et al.*, 2001, p. 234) are considered important skills in today's disruptive market, contextualised in the broader set of soft employability skills. The Goldsmiths soft skills inventory of 15 capabilities which was developed to investigate academic achievement, skills and job desirability following graduation was considered a suitably robust model of soft skills in which to test whether such soft skills were being developed through two university curriculum and the relationship with a student's preparedness for employment (Chamorro-Premuzic *et al.*, 2010). The Goldsmiths soft skills inventory was based on a review of other models and classifications, specifically the work of Beard *et al.* (2007), Gallivan *et al.* (2004) and Bennett *et al.* (1999) and reflects The World Economic Forum's (WEF) top ten skills for employment by 2020 (Wilson *et al.*, 2017). The inventory 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). This research will use the model in the field of employability, using a confirmatory factor analysis, to address the following hypotheses which emerge from the main aims of this research, that of student perspectives of their university experience in terms of the soft skills they develop and how prepared those students feel for the future employment market. This research will also reveal any differences in perceptions between Chinese and Malaysia students regarding their preparation for future employment. The findings will help us to explore further, whether educational culture influences students perceptions:

H1. There is a relationship between soft skills and student preparation for employment.

H2. The university curriculum develops graduates soft skills.

H3. There is a difference between Malaysian and Chinese students in the development of soft skills.

Research into the importance of soft skills to a graduates employability prospects and academic performance has been done previously (Bennett *et al.*, 1999; Chamorro-Premuzic *et al.*, 2010; Coetzee and Beukes, 2010; Jameson *et al.*, 2016; Pool and Sewell, 2007; Yorke and Knight, 2006), albeit not exhaustively. What this research contributes is not only consolidation of existing research in the contemporary context of a disruptive jobs market, it takes research forward through analysing student perceptions from two universities, one in Malaysia and the other in China, of the skills they develop at university and the importance of soft skills to them and their perceptions of future employment and employability. Such research will provide insight, in particular, into the role of education providers, the phenomena of underemployment among graduates in China, and be of practical significance to employers and their perception that graduates lack the necessary soft skills for the workplace (Anonymous, 2017a; Stapleton, 2017; British Council, 2015; Chan, 2015).

Methodology

Between April and May 2018, the research surveyed 361 undergraduate business school degree students at universities in Malaysia ($n = 166$) and China ($n = 195$). The institution in China was located in Chengdu and the institution in Malaysia was located in Selangor. Both institutions had relatively similar Business School cohort sizes and student staff ratios, but varied in terms of history with the Chinese institution having been founded over 100 years ago whereas the Malaysian institution had only been in existence for just under 50 years. For the survey, the research used a google form for students of the Malaysian institution and Wenjuanxing, a Chinese equivalent to google form, for students in the Chinese institution. These online surveys allowed the research to gain insight into student perspectives of their university experiences in terms of the employability skills they develop and how prepared those students felt for the future employment market. The sampling method was a non-probability, convenience approach, as the Business School students involved in the study were conveniently available to participate in the research, i.e. those students who attended business classes during these two weeks of the academic term and were willing to complete the survey. All respondents were in the middle of their academic studies and largely representative of business and management students at the two universities where the research was conducted.

To address the issues of understandability and reliability of the survey instrument, a pilot study was conducted with ten business school students at the universities and translated into mandarin; a Cronbach's α coefficient test was performed of the data, revealing good internal consistency with a figure of 0.945. Although respondents in the pilot study understood the wording of the questions and did not think there were any misleading or redundant questions two additional questions were suggested by the majority of pilot respondents and following reflection from the researchers, included in the final version of the online survey. The first suggestion was to add the question, "I feel my university develops the skills I need to get employment", this was to support the question, "I feel my university prepares me for future employment". The rationale for this additional question was to allow the research to distinguish between the university's ability to develop the skills required for employment and the university's ability to simply prepare them for employment. The second suggestion was to add the question, "I feel developing my softer employment skills at university will help me get employment", this question was argued to support the question, "I feel my soft employment skills are being developed at my university". The majority of respondents argued that adding this question would allow the

research to gain understanding of the soft skills respondents develop during their studies as well as to understand whether respondents thought those soft skills would assist them to gain employment.

Results and discussion

In terms of the respondent demographics, 165 (107 from the Malaysian institution and 58 from the Chinese institution) were male and 196 (88 from the Malaysian institution and 108 from the Chinese institution) were female. Students were drawn from across a range of business and management programmes. However, because of the nature of the academic programmes at the institutions, with students able to study more than one discipline in their degrees, the number of variations was such that this research did not consider classifying responses based on the degree students were taking.

Employability skills developed at university – comparing Malaysian and Chinese perspectives

The majority of respondents agreed that their respective universities prepared them for the employment market and with the necessary skills to secure a job. Overall 64 per cent agreed and strongly agreed that their university prepared them for the employment market, with only 15.8 per cent disagreeing or strongly disagreeing. A similar pattern can be seen from the responses to the question on whether respondents felt their university developed the skills they needed to get employment, with 67.6 per cent agreeing and strongly agreeing and 13.5 per cent disagreeing and strongly disagreeing. However, the results of conducting a Mann–Whitney U test to compare the responses across the two universities showed that the respondents from the Malaysian university had a higher level of agreement to the statements than the respondents from the Chinese university (see Table I). This result is perhaps a little surprising given universities in China, and the one involved in this study have been attempting for a number of years to integrate teaching processes and allocate resources to enhance university students' work-based skills and ability to interact with others (Kipnis, 2011; MOE, 2011). However, it is more likely that such institutional-led initiatives have not permeated across all programmes and modules, with the underlying teaching and learning philosophy of memorisation and academic study of books and theory rather than practice (Jin and Cortazzi, 2008; Shouse and Ma, 2015) still very much engrained in the Chinese academic curriculum.

Goldsmiths soft skills inventory – comparing Malaysian and Chinese perspectives

In order to understand the role the university curriculum plays in developing a student's soft skills set and how each of these skills contributes to graduate employability the research conducted analysis of identified skills both individually and collectively. In the first instance the research-examined levels of agreement to statements relating to Goldsmiths soft skills inventory of 15 variables (Chamorro-Premuzic *et al.*, 2010). This revealed that

Questions	Chinese University (n = 195) Mean (SD)	Malaysian University (n = 166) Mean (SD)	Difference between the universities z-value
I feel my university prepares me for the future employment market	2.1 (0.7)	2.9 (1.0)	7.669***
I feel my university develops the skills I need to get employment	2.0 (0.6)	2.8 (1.0)	7.373***

Notes: ns $p \geq 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; ****$p < 0.1$

Table I. Preparing students for employment, comparing Malaysian and Chinese Universities

among the 361 respondents, there was a high level of agreement to statements concerning the universities ability to develop those identified soft skills (see Table II); it also revealed that levels of agreement were higher for respondents from the Malaysian university compared to the Chinese university, results which partially support *H3*.

The research observes that the majority of respondents agree that their respective universities develop their communication, team-working, critical thinking, planning skills, the ability to provide insight, self-management, interpersonal skills, ability to work under pressure, their imagination and attention to detail. However, the students from the Malaysian university had higher levels of agreement to statements, in particular to the soft skills of communication, team working, critical thinking, planning skills and insight. This is a recurring theme in this research and supports the literature, which argues that in the Chinese education system, students are encouraged to memorise materials in order to receive better assessment grades, a practice which is considered surface learning (Teng and Turner, 2018). In a surface learning approach, students are not encouraged to provide critical insight or apply critical thinking to scenarios with communication one-way rather than two-way (Fry *et al.*, 1999). This learning approach could explain why the students from the Chinese university were less agreeable to statements concerning the soft employability skills they felt they were developing whilst at university.

Questions	Chinese University (n = 195) Mean (SD)	Malaysian University (n = 166) Mean (SD)	Difference between the universities z-value
I feel my university has developed my self-management skills	2.1 (0.7)	2.5 (1.0)	4.005***
I feel my university has developed my communication skills	2.0 (0.8)	2.3 (1.0)	2.999**
I feel my university has developed my team-working skills	1.9 (0.7)	2.2 (1.0)	3.288**
I feel my university has developed my interpersonal skills	2.1 (0.7)	2.3 (0.9)	2.130*
I feel my university has developed my ability to work under pressure	2.0 (0.8)	2.2 (1.0)	2.052*
I feel my university has developed my imagination	2.5 (1.0)	2.8 (1.1)	3.236**
I feel my university has developed my critical thinking skills	2.1 (0.8)	2.5 (1.1)	3.526***
I feel my university has developed my willingness to learn	2.2 (0.8)	2.4 (1.1)	1.852****
I feel my university has developed my attention to detail	2.2 (0.7)	2.3 (1.0)	1.262ns
I feel my university has developed my planning skills	2.0 (0.7)	2.3 (1.0)	2.628**
I feel my university has developed my ability to take responsibility	1.9 (0.7)	2.3 (0.9)	3.613***
I feel my university has developed my insight	2.1 (0.7)	2.5 (1.1)	3.567***
I feel my university has developed my professionalism	2.0 (0.7)	2.2 (0.9)	0.702ns
I feel my university has developed my levels of maturity	2.0 (0.7)	2.0 (0.9)	1.167ns
I feel my university has developed my emotional intelligence	2.1 (0.8)	2.2 (0.9)	0.634ns

Notes: ns $p \geq 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; **** $p < 0.1$

Table II.
Developing soft skills, comparing Malaysian and Chinese Universities

The one capability where both sets of students exhibited lower levels of agreement was in the context of the university developing their imagination. This result is perhaps surprising given the high levels of agreement towards the university's ability to develop other soft skills, and the fact the universities, particularly the Malaysian university spends a significant amount of time and resources engaging with business and experiential learning which are meant to enhance a student's ability to be imaginative. The reasons for lower levels of agreement to the university's ability to develop a student's imagination will be examined as part of a future study, which investigates the role of physical and virtual learning spaces. However, this research can interpret that the current curriculum at both universities does not specifically address the development of a student's imagination. Although both universities engage in internships and training, arguably to stimulate a student's imagination, there perhaps needs to be modules specifically related to design thinking and the user experience (Ghosh, 2017; Jameson *et al.*, 2016; Knemeyer, 2015; Sani, 2017; Stigliani, 2017). Such modules allow students more "(out of the box thinking)" and are recognisably different from the creative thinking theme found in many of the current modules at both institutions.

With regards those other soft skills from Goldsmiths soft skills inventory, which are more related to a level of emotional maturity, a similar pattern emerges with the majority of students agreeing that their university curriculum develop their willingness to learn, their ability to take responsibility, their professionalism, their maturity and emotional intelligence. Similarly, to previous responses, students from the Malaysian university exhibited higher levels of agreement to statements relating to the ability to take responsibility (quasi-significant) when compared to their Chinese counterparts.

Taken collectively these results indicate that students agree that their respective universities develop their identified 15 soft skills, an observation supported by the fact that when asked the question "(I feel my soft employment skills are being developed at my university)", the majority of respondents (72.8 per cent for the Malaysian university and 51.2 per cent for the Chinese university) agreed and strongly agreed. The levels of agreement also underline the fact that students at the Chinese university do not think they are developing these soft skills during their studies as much as their Malaysian counterparts, which support the literature (Shouse and Ma, 2015; Chan, 2015; Fry *et al.*, 1999) and may have implications on their future job prospects at least in the initial transition from graduation to employment.

Goldsmiths soft skills inventory – factor analysis

To analyse the data further and address the research hypotheses, the study conducted a factor analysis and confirmatory factor analysis. Prior to this analysis, the data ware randomly split into two data sets consisting of 181 and 180 samples to filter out cases from the data set. A maximum likelihood exploratory factor analysis (EFA) was then conducted on the items of the scale using the first data set. The value of Kaiser–Meyer–Olkin (0.936) and the results of Bartlett's test of sphericity ($\chi^2 = 1{,}889.326$, df = 105, $p < 0.001$) supported the adequacy of the sampling. The examination of the scree plot and considering factors with eigenvalue greater than one indicated that there was one factor consisting of 15 items accounting for 54.119 per cent of the variance (Table III). All items had a factor loading greater than 0.5 (ranges from 0.644 to 0.833) and statistically significant at 0.001. The items showed good internal consistency (Cronbach's $\alpha = 0.945$).

A maximum likelihood confirmatory factor analysis (CFA) was performed on the data to confirm and validate the factor structure obtained from the EFA using the second data set consisting of 180 samples. The final model, shown in Figure 1, was constructed following a review of the model modification indices for sources of model misfit. Eight pairs of the items measurement errors were allowed to freely covary. The measurement model showed a good fit

Items	Communalities (extraction)	Loading	Eigenvalue	Variance
Self-management	0.523	0.724***	8.118	54.119
Communication	0.605	0.778***		
Team-working	0.693	0.833***		
Interpersonal	0.647	0.804***		
Working under pressure	0.420	0.648***		
Imagination	0.414	0.644***		
Critical thinking	0.486	0.697***		
Willingness to learn	0.500	0.707***		
Attention to details	0.540	0.735***		
Planning	0.654	0.809***		
Responsibility	0.651	0.807***		
Insight	0.512	0.715***		
Professionalism	0.452	0.672***		
Maturity	0.469	0.685***		
Emotional intelligence	0.550	0.742***		

Notes: $n = 181$. ***$p < 0.001$

Table III.
The results of performing EFA on the scale

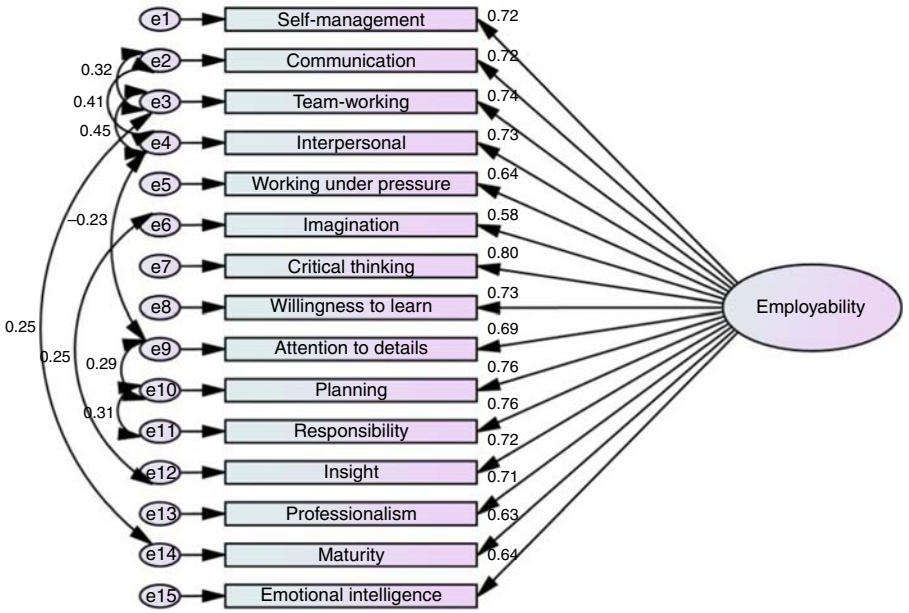

Figure 1.
The final measurement model after reviewing the model modification indices for sources of model misfit

$\chi^2(82) = 173.73$, $p < 0.001$, $\chi^2/\text{df} = 2.119$, goodness-of-fit index (GFI) = 0.888, comparative fit index (CFI) = 0.944, incremental fit index (IFI) = 0.945, Tucker–Lewis index (TLI) = 0.929, normed fit index (NFI) = 0.901, root-mean-square error of approximation (RMSEA) = 0.079, and standardized root mean square residual (SRMR) = 0.045. All item loadings were greater than 0.5 and significant at 99% confidence level (z-value ranges from 6.970 to 9.103). Moreover, the construct showed a good construct reliability and convergent validity (composite reliability = 0.937, average variance extracted = 0.499) (Pahlevan Sharif *et al.*, 2018).

In order to test the invariance of the model across the two different locations, using the second data set, this study conducted multi-group analysis to compare the final model

among respondents in Malaysia ($n = 104$) and China ($n = 76$). The prerequisite for assessing the invariance of the model was that the unconstrained model fits each sub-sample separately. The results indicated an acceptable fit for the samples of both locations of Malaysia ($\chi^2(82) = 144.409$, $p < 0.001$, $\chi^2/df = 1.761$, GFI = 0.849, CFI = 0.918, IFI = 0.920, TLI = 0.895, NFI = 0.833, RMSEA = 0.086, and SRMR = 0.060) and China ($\chi^2(82) = 154.654$, $p < 0.001$, $\chi^2/df = 1.886$, GFI = 0.785, CFI = 0.917, IFI = 0.919, TLI = 0.894, NFI = 0.843, RMSEA = 0.109, and SRMR = 0.065). Subsequently, the unconstrained and constrained models were compared. The results showed that both unconstrained ($\chi^2(76) = 299.165$, $p < 0.001$, $\chi^2/df = 1.824$, GFI = 0.821, CFI = 0.918, IFI = 0.920, TLI = 0.894, NFI = 0.838, RMSEA = 0.068 and SRMR = 0.060) and constrained ($\chi^2(62) = 309.281$, $p < 0.001$, $\chi^2/df = 1.738$, GFI = 0.817, CFI = 0.920, IFI = 0.921, TLI = 0.906, NFI = 0.833, RMSEA = 0.064, and SRMR = 0.064) models fitted the data well and therefore there was no significant difference in goodness of fit between them ($\chi^2(14) = 10.116$, $p = 0.754$). These results indicated that the model structure was invariant across different locations. Table IV reports factor loadings of the measurement model using the complete CFA data set consisting of participants from both locations, the CFA data set of the respondents in Malaysia and the CFA data set of the respondents in China.

The findings from the factor analysis and confirmatory factor analysis reveal that there was a positive significant relationship between the 15 soft skills developed at both the Malaysian and Chinese universities and a student's preparedness for employment. The analysis also reveals that the majority of respondents from both the Malaysian and Chinese universities felt that whilst at their respective university they developed their 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. These findings support *H1* and *H2*. However, the levels of agreement from students at the Chinese university were consistently lower than that of their Malaysian counterparts, in part explained by the underpinning teaching and learning approach by Chinese educational establishments and therefore supports *H3*. Despite the introduction of the "(Reform of Undergraduate teaching quality and teaching reform project in Colleges and Universities)" (MOE, 2011) by the Ministry of Education of China in 2011 which was meant to introduce more creativity and innovation into the

Items	Standardized factor loading		
	Both countries ($n = 180$)	Malaysia ($n = 104$)	China ($n = 76$)
Self-management	0.717***	0.727***	0.698***
Communication	0.717***	0.718***	0.723***
Team-working	0.741***	0.634***	0.829***
Interpersonal	0.734***	0.648***	0.798***
Working under pressure	0.636***	0.611***	0.638***
Imagination	0.579***	0.616***	0.543***
Critical thinking	0.797***	0.788***	0.815***
Willingness to learn	0.727***	0.659***	0.760***
Attention to details	0.689***	0.655***	0.692***
Planning	0.756***	0.678***	0.787***
Responsibility	0.762***	0.662***	0.813***
Insight	0.720***	0.693***	0.723***
Professionalism	0.712***	0.608***	0.787***
Maturity	0.632***	0.596***	0.724***
Emotional intelligence	0.645***	0.559***	0.754***

Note: ***$p < 0.001$

Table IV. The results of the measurement model assessment

curriculum, it would appear that it has not been interpreted as such by the student cohort involved in this research. It would seem that the traditional surface learning approach to teaching in China (Teng and Turner, 2018) is influencing how students are taught and arguably how students wish to be taught with the development of a student's soft skills not being as pronounced as perhaps it should be in order to suitably and appropriately prepare the graduate for the employment market.

Conclusions

In an ever-changing employment market, it is incumbent of educational establishments to ensure graduates are prepared with the necessary skills to secure employment. With regards this research, the findings indicate that students from both the Chinese and Malaysian universities were of the opinion that their institutions developed their soft skills, although with regards the capability "(imagination)", students were less positive. The students in the Malaysian university in particular felt their institution prepared them for the future employment market and developed the skills they required for a job, which eludes to the main theme from this research. In all instances, students from the Chinese university were less agreeable to statements when compared to their Malaysian counterparts, which gives some sight into how students perceive the approach of Chinese educational establishments towards teaching and learning. Given the Chinese Ministry of Education introduced a number of initiatives to encourage more innovative and creative thinking in universities (MOE, 2011) it would appear the traditional surface approach to learning is still somewhat engrained in teaching practices leaving a soft skills gap in the current provision of employability skills.

What this research informs existing literature is the importance of the teaching and learning culture on the ability of universities to impart the necessary employability skills to students. With regards the practical implications it is clear that if students have the appropriate skills to thrive in employment this benefits all stakeholders, future employees, employers and the educational providers. However, it would appear that Chinese students are not developing their soft employability skills in contrast to those Malaysian students, which means that the Chinese university needs to be more applied in its approach to address the graduate skills gap and enhance the employment prospects of its students. The research shows that there is potential for universities in both countries to further develop their curriculum and potentially change their teaching and learning approach to improve the degree of students' soft skills developments for the job market in the fourth industrial revolution.

With regards the limitations of this research, it is acknowledged that the sampling approach carries the limitation that only those students who attended classes during the two weeks were surveyed. This was not considered a major limitation as 361 respondents constituted a representative sample of the universities respective populations and circa 45 per cent 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 multiple universities in Malaysia and China, which will evaluate the perspectives of students from a range of different disciplinary backgrounds. A further limitation of the study is that the research could have benefitted from including a qualitative dimension. Such limitations are being addressed in a larger study, which, intends to build on the themes to emerge from this study and take research forward in the area of graduate work readiness.

With regards, further research, the authors intend to incorporate a qualitative dimension to the research to investigate why students from the Malaysian university felt that the inventory of 15 soft skills were being developed through the curriculum and what aspects of the university experience best prepared them for the employment market. A further area of research would be to gain more insight from graduates across universities in China and Malaysia on their soft skills development, specifically looking at emotional and spiritual intelligence, with the former soft skill only being one variable analysed in the context of the

15 Goldsmith's soft skills inventory. The rationale behind examining emotional and spiritual intelligence is because of its increasing importance to graduate employability (Jameson *et al.*, 2016). It would be interesting to examine the role students perceive it to play in the university curriculum, particularly Chinese students who, in this research, consistently thought soft skills were not well developed at their institution. A final area of further research would be to investigate the perspectives of those students who did not feel their soft skills were being developed during their time at university. Although these students were, in many cases, the minority, it still represents a large enough cohort of students whose employability needs were not being met, particularly among those students from the Chinese university. Understanding the perspectives of students who felt they developed and those who did not feel their soft skills were being developed is important in order to make it a more inclusive experience for all and improve the employability rates of graduates not only in China and Malaysia but also across the globe.

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