The Relationship between Self-Directedness in Learning and Employability: A study at a Private University in Dubai, United Arab Emirates

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ABSTRACT

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The primary purpose of this study was to investigate the relationship between self-directedness in learning (SDL) and self-perceived employability (SPE), ambition, and university commitment (UC) of students at a private university in Dubai, UAE (University 1). Built on quantitative research approach, participants were requested to complete a questionnaire survey consists of the 25-items Personal Orientation in Self-directed Learning Scale (PRO-SDLS) by Stockdale (2003); 30-items Self-Perceived Employability Scale for University Students (SPESUS) by Rothwell *et al.* (2008) and the newly developed 30 items Self-Perceived Employability Factors Scale (SPEF). A sample of 90 final year University 1 students participated in this study. Further exploration and validation of research findings from University 1 were conducted by comparing with additional data gathered from University 2 (based in Leicester, UK; N: 48) using the same measuring instruments and research methodologies. Descriptive, correlational and inferential statistical analyses were carried out for data collected from both University 1 and 2 to realise the research objectives and hypotheses testing of this study. PRO-SDLS, SPESUS and SPEF were found to be reliable and valid measuring instruments. Other significant findings were positive and significant relationship found between SDL, SPE and ambition. The study also established that SDL of university students positively predicts their SPE, ambition and UC. Besides, intellectual skills and soft skills were perceived to be the core competencies that need to be an integral component of increasing the success of students' transition from education to work. Statistical analyses also revealed significant differences between age, academic performance (measured by CGPA) and working experience with research constructs. Theoretical, methodology and practical implications of findings were suggested for educators, academics and university management. In conclusion, as evidenced by this study, it is possible to improve students' employability through SDL interventions.

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CGPA	Cumulative Grade Point Average
MCAR	Missing Completely at Random Test
PRO	Personal Responsibility Orientation Model
PRO-SDLS	Personal Responsibility Orientation to Self-Direction in Learning Scale
SD	Standard Deviation
SDL	Self-Directedness in Learning / Self-Directed Learning
Sig	Statistical Significance
SPE	Self-perceived Employability
SPEF	Self-perceived Employability Factors Scale
SPESUS	Self-perceived Employability Scale for University Students
SSPE	Students Self-Perceived Employability Model
t	Tolerance
UC	University Commitment
VIF	Variance Inflation Factor

Chapter 1: Introduction to the Study

1.1 Introduction

Dubai, United Arab Emirates (UAE) has long been recognised as one of the leading financial and trading hubs in the Middle East. One of the essential elements of Dubai's development is through the continuous education of its citizens and ensuring the supply of educated workers required for sustainable economic growth of the nation (Jones and Punshi, 2013; Qudurat, 2012; EY, 2015). Therefore, in this study, two important concepts, namely, self-directedness in learning (SDL) and self-perceived employability (SPE) of university students in Dubai were placed as the centre of discussion with the objective of contributing further to the literature of higher education studies in the Middle East. Higher education programmes in the region play a crucial role in enhancing the productivity and employability of their workforce by providing them with necessary skills and knowledge required for economic and social growth. In this context, SDL is one of the essential key competencies to keep the workforce employable and ensuring preparedness of skills needed in the future. This doctoral thesis has been developed to empirically test a proposed model describing the empirical relationship between SDL, SPE and related variables. SDL was examined as predictors of SPE and future employability in a sample of university students in Dubai, UAE. Further exploration and validation of the research model were also conducted with additional data collected from another university based in Leicester, United Kingdom (UK). This chapter is divided into four main sections focusing on explaining the introduction, purpose and overall aim of this study.

1.2 Background of study

The context of this study is related to SDL and employability of university students in the UAE. More specifically, the study focuses on the perceived employability of university students and the relationship with their self-directedness in learning from a higher education perspective in the UAE. In fact, many past studies have established the importance of individual learning as the lever to support the development of employability (e.g. Froehlich et al. 2014; Speight et al. 2013; Deeley, 2014; De St Jorre and Oliver, 2017; Nilsson and Nystrom, 2013; Knight and Yorke, 2013). This study was driven by many factors related to individual learning and employability of workforce faced by the UAE and globally. The next section will include a detailed discussion of the background and motivation of this study.

The first motivation was driven by the labour and economy dynamics of Dubai, UAE. In the last decade, Dubai's economy had thrived on knowledge, innovation and entrepreneurship while transformed the city into a modern state with a higher standard of living on par with many major cities across the globe. To keep up with the rapid and uncertain changes in the global economy, new and high-skilled talent has always been in demand in the local labour market. Over the years, the increasing economic diversification in the UAE by continued government efforts of moving away from the dependence on energy sectors has also increased the demand for a variety of skills in the employment market and high-quality education to develop these critical skills (Qudurat, 2012; Booz and Co, 2010). Besides economic agenda, there are others key labour market issues which have been a concern by many Middle East countries' governments Including the UAE. These include the high dependency on foreign workers, oversaturated public sector, low levels of total workforce participation of local talent, segmented labour market, unemployment and underemployment, and education to employment gap (Jones and Punshi, 2013). In parallel, while expatriates workforce is essential to the country, importing much-needed labour and talent externally also increase levels of UAE national unemployment attributable to lack of critical skills and knowledge. This is because expatriates often have the skills that local nationals lack, hence, making it hard for companies to replace them with local nationals. In the long run, this may delay the development of critical skills internally among UAE nationals (Qudurat, 202; Booz and Co., 2010). Specifically, high reliance on the large expatriate workforce in the Middle East region including the UAE is an additional challenge to the region in developing critical skills internally especially among its citizens (Booz and Co., 2010).

In 2016, the UAE population was estimated at approximately 9 million with 88% are migrants, and the labour force composition is at a similar percentage (United Nations, 2017; CIA, 2017). In fact, UAE national policy aimed to increase the proportion of UAE nationals in the labour force and become less dependent on foreign workers. However, companies in the UAE continue to attract, engage, retain and imports foreign talents to meet the high skills demand that is vital to the country economic growth (Qudurat, 2012; Lim, 2012; OECD, 2015). Additionally, the government has recognised the importance of quality education for both local and expatriate population to address unemployment of national workforce, development of critical skills and to boost country competitiveness (EY, 2015; Qudurat, 2012; OECD, 2015). For example, the UAE government has allocated AED 9.9 Billion from the Federal Budget 2013 on improving the quantity and quality of education (Qudurat, 2012). Besides the increase in public expenditures on education and development, the private sector business, organisations and

employers play a significant role in shaping the workforce of the UAE. In summary, this study particularly interested on how university students in the UAE can prepare themselves for the future labour market and how to ensure that critical skills can be developed to ensure their employability when they graduated.

The second motivation of this study was driven from a global perspective. According to a survey conducted by Mckinsey and Company, countries across the world are facing two global crises namely, high levels of youth employment and a shortage of people with critical skills (Mourshed *et al.* 2012). Previous studies show that employers are demanding for higher education institutions to produce graduates who are 'employment ready' equipped with the necessary skills and competencies and ability to work with the minimum supervision (Andrews and Higson, 2008). Expectations from employers are high, and they are increasingly interested in what university has to offer to fulfil the ever-changing organisational needs. Employers also commented that many graduates completed their programmes in higher education without enough understanding of the working world, the readiness of work, business sense and formed professionally (Brennan, 2004; De La Harpe *et al.* 2000). Hence, the primary challenge arises whether or not university graduates are ready to meet the requirement of changing work environment and mentally ready to be part of the labour market. (Jackson, 2013; Harvey *et al.* 2002; Tomlinson, 2009; Katyal and Arora, 2013). Questions were also raised about the ability of higher education institutions to prepare students with skills and competencies required by the employers (Sin *et al.* 2016; Vermeulen and Schmidt, 2008). Related to this were also concerns related to collaboration between universities and employers working together in helping student's preparation for work and pre-graduate experience. These include work-related learning and development of transferable skills and supported their transition from education to work (Tomlinson, 2009; Bowers-Brown and Harvey, 2004; Harvey *et al.* 2002; Mourshed *et al.* 2012). Therefore, this study also aimed to identify the employability skills which is required for the transition from education to work and reduce unemployment of graduates.

The third motivation arose from another challenge that contributes to the need for this study is the aligning student's educational experience closer to working lives and employers. In the context of the UAE, one of the key issues that have impacted the employability of local population and also the development of critical skills in the labour market is the lack of alignment between the education sector and the economy (Booz and Co., 2010; EY, 2015; Qudurat, 2012). According to the global survey by Mckinsey and Company, education institutions are not providing the students with the skills that the labour market demands

(Mourshed *et al.* 2012). This is because there is limited collaboration between industries and education and training providers, along with poor capacity planning for vocational and professional training from the economic and policymakers (Qudurat, 2012; Booz and Co.,2010). Therefore, with the lack alignment of the education-to-employment system, the skills and knowledge that students acquired through education and training are not necessarily transferred in direct and actual ways in which employers utilised or benefits from it effectively (Bowers-Brown and Harvey, 2004; Tomlinson, 2013; 2007). Therefore, this study is essential to review the kinds of skills and learning needed in an industrial economy like UAE.

The fourth motivation of this study is related to the influence of globalisation and technology advancement. One of the main challenges faced by many countries including the UAE today is the changing nature of the graduates' transition to work and high unemployment among young people due to lack of critical skills. McDowell (2002) commented that on a macro level, series of economic changes globally have significantly changed the opportunities in labour market available for young people. Decent and well-paid jobs with secure employment have decreased over the years. In other words, such changes also impacted the employability of young people and graduates. Despite the fact that we have better-educated youth in the labour market, high youth unemployment remains a serious problem in many developing and developed countries around the globe (McDowell, 2002). Other than the skills and attributes of graduates, there are other emerging debates involved such as personal circumstances where graduates took lower level jobs due to financial pressures and family responsibilities; external factors such as jobs demand in labour market; and recruitment factors from employers and governmental employment policy (Pool and Sewell, 2007; McQuaid and Lindsay, 2005). For example, we witnessed high numbers of credential and skill mismatch among tertiary graduates in Europe due to a gap between demand and supply of labour market, employer's preferences and other external factors (Assirelli, 2015; James *et al.* 2013). Besides, the changing nature of the graduates' transition to work, various literature also highlighted that university brand and reputation also impacted graduates' success in the world of work (Murray and Robinson, 2001; Fearn, 2008; Hesketh, 2000). Therefore, the current study hopes to identify some of these issues that may influence employability of graduates significantly in the UAE.

According to the Global Competitiveness Report 2016-2107, UAE has been leading the Middle East and North Africa region as the most competitive country World Economic Forum (2016). Recently placed at 16th among 138 countries globally, the UAE has achieved some competitive strengths from the workforce perspective which included labour market efficiency

and the ability to attract and retain talent. On the contrary, the report also highlighted some problematic factors such as restrictive labour regulations, inadequately educated workforce and insufficient capacity to innovate which are related to the motivation of this study. For UAE to continue achieving sustainable economic growth, the education sector plays a crucial role in shaping, guiding and ensuring preparedness of the workforce in the future (Qudurat, 2012). Therefore, one of the primary focus of this study is to identify the factors that could influence the employability of graduates in UAE.

The final motivation that leads to the need of this study today is related to how university students in the UAE can remain employable through the ability of continuous learning and strengthen the case for lifelong learning in this ever-changing technology-driven world. According to existing literature, SDL is one of the most important attribute or ability that is required by professionals and graduates today to maintain their employability and attractiveness in the labour market (e.g. Murphy and Calway, 2008; Francom, 2010; Grow, 1991). SDL is the ability to learn on our own continuously is crucial in today's world that keeps changing and producing new information and knowledge every day. It is said that SDL is valuable in helping learners to adapt and cope with rapidly changing the social, physical and working environment (Ramsey and Couch, 1994; O' Donoghue and Maguire, 2005). On the other hand, according to Raemdonck *et al.* (2012, p138), 'the role of self-directedness is considered paramount in maintaining one's employability'. This implies that 'employees need to become self-directed in choosing and developing career paths'. Therefore, the competencies acquired through SDL will be beneficial to graduates today in maintaining a job position or remaining employable in the job market. In short, for individuals to have high employability one should have a high level of SDL ability and behaviour, which will assist individuals to maintain the pace of lifelong learning to acquire new knowledge and skills throughout their working life. Besides, individuals are expected to have high flexibility and adaptability in seeking alternative employment in a changing world.

In summary, based on the earlier background and context provided, it is evident that individual learning and education are predominately regarded as the instrumental preparation for the labour market. Therefore, the role of institutions of higher education plays an integral part in ensuring graduates are prepared with the required competencies and stand the higher chance to get employed in the job market. According to Nilsson and Nystrom (2013), the future demands of the labour market are mainly unknown due to the increasing complexities of work. However, existing literature suggested that individuals with SDL behaviour will have the abilities,

attributes, values, attitudes and skills that will promote proactive adaptability in changing and unknown environments (e.g. O'Donoghue and Maquire, 2005; Abele and Wiese, 2008; Knapper and Cropley, 2000; Glover *et al.* 2002). This view suggested that SDL is related closely and required to enhance individual employability by addressing new demands on competencies that are needed in the world of work. Therefore, a greater understanding of the relationship between SDL and SPE in the context of higher education is needed and worth exploring empirically and more specifically in the context of higher education in Dubai, UAE.

1.3 Statement of the Problem

This study was initiated in line with the suggestions from the literature that SDL and SPE are closely and empirically related. Past studies also highlighted the importance of graduates to be self-directed to gain employability. However, there seems to be a sparsity of empirical research regarding the relationship between these two constructs, particularly in the Middle East higher education context. Therefore, the primary aim is to investigate further to what extent SDL related and influence the perceptions of students towards their SPE. Besides, based on findings from past studies, SDL also highlighted as determinants of employability of individuals. Specifically, the research model of this study sought to identify how university students in the UAE perceived themselves with regards to their SDL and how the level of SDL will determine their level of SPE. Furthermore, this study also aims to explore and validate the findings from two universities by comparing empirical data collected. The following section revealed research gaps and problems in the current study which is worth exploring.

Firstly, employability has received substantial attention and interest internationally as a result of rapidly changing labour market due to the uncertainty of socio-economy, organisational change and technology advancement. According to International Labour Organization (2016), the world's unemployment rate has reached 13.1%, and this translates into an estimated 71 million unemployed youth worldwide in 2016. Additionally, according to the CIA (2017), UAE overall unemployment rate is 12.1%. In contrary, according to the Dubai Statistics Centre (2016), the level of unemployment for in Dubai is one of the lowest globally at 0.4% with 60% of all employed individuals in Dubai are between the ages of 25 and 39. A report by Khamis (2016) published at Gulf News highlighted that the low unemployment rates in Dubai are due to three main factors. Firstly, 'the high living cost, which prevents people from quitting a job before finding a new one, the majority of foreign workers will remain in their jobs until they have secured different employment, thereby minimising time without steady monthly income;

secondly, expats are also required to have an employment visa or have a sponsor in order to live in the country, preventing much growth in unemployment rates; thirdly, the vast majority of Dubai jobseekers are based abroad, and are therefore included in unemployment statistics of their home countries and not in Dubai'. The above figures are evidence that unemployment is not an issue in Dubai, however, due to the three factors mentioned above indicated that objective employability figures are not possible to be captured to reflect the actual unemployment level in Dubai. Therefore, alternatively, the measurement of employability in this study will be based on subjective employability or self-perceived employability (SPE). SPE refers to the measurement of a construct based on the perception of individual of their employability (Vanhercke et al. 2014; Rothwell et al. 2008; 2009).

Secondly, many works on employability have been studied on different groups in multiple disciplines and can be categorised into three broad perspectives, namely, educational and governmental, organisational and employer, and Individual (e.g. Thijssen *et al.* 2008; De Grip *et al.* 2004; Guilbert *et al.* 2016). These studies have similar objectives of contributing to a wider interpretation of employability, hence have resulted in many different views depending on specific literature one refer to. One of the well-established view in literature is self-perceived employability (SPE). In short, SPE is related to individuals' perceptions and self-reports of his or her possibilities of acquiring new employment and retaining current employment (Bernston and Marklund, 2007; Vanhercke *et al.*; 2014). Additionally, Emmerik *et al.* (2012, p106) commented that 'individual more likely to act upon their perceptions rather than upon any objective reality'. The argument is that individual with high SPE tends to have higher chances of securing new employment and likewise. Since the focus of this study is university students, SPE in this study is drawn from a similar study by Rothwell *et al.* 2008 which focuses on the perceptions of students on their ability to attain employment or jobs based on their qualification. On the same lines with Rothwell's *et al.* (2008) Students Self-perceived employability (SSPE) model, ambition and university commitment (UC) of students were two other separate but related dimensions that have been associated positively with student's SPE. Therefore, the measurement scales for ambition and UC have been developed and included as part of the studies in Rothwell *et al.* (2008) and Rothwell *et al.* (2009). Similarly, these two scales were also included in this study for further validation along with SPE scale.

Thirdly, studies on self-directed learning (SDL) have filled educational research literature and become a prominent feature in adult education (e.g. Knowles, 1975; Tough, 1979; Merriam and Caffarella, 1999; Guglielmino and Guglielmino, 1991). It is suggested that the shift of

organizationally managed career development to individually managed career development due to global pressures and technological advances has placed increasing pressure on employees to invest more actively in their personal career development (Clarke, 2008). In other words, employees nowadays have to be more flexible and proactive towards their working lives, which also involve the management of their employability (Tomlinson, 2007). In short, this has notably led to the importance of individuals both working professional and future employees (graduates) nowadays to continue to be self-directed and willingly investing in their skills, knowledge and competencies. This can be done through various learning and development interventions at institutions of higher education to maintain their attractiveness and employability in the labour market (Watts, 2006; De Grip *et al.* 2004). In the preceding of the introduction of this study, literature has supported that SDL is believed to closely related to promoting and enhancing the employability of individuals (Raemdock *et al.* 2011; Gijbels *et al.*; 2010, Kim *et al.* 2015; Botha *et al.* 2015; King, 2004). Many proposed and published employability models have highlighted attributes, dimensions, values, attitudes, factors and behaviours of employability were directly and indirectly related to and influenced by SDL attributes and behaviours (e.g. Pool and Sewell, 2007; De Grip *et al.* 2004; McQuaid and Lindsay, 2005; Yorke and Knight, 2004). In the context of this study, it is also known that SDL approach supports different level of involvement of learner and lecturers the learning process (Brockett and Hiemstra, 1991). Therefore, this study provides the opportunity to evaluate these transactions and contributes to how education programmes should be structured and developed to enhance the employability of the individual. Therefore, based on the above views, there is a need of conducting empirical research in linking SDL and employability.

Fourthly, the absence of literature on SPE and SDL in the Middle East context also suggest research gap which required further attention. Even though both SPE and SDL are well-researched concepts, research literature does not seem to show much overlap between these two fields of study and majority of these studies were in the context of Europe or Americas. Different empirical studies on the relationships between employability and other constructs are abundant. For instance, positive relationships were found between employability and proactive personality (McArdle, 2007); job performance (De Cuyper *et al.* 2014); employability culture, career satisfaction and self-efficacy (Nauta *et al.* 2009; Bernston *et al.* 2006); job-related skills, willingness to change jobs and education (Wittekind, 2010); and Career management skills (Bridgstock, 2009). Similarly, SDL also filled with vast literature depositories of empirical studies on relationships with other constructs such as Kolb's learning style (Adenuga, 1991); self-concept (Bligh,1992); experiential learning (Amey, 2008); and personality traits (Kirwan *et al.*

2014) . However, the research literature on investigating empirical relationship between SDL and SPE is rare and notably limited especially in the context of higher education and in the Middle East context (e.g. Botha *et al.* 2015; Raemdonck *et al.* 2012). Therefore, given that SDL and SPE are related in literature, crossing these two concepts could benefit both fields of study while providing opportunities for collaboration in research in the future. Besides identifying the level of SPE and SDL among university students, this study also explored the empirical relationship between the two constructs through appropriate statistical methods.

Finally, another research gap and opportunity which need to be discussed is the measuring instruments used in this study. In order to achieve the objectives of this study, three measuring scales were utilised for this study, namely, Self-perceived employability Scale for University Students (SPESUS)(Rothwell *et al.* 2008; 2009); Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS)(Stockdale, 2003; Stockdale and Brockett, 2011); and lastly Self-perceived employability Factors Scale (SPEF) which was newly developed measurement scale for this study based on a list of published literatures for factors influencing individual employability. Both SPE, ambition and UC (measured by SPESUS) and SDL (measured by PRO-SDLS) were relatively new measuring scale in literature and have been utilised by limited of researchers in the past. Therefore, using these two measuring scales in the current study could provide further opportunity to validate further the scale and more specifically to be used in the context of university students in the Middle East. Furthermore, no empirical research found in the literature using both PRO-SDLS and SPESUS concurrently in one study to measure the relationship between SDL and SPE, ambition and UC. Also, demographic variables such as gender, age, academic performance (CGPA), years of working experience and qualification were also included as part of the study to provide further opportunity for assessment of differences in the research population. Additionally, to further understand the factors that influence the employability of university students, SPEF was included as part of this study and provided the opportunity to identify specific critical skills and knowledge that will contribute to enhancing student's employability.

In summary, previous studies as presented in chapter 2 and chapter 3 shown theoretical and empirical links between SDL and employability using different research methodologies, sample groups and questionnaires. In this study, the author has conducted the research using a quantitative approach, university students based in UAE and UK as sample groups and proprietary questionnaires (SPESUS and PRO-SDLS) to validate the empirical relationships of the two constructs (SDL and Employability). Based on the research gaps and problem statements

discussed earlier, the argument put forward in this study is that SDL is significantly related to SPE, ambition and UC. Based on existing literature, a higher level of SDL would correspond with a higher chance to get hired in the job market. In the context and focus of this study, the author expected that university students with high level of SDL will have higher SPE, ambition and UC, hence have a higher chance to get employed in the job market. Besides, the author also expected that specific skills and knowledge could be linked to the development of an educational programme that will enhance student's employability and increase their chance of getting a job. Therefore, the following research questions and problem statements have been put forward to explore and validate the empirical relationship between SDL and SPE.

1. What are the SDL level and SPE, ambition and UC level of university students?
2. Does SDL of university students have a significant relationship with their SPE, ambition and UC?
3. Does SDL of university students significantly predict their SPE, ambition and UC?
4. Does SDL of university students have a significant relationship with selected demographic variables (age, CGPA, working experience and education attainment)?
5. Do SPE, ambition and UC of university students have a significant relationship with selected demographic variables (age, CGPA, working experience and education attainment)?
6. Do individuals from different gender, age, CGPA, years of working experience and qualification groups differ significantly regarding their SDL and SPE, ambition and UC?
7. What are the employability factors that university students perceived as important?
8. Based on the findings of this study, what recommendations may be formulated and suggested for educators, academics and university management of the university programme and future research?
9. Do university students from Dubai, UAE perceived their SDL and SPE differently compared to other university students outside of UAE?

1.4 Research Objectives and Hypotheses

The premise of this study is that there is a significant relationship between SDL and SPE, ambition and UC. Therefore, the primary interest of this empirical study is to investigate whether or not there is a statistically significant relationship between SDL and SPE, ambition and UC level of university students in a private institution of higher education located in Dubai, UAE. Secondly, this study also aimed to investigate whether or not SDL of university students

significantly predict their SPE, ambition and UC. Thirdly, this study also designed to identified employability factors or skills that are perceived important to students today and relationships of research constructs with demographic variables. In order to achieve the objectives of this study, a detailed empirical methodology plan has been outlined and discussed in chapter 3. As part of the research, the following objectives and hypotheses will also be achieved by the research about the populations studied:

Research objective 1: To investigate SDL level among university students.

Research objective 2: To investigate SPE, ambition and University Commitment level among university students.

Research objective 3: To identify essential SPE factors among university students using Self-perceived employability Factors Scale (SPEF).

Research objective 4: To investigate the empirical relationship between SDL and SPE, ambition and university commitment of university students. (Ha1: There is a significant and positive relationship between the SDL and SPE, ambition, and university commitment of university students).

Research objective 5: To investigate the empirical relationship between SDL of university students and selected demographic variables (age, CGPA, working experience and education attainment). (Ha2: There is a significant and positive relationship between the SDL of university students and selected demographic variables age, CGPA, working experience and education attainment).

Research objective 6: To investigate the empirical relationship between SPE, ambition, and university commitment of university students; and selected demographic variables (age, CGPA, working experience and education attainment). (Ha3: There is a significant and positive relationship between the SPE, ambition, and university commitment of university students; and selected demographic variables age, CGPA, working experience and education attainment).

Research objective 7: To investigate whether there are significant differences between SDL, SPE, ambition, university commitment and selected demographic variables (gender, age, CGPA, working experience and education attainment) among university students. (Ha4: There are significant differences between SDL, SPE, ambition, university commitment and selected demographic variables (gender, age, CGPA, working experience and education attainment) among university students).

Research objective 8: To assess whether or not SDL of university students significantly and positively predicts their SPE, ambition, and university commitment. (Ha5: SDL of university students significantly and positively predicts their SPE, ambition and university commitment).
Research Objective 9: To explore and validate the research findings from university students in UAE with additional data gathered from university students outside of UAE using the same measuring instruments (PRO-SDLS, SPESUS and SPEF) and research methodologies.

1.5 Significance of the Study

This research hopes to provide significant theoretical and practical contributions in the area of SDL, SPE, ambition and UC in a higher education setting which may interest to a range of stakeholders. Firstly, the author has not found any past research on the relationship between SDL and SPE, ambition and UC in the context of Dubai and the Middle East. Therefore, studying the relationship between these constructs could be significant as its results may help the university students gain better employment opportunities through SDL interventions. Besides, it is also an excellent opportunity to contribute further to the literature of higher education studies in the Middle East context. A deeper understanding of underlying variables and factors affecting the employability of students in Dubai, UAE may be valuable in developing a long-term human capital strategy for higher education sector for its citizens and residences. According to The Arab World Competitiveness Report (2013), poor skills, weak institutions and labour market inefficiencies were identified as the main factors limiting competitiveness and job creation in the Middle East region. Countries like Qatar, Saudi Arabia and the UAE were found to be the most competitive economies in the Arab World. Therefore, higher education is one of the most important sectors in Dubai and UAE, playing a critical role in contributing to the competitiveness development of the country. Therefore, to achieve the aspiration to become a highly developed country, the government of UAE continues to give priority to the development of the education system to produce talented, high-skilled, creative and innovative workforce.

Secondly, for the overall academics field, the findings from this study will be contributing to the body of knowledge in five parent fields, namely, SDL, employability, adult education, lifelong education and higher education by investigating the potential connection between SDL and SPE, ambition and UC of university students of a private university in Dubai, UAE. This suggests that confirming a relationship between these constructs may provide an avenue for further research into the enhancement of student's employability through SDL. Besides,

measuring instruments used in discovering the relationships between SDL and SPE may help further in expanding the theories and research instrument development in these areas.

Thirdly, this study will also be of the interest of the private university management team, educators, and academics of the university programme. The understanding of the relationship between the two research variables and factors affecting students' employability can provide a basis for formulating and developing better learning strategies for the learning programme of the university. According to Hiemstra and Brockett (1994), traditional teaching and learning environment will not encourage self-directedness among students. On the other hand, many existing empirical studies have supported that SDL is closely related to promoting and enhancing the employability of individuals (e.g. Raemdock *et al.* 2011; Gijbels *et al.*; 2010; King, 2004; Lema and Agrusa, 2006). Therefore, from practical perspective, this study contributes to the field of higher education by suggesting ways, where programme or curriculum can be explicitly designed to foster SDL among students which were claimed to be a critical element for lifelong learning given the rapid pace of change in society. On a broader level, the findings of this research will also be a major initiative to prepare student transition to work through the development of diagnostic tool in career counselling and vocational guide based on their SPE and learning preferences. Besides, on a macro level, the findings of this research will also particularly be beneficial and has immediate application for higher education institutions educators and education policymakers in developing advanced practice in developing pedagogies programmes that enhance the employability of students in the dynamic 21st-century workplace. Lastly, in line with objective 9, further exploration and validation of the research findings from university students in UAE with additional data gathered from university students outside of UAE will also strengthen the reliability and validity of the research model to support the future study. Explanation of the implications of this study is discussed in chapter 6.

1.6 Scope of Study and Assumptions

This study was conducted at two different universities (University 1 and University 2). University 1 refers to a private university in Dubai, UAE and University 2 refers to a university located in Leicester, United Kingdom (UK). The primary focus of this study is the full-time final year university students from two different cohorts who enrolled in the university 1 master degree programme. In line with objective 9 of this study, this study was followed by additional data collection from university 2 students from the school of management of a university in Leicester, the UK using the same research measurements. The result of this empirical study is

related to the perceptions of university 1 and 2 students with regards to their SDL and SPE, ambition and UC based on the data collected from a questionnaire survey. The survey consist of three measuring instruments, namely, Self-perceived employability Scale for University Students (SPESUS)(Rothwell *et al.* 2008; 2009); Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS)(Stockdale, 2003; Stockdale and Brockett, 2011); and lastly Self-perceived employability Factors Scale (SPEF) which was newly developed measurement scale for this study. Currently, university 1 and 2 students were important in this study because PRO-SDLS, SPESUS and SPEF were designed specifically for students engaged in the formal education setting and have not graduated from the programme.

There are three assumptions included in this study. Firstly, the author assumed that students who participated and completed the survey instrument provide accurate and honest information. Secondly, the survey questions and items associated with SDL; SPE, ambition and UC; and SPE factors in this study adequately represents the defined and identified variables. Since both PRO-SDLS and SPESUS were used in many other studies, the author assumed that it had met validity and reliability standards required in a social science study. Thirdly, in line with the objective of this study, correlational and inferential analysis such as Pearson's product moment correlation and simple multiple regression was used to conduct statistical processing of data collected from the survey questionnaire. According to Pallant (2007), when using correlation analysis, data gathered from the sample of study should be meeting the requirement of normality, linearity and homoscedasticity. Therefore, data collected to measure the relationship between SDL and SPE, ambition and UC have been reviewed for normality, linearity and homoscedasticity (variability in scores are similar at all values of variables) using SPSS. The author also suggested that students' perceptions may be influenced by other factors outside the learning and pedagogical set-up in the university such working experience, extra-curricular activities, pre-university activities and other out of class experiences which may lead to a change in SDL and SPE, ambition and UC.

1.7 Summary of Conceptual Framework and Definitions of Research Variables

This study is developed based on the literature of SDL and SPE, ambition and UC in the context of higher education. Specifically, the conceptual framework for this study follows two model theories, the **Personal Responsibility Orientation (PRO) Model** developed by Brockett and Hiemstra (1991) and **Students Self-perceived employability (SSPE) Model** by Rothwell *et al.* (2008). Both models focused on individual belief and outlined interaction between

internal/intrinsic and external/extrinsic factors that influence the outcome of the model. A detailed discussion on PRO Model and SSPE Model will be presented in Chapter 2 and 3 along with other theories and models of SDL, SPE and measuring instruments. Besides, the following definition summary is shown to offer a better understanding of the main variables used in the current study.

Self-Directed Learning (SDL). In line with the PRO Model used as the main model in this study, SDL is defined as is a learning process consists both external teaching and learning characteristics and the internal characteristics of the learner, where individual assumes primary responsibility for planning, implementing and evaluating the learning process (Brockett and Hiemstra, 1991, p24). Although, self-directed learning and self-directedness in learning may define differently by different scholars. According to Candy (1991), self-directed learning will lead to the development of self-directedness in learning. Therefore, the terms are used interchangeably in this study and representing the same variable or construct as SDL of university students. SDL is measured using the PRO-SDLS scale developed by Stockdale (2003).

Self-Perceived Employability (SPE) in this study is defined as 'the perceived ability to attain sustainable employment appropriate to one's qualification' (Rothwell *et al.* 2008, p2). From the student's perspectives, SPE is a reflection of student's appraisal on their work preparedness that he or she will be able to obtain employment in the chosen area based on their perceptions of internal employability factors (individual skills and self-belief) and external employability factors (labour market conditions, field of study and university reputations) (Rothwell *et al.* 2009). SPE, ambition and UC are measured by the SPESUS scale developed by Rothwell *et al.* (2008).

Ambition is one of the subscales in the SSPE model. In this study, ambition is defined as expectations, aspirations, goals and satisfaction in one career, skills and future development (Ashby and Schoon, 2010). Ambition is closely associated with perceived career success of an individual based on their assessment of achievement concerning their self-defined standards, career stage, aspirations and opinions of others (Nabi, 2001). Therefore, based on the SSPE model used in this study, ambition carry an orientation of self-perception evaluation and measurement of desire and determination of students in achieving future career success that will impact their future employment (Rothwell *et al.* 2008).

University Commitment is another subscale in the SSPE Model. UC is defined as 'relative strength of an individual's identification with and involvement in a particular organization which includes strong belief in the acceptance of the organization goals and values, a willingness to exert considerable effort on behalf of the organization, a strong desire to maintain membership in the organization' (Mowday *et al.* 1979, p226). In this study, the organisation is referred to university. It is a self-perception measurement of student's affective commitment towards their association and attachment with their university (Rothwell *et al.* 2008).

Other variables may have been defined and will be explained throughout the chapters in this study. The above two theoretical models along with other supporting literature are discussed further in Chapter 2 and 3. In this study, SPE, ambition and UC are being categorised as the dependent variable, whereas SDL is the independent variable.

1.8 Outline of the Study

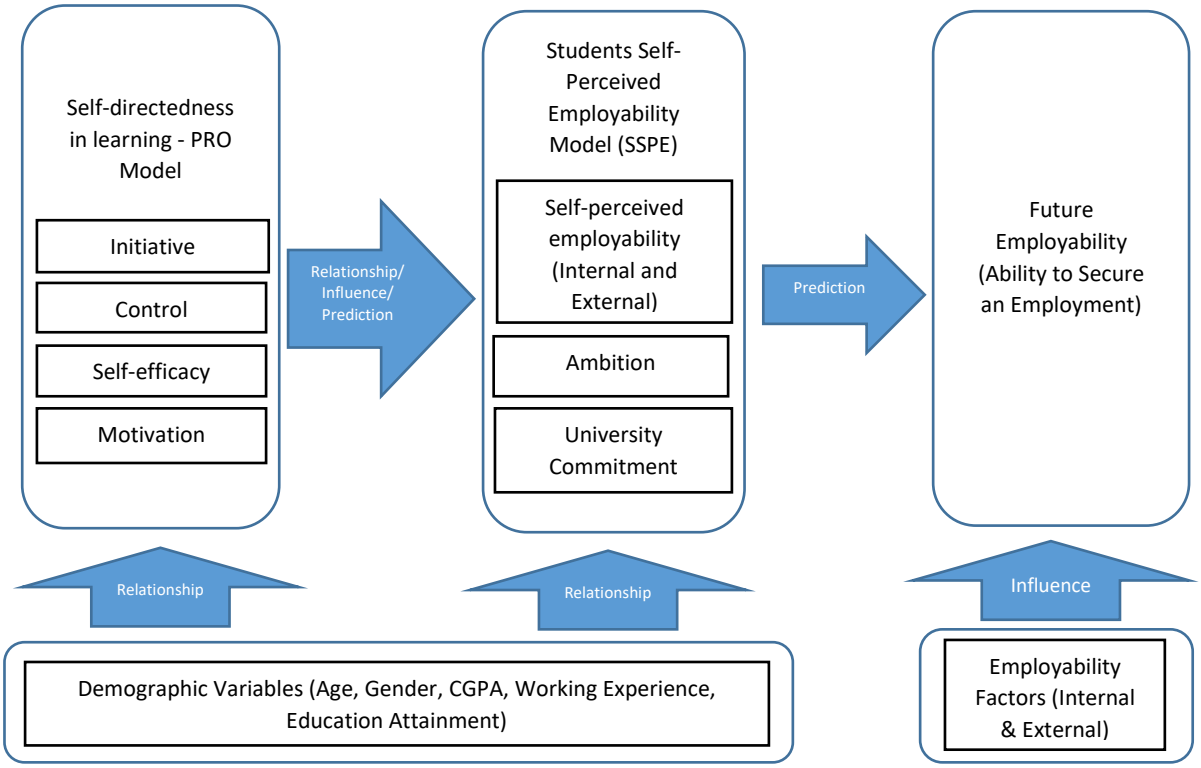
The organisation of the research was arranged into seven chapters to ensure more clarity and orderly flow of research. In summary, Chapter 1 presented introduction, statement of the problem, the purpose of the study and the overall key elements and outlines of the study. Chapter 2 continues with a detailed review of the literature on SDL, SPE and other related constructs. Chapter 3 introduces the overall methodology of the study, research design, population of study, instrumentation, procedures and data analysis. Detailed analyses and results of the survey were presented in Chapter 4, 5 and 6. Chapter 4 of this study discusses the overall reliability and descriptive analysis conducted for the variables of the study using data from the university 1 in Dubai. Chapter 5 focuses on the results of correlational and inferential analysis of the study using data from University 1. Additionally, chapter 6 provides the comparisons of research findings from both university 1 and 2 with the objectives to explore and validate the research model. Finally, Chapter 7, provides the conclusions based on the results of this study and offers recommendations for future studies.

Chapter 2: Self-Directedness in Learning and Employability: Review of Literature

2.1 Introduction

This chapter provides an overview of the literature on Self-directed Learning (SDL), Self-Perceived Employability (SPE), Ambition and University Commitment (UC), and Employability Factors. Review of literature is essential to provide a supporting theoretical framework to create the basis for this study and research opportunities. The following section is focusing on conceptualization and relationship of constructs based on the theoretical research model illustrated below.

Figure 2.1: Research Model – The Relationship between Self-Directedness in Learning, Self-Perceived Employability, Ambition, University Commitment, Demographic Variables and Employability Factors



Analysis of the existing literature of SDL and SPE in education setting points a large number of variables that play an interrelated role in the context of this study. Figure 2.1 summarizes the complex interplay of these variables based on the PRO Model of SDL by Brockett

and Hiemstra (1991) and SSPE Model of SPE by Rothwell *et al.* (2008) that is expected to explain the impact of SDL on predicting the future employability of university students based on self-perceived or subjective employability. In the next sections, a discussion of the available theoretical and empirical base related to SDL and SPE in the context of this study will be presented to define further the research model proposed.

2.2 Definition and Theoretical Models of Self-Directedness in Learning

Understanding of the definition and framework of SDL plays a significant role in this study. SDL has been a central concept in the study, practice and theory of adult education. Besides, SDL still playing an important role in today's theory and practice of learning (Williams, 2001). Despite being a well-researched topic in the field of adult education by numerous scholars since 1970s, SDL still carries considerable confusion and misunderstanding due to multiple definitions and related concepts being introduced and used in different perspectives and settings by various scholars (e.g. Brockett and Hiemstra, 1991; Candy, 1991; Garrison, 1997). Subsequent studies on SDL have created many other phrases, terminology and categorization such as self-planned learning, self-teaching, autonomous learning, independent study and distance education have been used interchangeably or similar way or shift the emphasis to describe SDL (Brockett and Hiemstra, 1991). Knowles (1975) added that many of these phrases found in literature imply learning in isolation whereas SDL involves various people in the process of learning. In order to avoid confusion, the author will use the term self-directed learning and self-directedness in learning interchangeably referring to the same meaning. The following section will include the overview discussion of the theoretical framework of SDL.

2.2.1 Definition and Background of Self-Directed Learning – Process of Learning and Learner Characteristics

The review of SDL literature begins with a brief consideration of history and definition. The origins of SDL can be traced back based on many contemporary adult learning theories by North American scholars such as Knowles (1975); Tough (1979); Hammond and Collins (1991); Candy (1991) and Long (1990). From their perspective, one of the primary focus on learning is individual responsibility on self-development. In fact, learners' willingness to assume ownership of thoughts, action and consequences for their own learning has been considered as an important component in the field of SDL. In order word, the potential of SDL in an individual is based on the ability and willingness of the individual to take control in their own learning (Candy,

1991; Garrison, 1992). According to Brockett and Hiemstra (1991, p18), SDL can be viewed in two distinctive dimensions; firstly, 'self-directed learning as an instructional method' or process of learning and secondly, 'learner self-direction as personality characteristics' that are required and developed as an outcome of self-directedness in learning. Although till date, there is still no precise definition of SDL, however, there has been literature supporting that SDL as a learning methodology or process.

The following section will feature numerous definitions of SDL in the literature and relevant to this study. One of the most cited definition in the literature of SDL is from Malcolm Knowles. According to (Knowles, 1975, p18), SDL can be defined as 'a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcome'. Knowles' definition of SDL emphasises on the element of the initiative taken by individuals in determining the learning process and outcomes. He also added that SDL is not an educational fad but a 'basic human competence – the ability to learn on one's own (Knowles, 1975, p17). Following Knowles, Brockett (1983, p16) defined SDL as 'activities where primary responsibility for planning, carrying out, and evaluating a learning endeavour is assumed by the individual learner'. At the same time, SDL has also been defined as 'a set of generic, finite behaviours; as a belief system reflecting and evolving from a process of self-initiated learning activities; or as an ideal state of the mature self-actualized learner' (Kasworm, 1983, p1).

With the influence from the work of Knowles (1975; 1989), Garrison (1997, p18) defined SDL as 'an approach where learners are motivated to assume personal responsibility and collaborative control of cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes'. More recently, Smedley (2007) defined SDL as an approach to learning that relies heavily on students being responsible for and possessing the ability to be self-directed in their own learning. In brief, the above definitions summarised that although descriptions and words may be differently used to define SDL, however, we can see that they commonly reflect and mirror Knowles's (1975) original work on SDL where series of interrelated activities are required in determining the process of SDL of an individual.

While earlier definitions are focusing mainly on SDL as a learning process and methodology, discussion on the characteristics of learners contributed significantly to the field

of SDL. In SDL literature, the central assumptions underlying the studies on learner characteristics is that adult learners seek towards self-directed, autonomy and taking responsibility to make a decision over learning (e.g. Knowles, 1975; Merriam and Caffarell, 1999; Kohns and Ponton, 2006). For instance, autonomous learners are assumed to be independent, able to make choices based on the rational decision, and having a strong sense of personal values and beliefs (Candy, 1991; Garrison, 1992). In fact, these learners' characteristics that build the foundation for an individual carrying out activities associated with SDL. With the growing and emerging concept of SDL, Brockett and Hiemstra (1991) proposed that learner personality characteristics or factors be included when defining the construct. Therefore, in their framework based on the Personal Responsibility Orientation (PRO) model, SDL refers to two distinct but related dimensions, namely the process of SDL and the learner personality characteristics which have been referred as learner self-direction.

With the above proposal, they defined self-direction in learning as the combination of 'both external characteristics of an instructional process and the internal characteristics of the learner, where the individual assumes primary responsibility for a learning experience (Brockett and Hiemstra, 1991, p24). In similar lines, Williams's (2001, p87) also proposed a definition based on the work of Brockett and Hiemstra (1991), Candy (1991); and Merriam and Caffarella (1999), where he captured the features and foundations of SDL that include the characteristic of learners as part of the definition; 'Self-directed learning is a self-initiated process of learning that stresses the ability of individuals to plan and manage their own learning, an attribute or characteristics of learners and a way of organizing learning in formal settings that allow for greater learner control'. In the context of this study, as mentioned in chapter 1, the conceptual framework used in this study is based on Knowles (1975) and Brockett and Hiemstra (1991) definition and model of SDL.

Literature of self-directed learners' characteristics are abundant, and many scholars proposed similar or overlap characteristics in different models and categories. For instance, the following are some of the selected characteristics of self-directed learner relevant to the context of this study. Self-directed learners can be characterized as individuals who are self-motivated, have strong desire for learning and focus on acquiring skills in order to solve specific problems (Knowles, 1990; 1994); being able to self-managing, self-monitoring and self-modifying (Costa and Kallick, 2004); assume and take primary responsibility for planning, implementing and evaluating the learning process (Brockett and Hiemstra, 1991); have the capacity to mastered learning material at their own pace without the aid of instructor (Piskurich, 1993); able to

diagnose their learning needs and formulating their learning goals (Hammond and Collins, 1991; Spencer and Jordan, 1999); have the ability to response to problems, challenges and newness in the environment (Guglielmino, 2008); able to monitor and evaluate their own learning progress (Candy, 1991); have the competencies in self-assessment of learning gaps, evaluation of self and others, reflection, information management, critical thinking and critical appraisal (Patterson *et al.* 2002); have the ability to interact and collaborate with peers or fellow learners to exchange valuable information and getting support (Brookfield, 1985; Hammond and Collins, 1991); and have proactive personality (Seibert *et al.* 1999). In earlier studies, attitudinal, personality factors and personal characteristics associated with SDL have been used in developing measuring instruments to measure self-direction of learners such as the Self-directed Learning Readiness Scale (SDLRS) by Guglielmino (1977) measuring readiness and Oddi Continuing Learning Inventory (OCLI) by Oddi (1984, 1986) measuring personal characteristics. The evaluations of these two instruments will be discussed in chapter 3.

Recent research conducted by Chou and Chen (2008) summarised four traits or characteristics of a self-directed learner based on the general aspects that appear in the literature from Knowles (1975); Brockett and Hiemstra (1991); Candy (1991); Merriam and Caffarella (1999); Guglielmino and Guglielmino (1991); Gibbons (2002): a) *independence* refers to self-directed learners as entirely responsible individuals who are capable of analysing, planning, executing, and evaluating their own learning independently; b) *self-management* refers to self-directed learners to have the ability to identify their needs during the learning process, setting personal goals, control of their own time and effort for learning, arranging feedbacks for their work and outcome of learning; c) *desire for learning* refers to self-directed learners as individuals with high and strong motivation for learning for the purpose of knowledge acquisition; d) *problem solving* refers to self-directed learners able to use their existing learning resources and feasible learning strategies to overcome the difficulties with occur in the learning process to achieve the best learning outcomes.

In line with the context and objectives of this study, many studies have reported positive effects of SDL in the workplace such as foster stronger affective commitment among employees towards organisation (Cho and Kwon, 2005); increase job performance (Artis and Harris, 2007; Walumbwa *et al.* 2009); able increased employability and predicted employability of employees (Kim *et al.* 2015; Raemdonck *et al.* 2011); success as an entrepreneur (Guglielmino and Klatt, 1994); cost savings in training and development programmes (Guglielmino and Murdick, 1997; Piskurich, 1993); increased ability for critical thinking and questioning (Candy,1991); increased

adaptation in creative digital era (Karakas and Manisaligil, 2012); promote individual flexibility and time effectiveness, able to deal with individual differences (Piskurich, 1993); promote career advancement through adaptability towards changes (Lema and Argusa, 2006); improve employee upward mobility (Raemdonck *et al.* 2011). Similarly, SDL was also found to positively contribute to institutions of higher education and education settings such as increased academic success (Chou and Chen, 2008; Hsu and Shiue, 2005); increase confidence and ability to master studies (Botha *et al.* 2015); increased problem solving skills and abilities (Williams, 2001; Silén and Uhlin, 2008; Guglielmino, 1977); success and drive innovation processes (Bary and Rees, 2006); high degree of creativity and managing change (Guglielmino, 1977); and increase responsibility and independence in their own learning (Silén, 2001; Silén and Uhlin, 2008). The above advantages revealed the prime importance of SDL in today's workplace and institutions of higher learning. As mentioned in the objectives of this study, the author would like to study whether or not SDL of university students able to predict their own employability, hence, increase their chances in securing employment in the labour market.

2.2.2 Review of Personal Responsibility Orientation (PRO) Model of Self-Directed Learning and Other Relevant SDL Models

Due to the abundance of literature on SDL, this section is limited to seminal works, models and research applicable to higher education. According to Brockett and Hiemstra (1991), work on SDL can be examined in three different streams of research, namely, 1) *adult learning projects* where SDL studies consist of descriptive research using the learning projects methodology which aim to provide foundation for the understanding of self-direction; 2) *quantitative approach* where studies were undertaken to find ways to measure the levels of self-directedness among learners by developing empirical measuring instruments; 3) *qualitative approach* where studies conducted were based on naturalistic research designs and qualitative data analysis procedures that focus mainly on the process of SDL and social context in which SDL takes place. In this context of this study, the first and the second streams of research are applicable with the focus on understanding and measuring SDL of a group of university students.

As introduced in chapter 1, one model which has the essential components for providing a sound conceptual framework to SDL is the **Personal Responsibility Orientation (PRO) Model of Self-Direction in Learning** by Brockett and Hiemstra (1991). The PRO model is the conceptual framework for the construct of SDL this study. According to Brockett and Hiemstra (1991), the outcome of learner's self-direction in learning is integration and interaction of three main

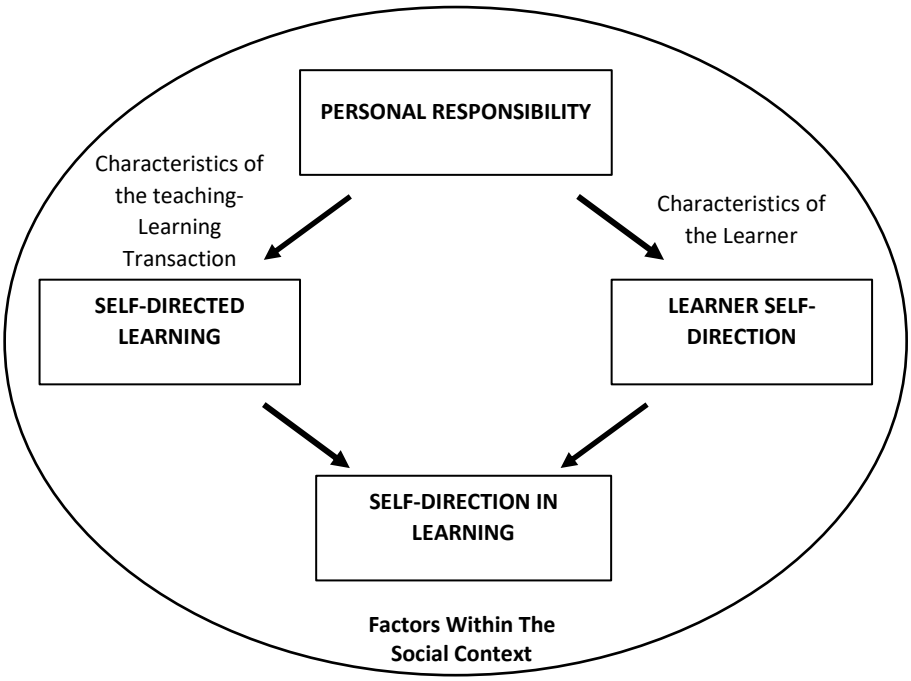
collaborative and interconnected dimensions, namely*, self-directed learning* (SDL)*; learner self-direction*; and *personal responsibility* utilized by learners within the broader social context (see figure 2.2). In line with the literature discussed earlier, the PRO model is drawn an explicit distinction between self-directed learning as an instructional process of learning and as a characteristic of a learner. Each component of the PRO model is discussed below.

Self-directed learning (SDL) component is defined as 'process in which a learner assumes primary responsibility for planning, implementing and evaluating the learning process' while the educator is facilitating the learning process (Brockett and Hiemstra, 1991, p24). It is also referred to instructional methods that involved the teaching-learning process (extrinsic characteristic of the teaching-learning transaction and may also be referred as the TL dimension/component). On the other hand, the ***learner self-direction*** component is defined as 'an individual's beliefs and attitudes that predisposed one towards taking primary responsibility for their learning' (Brockett and Hiemstra, 1991, p29). It is also referred to the personality characteristics of the learner or factors internal to the individual that contribute toward them taking personal responsibility for their own learning (Intrinsic characteristics of the learner and may also be referred to as the LC dimension/component). The combination of the SDL and learner self-direction components of the learner contributes to the outcome of **self-direction in learning.**

The ***personal responsibility*** in the learning context refers to 'the ability and/or willingness of individuals to take control of their own learning that determines their potential for self-direction' (Brockett and Hiemstra, 1991, p26). In fact, this dimension of individuals taking responsibility for their own thoughts and actions in learning has been cited in many SDL literature such as to the concept of personal autonomy (self-determine or self-rule) proposed by Candy (1991), and self-monitoring (cognitive responsibility) by Garrison (1997) and independent self-concept by Knowles (1975). According to Stockdale and Brockett (2011, p163), 'both SDL and learner self-direction components are embedded within a personal responsibility framework (third dimension) and operating within the learner's social environment contribute to the outcome of self-direction in learning or self-directedness in learning of learners'. Brockett and Hiemstra (1991) also added that learners' level of self-directedness was determined by the result of the integration of these two dimensions (learner self-direction and SDL) through the personal responsibility of the learners in both action and thoughts that occur within a larger social context. In other words, learners may choose various characteristics of the teaching-learning transaction together with their own characteristics as a learner to arrive at self-

direction in learning (Brockett and Hiemstra, 1991). In summary, the PRO model summarizes the interactive process by which the educator serves as a facilitator and student takes on the personal responsibilities relevant to their own learning accomplishments.

Figure 2.2: The Personal Responsibility Orientation (PRO) Model by Brockett and Hiemstra (1991)



The final component of the model is the **factors within the social context** which placed inside the circle of the PRO Model in which learning activities occurs. Brockett and Hiemstra (1991), recognize that learning occurs within a greater social context and different settings. Therefore, this component addresses the role institutions and policies in the development of SDL and at the same time highlighted the necessity to understand the environmental circumstances in the learning process. The social context includes political and social elements which will impact both the teaching-learning transaction and the characteristics of the learner. According to Hiemstra (1994), students learning will be limited if their social context is restricted. Similarly, Pilling-Cormick (1997) in her Self-directed Learning Process Model also highlighted that the importance of social dimensions and environmental characteristics to foster transformative learning facilitation strategies in SDL.

Furthermore, under the PRO Model, Brockett and Hiemstra (1991) also discussed three related assumptions in determining the learners' personal responsibility towards SDL. Firstly,

they committed to the view that human potential is unlimited where adult learners will possess some degree of willingness to accept responsibility but not necessary at the high level of self-direction due to many internal and external factors. Therefore, they will still require educators to help them to become more self-directed in the process of learning. Secondly, although social context which the learning takes place is important, the primary focus of learning is on the individual and should be recognised first before examining the social dimensions that impact the learning process. Thirdly, besides taking or assume the responsibility for learning, learners also need to take responsibility for the consequences for the outcome of learning or actions.

In terms of the application of this model, Brockett and Hiemstra (1991) also layout a few conditions and characteristics to be referred for the interpretation of self-direction in learning. Firstly, internal (learner self-direction/LC dimension) and external (teaching-learning transaction/TL dimension) aspects of self-direction in learning can view as a continuum, therefore in any learning situation will fit somewhere within a range relative to opportunity for SDL (TL) and, similarly, an individual's level of self-directedness (LC) will fall somewhere within a range of possible levels. In other words, SDL will involve transferable knowledge, skills and experiences to other situations and learning may or may not occur in isolation (Hiemstra, 1994). Therefore, we cannot assume that high self-direction as ideal for all learning situations. Similar to the view of Grow (1991), self-direction is situational and different for certain individual and situations. Secondly, in order to achieve optimal conditions for learning, Brockett and Hiemstra (1991, p30) proposed that 'there should be a balance or harmonisation between learner's level of self-direction (LC) and the extent to which opportunity for SDL (TL) is possible in a given situation'. As opposed to optimal conditions, complications will arise when conflict or lack of harmony exists between the learner's internal level of self-direction (LC) and the external opportunity for SDL (TL). In the context of this study, when students have an existing high level of SDL and engage with learning activities or programme which is highly self-directly facilitated by the educator, the chances of learning success are high. Conversely, students who do not have a high level of SDL may likely to succeed in the situation where educator assumes a more directive role.

Over the years, the PRO model has been supported and challenged by many authors especially on the social context component. In terms of limitations of the model, Flannery (1993) commented that the PRO model inadequately considered and effectively ignore factors such as a person's role and influences in the society, the socialization process, learning and communication style, cultural context of other countries that might not work in supportive of

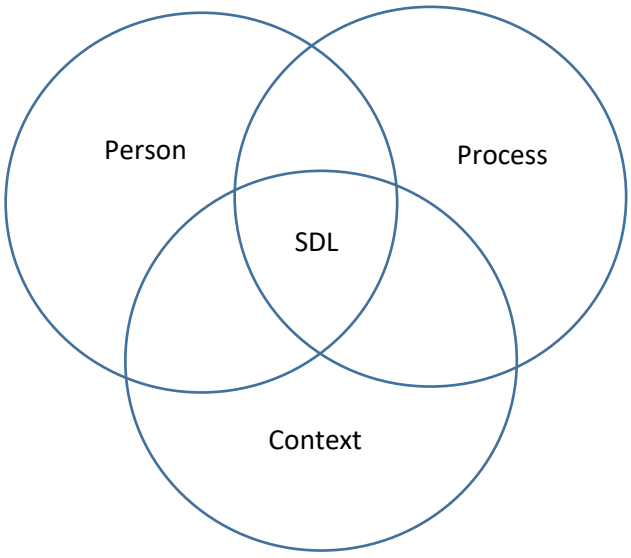
SDL, and individual preferences on the method of learning. Newell (1995) also highlighted the need for PRO Model to include political, economic, cultural and historical dimension in a given learning context. Another critique of the PRO Model was from Garrison (1997) who suggested that there is a need to take a more comprehensive review of the psychological dimension of SDL. He also highlighted that factors related to personality in the learner characteristics proposed in the PRO model were limited, and there is no discussion on metacognitive issues associated with the process of learning. (Garrison, 1997). Additionally, Song and Hill (2007) also pointed that with the growth of distance learning, they felt that the PRO Model was not able to represent the need for today's online learning environments.

In addressing the criticism on the social context component, Hiemstra and Brockett (2012) reconfigured and updated the PRO Model with the Person Process Context (PPC) Model (see Figure 2.3). The essential elements of PPC model remain with three dynamic interrelationships among the three elements with equal footing namely, the person or learner, teaching-learning transaction or process, and the social context. The equal footing of the context with the person and process components highlighted the importance of social environment as an equal partner to foster better SDL which was not adequately addressed in the PRO Model. In the PPC model, the optimal situation for self-directed learning to be most effective is when the person, process, and context are in the balance. In other words, 'the learner is highly self-directed, the teaching-learning process is set up in a way that encourages learners to take control of their own learning, and the socio-political context and the learning environment support the climate for SDL' (Hiemstra and Brockett, 2012; p 159). Due to the provisional nature of the updated model, the PPC model was not used as a theoretical framework in this study and was only used as part of the literature review.

Numerous empirical studies relevant to the PRO Model have been conducted. One of the primary studies was related to the development and validation of PRO-SDLS, an instrument measuring SDL based on the PRO Model. Stockdale (2013, p3) developed the PRO-SDLS with the objective 'to measure self-directedness in learning within the framework of the process and learner characteristics components of the PRO Model of SDL by Brockett and Hiemstra (1991)' among college students. PRO-SDLS was found to be a highly reliable instrument in the selected sample of students from higher education (Stockdale and Brockett, 2011). Empirical studies using the PRO-Model emerged over the years from scholars around the world due to high-reliability scores of PRO-SDLS such as Fogerson (2005), Gaspar *et al.* (2009), Hall (2011), Holt (2011), Conner (2012) and Chou (2012). However, Banz (2009a, p39) raised three questions on

the PRO-SDLS instruments. Firstly, 'PRO-SDLS did not address the criticism of PRO Model on social context dimension of the PRO Model' as highlighted by Flannery (1993) and Newell (1995) in earlier research. Secondly, PRO-SDLS was built upon Guglielmino's (1997) SDLRS model which also received numerous criticism and debates within the adult education field such as Candy (1991) and Field (1989) which may incorporate adjoining criticism. Thirdly, the question of the ultimate purpose of PRO SDLS whether it is an instrument to measure SDL in a higher education setting or to provide evidence to support PRO Model. Despite these criticisms, the PRO Model is still a viable and relevant conceptual framework to understand SDL through quantitative investigations. Based on many past studies, the PRO Model is conceptually sound and valid as a useful tool for conducting an analysis of learning. Further discussion of PRO-SDLS as measuring instruments is included in chapter 3.

Figure 2.3: The Person Process Context (PPC) Model



Besides the PRO Model, other related theoretical models of SDL focus and related to tertiary education environments were reviewed as part of this study. The discussion is limited to four most recent models that include the learner and the environment in which learning occurs. **Knowles's Andragogy – Principles of Adult Learning** is the most influential concept of adult learning and linear model that shares many similarities to SDL and can be considered as a rivalry concept and emergent theory despite many debates and criticism on the model (Long, 2007; Merriam, 2001). It is for this reason andragogy is included in this discussion. Knowles (1975) proposed that adult displayed a set of behaviours and characteristics that would support them in mastering new skills and competencies and engage in SDL. Similar to PRO Model, it is

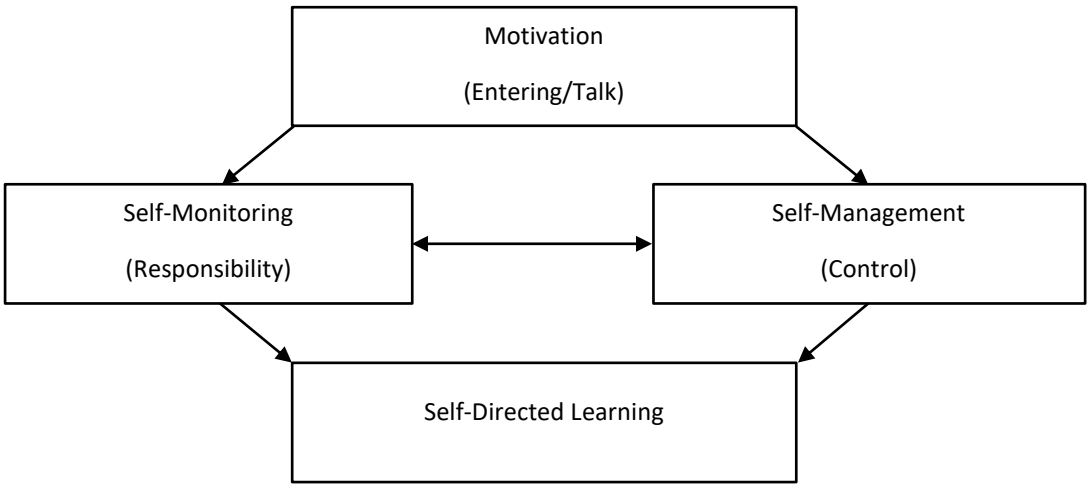
also closely related to the importance of interaction between teacher and learner in the formal instructional setting. In fact, PRO-SDLS scale by Stockdale (2003) was developed based on the definitions and principles of Andragogy. There are five core principles or assumptions underlying the andragogy approach to describe the adult learner as someone who: 1) displayed independent self-concept, self-directedness and demonstrated awareness or acceptance that he or she is in charge, responsible, manage and direct his or her learning; and know why they need to learn; 2) has acquired and accumulated a significant volume and different quality of life experiences which can be utilised as resources for learning; 3) has their learning needs and readiness closely associated with their changing social roles and various developmental life stages maturing into adulthood in order to cope effectively with their real-life situation; 4) learning orientation is problem-centered, or life centred or task-centred and interested in immediate application of knowledge or skills learned to live situation; 5) is motivated to learn intrinsically such as self-actualisation, realisation of life ambitions or better quality of life rather than extrinsically (Knowles, 1980; 1984). In brief, similar to the PRO Model for SDL, in order to promote optimal learning among adult learners, the instructional programme need to provide a range of opportunities and suitable learning climate where adult learners may involve in identifying, choosing and assuming responsibility for their learning efforts and outcomes.

Garrison's Comprehensive Model of Self-Directed Learning provides a comprehensive view of self-directed learning in education with a significant emphasis on the actual learning process. From interactive perspectives, this model also addresses the limited learners' metacognitive element in PRO Model. According to Garrison (1997), learner engage and achieve SDL through the collaborative and constructivist view (where meaning and knowledge are built both personally and socially through transactional balance between teacher and learner) of three overlapping and interconnected dimensions namely, *Self-management* (task control); *self-monitoring* (cognitive responsibility); *motivation* (entering and task) with the goals to construct and confirm meaningful and worthwhile learning outcomes (as per figure 2.4).

Firstly, *self-management* dimension refers to the continuously and collaboratively assessment and negotiation of external task control issues specific to the management of learning activities associated with the learning process such as goal management, learning methods, learning resources, learning materials, support and outcomes of learning. Secondly, *self-monitoring* refers to the cognitive and metacognitive processes of learners where they willingly and have the ability to take responsibility in integrating new ideas and concepts with previous knowledge to construct new personal meaning through self-reflection, critical thinking

and collaborative confirmation with the teacher through feedback. Lastly, *motivation* refers to the learners' initial or 'entering' motivation and continuing motivation towards the learning process and learning goals influenced by personal need (values), affective states (preferences), personal characteristics (competency), contextual characteristics (contingency; e.g. ideology or socioeconomic constraints). In order to achieve and to sustain motivation, an individual must become intrinsically motivated active learners and integrate both self-management and self-monitoring elements to achieve meaningful learning and quality educational outcomes. In summary, the model integration of contextual, cognitive and motivational dimensions of educational experiences proposed by Garrison (1997) is suitable to be used to describe the learner-teacher transactions and characteristics of university students participated in this study.

Figure 2.4: Garrison's Comprehensive Model of Self-Directed Learning



Another interactive SDL Model which recognized the need to promote SDL within classroom and education setting is **The Staged Self-Directed Learning (SSDL) Model** by Grow (1991). In line with the PRO Model, the SSDL model focuses on the teaching-learning transaction in an educational setting adapted from the business management theory of situational leadership from Hersey and Blanchard's work. The central principle of this model is that teaching is situational and depends on the matching of the teaching styles and learner's ability and self-directed readiness based on the four stages or level as presented in table 2.1. Learning problems will occur when there is a mismatch between the learner's readiness and teacher roles (for example highly self-directed learners are a mismatch with an expert instructor who is highly directive). In this model, SDL refers to 'the degree of choice that learners have within an

instructional situation' (Grow, 1991, p128). In other words, learner's ability to be self-directed is situational and may differ in one subject over another depending on the educational objectives, learners' style, and educational sessions or subjects. Besides, Grow also emphasised the role of teacher influencing and empowering learner towards greater self-direction by matching students' stage of self-direction and using appropriate teaching techniques. Therefore, when using this model, the teacher need first to identify the learners' SDL based on the stage proposed and then match the suggested teaching methodologies to that level for educational activities and sessions. This will be followed by continued encouragement and facilitation to students to progress from lower stage to the next higher level of self-direction. It is also presumed that learners' progression in SDL is part of their maturing process into adulthood (e.g. Knowles, 1984). Despite receiving many compliments from students and teachers in helping the better development of teaching methodologies and learning the curriculum, the SSDL model, however, was criticised for categorising one teaching style as being better than others (e.g. Tennant, 1992). Grow (1994) defended that there is no intention of ranking the teaching style in the model, however, mentioned that SSDLS is a tool that can be used for appropriate applications and promote further discussions. In similar line with the PRO Model, this SSDL would be appropriate to suggest how lecturers through teaching-learning transaction can actively equip, facilitate and empowering university students to become more self-directed in their learning and to ensure continuous development of essential knowledge and skills for their future post completing the programme.

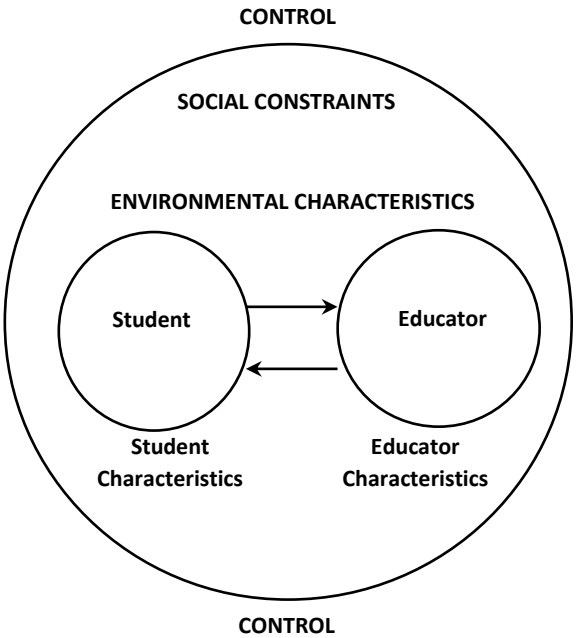
Table: 2.1: The Staged Self-Directed Learning Model

Stage	**Student**	**Teacher**	**Examples**
Stage 1	Dependent	Authority Coach	Coaching with immediate feedback, Drill, Informational lecture, Overcoming deficiencies and resistance
Stage 2	Interested	Motivator, Guide	Inspiring lecture plus guided discussion, Goal setting and learning strategies
Stage 3	Involved	Facilitator	Discussion facilitated by teacher who participates as equal, Seminar, Group projects
Stage 4	Self-Directed	Consultant, Delegator	Internship, Dissertation, Individual work, Self-directed study group

Finally, another model which have similar elements to PRO Model is the **Self-Directed Learning Process (SDLP) Model.** According to Pilling-Cormick (1997), SDL is a teacher-learner learning approach and an internal process where students have control over the learning

process and the role of educators in facilitating the learning process. Based on the foundation of transformative learning, the SDLP model was introduced to explain the interaction between students and educator within changeable contexts of control such as content-orientated, learner-oriented and assumption-oriented (Pilling-Cormick and Garrison, 2007). The model proposed three components as a framework to determine how the process of SDL can be used in any specific environment Pilling-Cormick (1997, p69) (see figure 2.5): 1) the control factor; 2) interaction between student and educator; 3) factors influencing the interaction between educator and students. In SDLP model, the control component can be defined as the extent students direct and influence all aspects of teaching and learning process. Secondly, the interaction between student and educator component refers to the interactions that influence each other on the learning process, and the success of SDL process depends on these interactions. It is assumed that learning is an active process and student's reflection is the key step in determining the information, skills they need that will lead to modification of facilitation styles and strategies. The educator will support and promote self-directedness to students on their learning.

Figure 2.5: The Self-Directed Learning Process Model



The third components include four factors (internal and external) that affect student control over their learning and influence students-educators decisions about learning and facilitation, namely, 1) social constraints; 2) environmental characteristics; 3) student characteristics; 4) educator characteristics. In the model, some crucial environmental

characteristics that can foster transformative learning and facilitation strategies were highlighted such as determining needs, availability of resources, outside classroom influences, feedback, time management, group work, room arrangement, and comfort level of learners. In the context of this study, similar to Grow's SSDL model, this model would be appropriate to suggest how lecturers in the university can actively equip, facilitate and empowering university students to become more self-directed in their learning from the perspectives of influential factors on student-educators interactions. Besides, the foundation of this model also relevant to the PRO Model and objectives of this study where teaching and learning transactions are evaluated in determining self-directedness of u university students.

2.2.3 Summary and Evaluation of SDL Models

Based on the discussion of the SDL models above, SDL is a well-researched concept, and over the years, a tacit agreement has been reached that SDL encompasses multiple components and multi-faceted factors (internal and external). In the context of SDL in higher education, SDL contained six major interrelated components, including self-determination, self-motivation, self-supervision, learner dependence, educator dependence and the social environments (e.g. Brockett and Hiemstra, 1991; Garrison, 1997; Grow 1991; Pilling-Cormick, 1997). Particularly, this study utilised the PRO Model to investigate the multifaceted view of SDL (internal and external components) to measure the learning preferences of university students. Using the quantitative approach of PRO-SDLS by Stockdale (2003), this study used the four factors of PRO-SDLS (Initiative, Control, Efficacy, Motivation) to measure how university students using learning resources, engaging in academic activities, academically motivated behaviour, educator dependencies and the learning environment as their SDL learning preferences. To be precise, in the context of higher education in this study, SDL is viewed as the attempt to identify and understand the relationship between the self-direction behaviours of students and the engagement with the official teaching-learning environment of the university as represented by educators and university management (e.g. Brockett and Hiemstra, 1991; Garrison, 1997; Grow 1991; Pilling-Cormick, 1997). In line with the PRO model, these 2 elements were used to assimilate the contextual, behavioural and psychological elements in order to establish the position of university students on the SDL continuum. The outcome of this study can be used to address the growing needs of SDL; to address the required learning behaviours and developing learning environments; and to address the current rapid information technology advancement society. A few noticeable weaknesses of using the PRO model in this study include the lack of research supporting its use for students' employability, not accounted for cultural contexts

which may impact the SDL of students, and no similar research found in the Middle East educational settings environment.

Along with those discussed earlier, SDL models have been extended to many other specific educational areas or specific groups such as online learning (Song and Hill, 2007); web-based learning (Chou and Chen, 2008); open distance learning (Botha *et al.* 2015); nursing education (Williams, 2001, Fisher *et al.* 2001); medical education (Spencer and Jordan, 1999); problem-based learning (Siaw, 2000; Williams, 2001); hospitality education (Lema and Agrusa, 2007); museum education (Banz, 2009); engineering education (Bary and Rees, 2006); technology use (Holt, 2012); and information literacy in higher education (Conner, 2012). As mentioned earlier, this study concentrates on SDL as a predictor for employability of university students using quantitative investigations approach. Therefore, the focus is on learners' skills from both the characteristics possessed and the teaching-learning transaction of SDL using existing valid and reliable measuring instrument (PRO-SDLS). From the above evaluation, PRO model was the most suitable model and was selected as the primary model for this study.

2.3 Definition and Theoretical Models of Employability

The following section describes the second variable of this study, employability. Given the rapidly changing job market, increased globalisation and technology advancement, the concept of employability has attracted numerous debates from scholars which have resulted in many consensuses, conflicts, definitions, models and operationalization of the concept from different perspectives. According to McQuaid and Lindsay (2005), the concept of employability has been continued to be applied in different context and to people who are currently in the labour market and people who are seeking a job. They also argued and debated that the concept of employability can be viewed from the supply and demand side of the labour market. In other words, the supply side refers to the employability skills that are possessed by workers and job seekers, whereas the demand side refers to employers and the labour market, which provide the opportunities for employment and development as a whole. Sanders and De Grip (2004) also added that the meaning of employability had changed systematically over the years and depended on the employee's current and future position in the labour market. Therefore, it's important to understand further what exactly employability is and what constitutes the literature of employability especially in the context of higher education and graduates. In this section, relevant definitions and employability model as the literature supporting this study.

2.3.1 Individual, Graduates and Self-Perceived Employability

The review of employability begins with the three overlapping concepts of employability used in this study namely, individual, graduates and self-perceived employability. However, in this research, the author will be discussing a few that are relevant and appropriate to this study.

Individual Employability. Many works on employability focus on areas which can be categorised into three broad perspectives, namely, educational and governmental, organisational and employer, and Individual (e.g. Thijssen *et al.* 2008; Guilbert *et al.* 2016; Forrier and Sels, 2003). Employability at governmental and education level focuses on interventions built around internal and external dimensions and implemented through national level policies, strategies and agendas to enhance employability of various populations, institutional (Higher Education) or specific groups such as workers, unemployed, youth or minorities (e.g. Hillage and Pollard, 1998; Harvey *et al.* 2002, Bridgstock, 2009). Secondly, at organisational and employer level, employability focuses on human resource management by optimising and deploying employees within the company to increase competitiveness, flexibility and adaptability to cope with changes. Employability at this level also involves the organisation matching supply and demand of labour with the right skill set required within an organisation (e.g. Van Dam, 2004, Nauta *et al.* 2009; De Vos *et al.* 2011). Finally, employability from an individual level focuses on the individual in the sense of opportunity in acquiring and keep a fulfilling job in the internal or external labour market; dispositions and behaviour of individual; and self-perceived ability (e.g. Forrier and Sels, 2003; Fugate *et al.* 2004; Bernston and Marklund, 2007; O'Donoghue and Maguire, 2005; Rothwell *et al.* 2008). In this study, employability was examined mainly from the perspective of individuals where the focus will be on the perceptions of university students towards their chances of getting employed and also what factors influence their perceptions. Besides, the following section will also focus on the definition of individual employability from three different groups or categories, namely, working population employability, graduate employability and self-perceived employability (SPE).

Many past studies also proposed that individual employability is a multi-faceted construct with including both internal and external factors for working adults in the labour market. One of the earlier and most cited definitions of employability was proposed by Hillage and Pollard. According to Hillage and Pollard (1998, p11), 'employability is about being capable of getting and keeping satisfactory work; and to move self-sufficiently within the labour market

to realise potential through sustainable employment'. They added that employability is contributed by four main elements, which are employability assets (knowledge, skills and attitudes, personal circumstances), deployment (career management skills) and presentation (job getting skills) and finally, external factors (the labour market) (Hillage and Pollard, 1998). Therefore, in order to achieve employability, employees or job seekers will need to have the capacity and capability to sustain a continuous career and employment in the labour market by realising their potential following the acquisition of knowledge, skills and attitudes, career management skills and job-getting skills. Similar to the view of Hillage and Pollard, Rothwell and Arnold (2007, p25) defined employability as 'the ability to keep the job one has or get the job one desires' whereas Thijssen *et al.* (2008, p167) defined employability with the probability to 'survive' in the internal or external labour market.

On the other hand, Forrier and Sels (2003, p106) viewed individual employability as a process which involved the interaction of both internal and external factors, and they defined employability as 'an individual's chance of a job in the internal and/or external labour market'. Based on a situational approach, they also described that employability as 'a time-related and place-related characteristics of an individual that depends on the personal and labour market context' (Forrier and Sels, 2003, p107). For example, a person may be highly employable at a different period of time in a different place. Regularly change factors such as demand for one's occupation (Mallough and Kleiner, 2001), and economic situation (Berntson *et al.* 2006) play a significant influence on individuals' employability. Additionally, Sanders and De Grip (2004, p76) also added the important relation between employability and labour market. They defined employability as 'the capacity and the willingness to be and to remain attractive in the labour market, by anticipating changes in tasks and work environment and reacting to these changes in a proactive way'.

Graduate Employability. Since the focus of this study is university students, the following are definitions of graduate employability related to the context this study. Graduate employability received numerous debates especially on employability-linked learning, performance indicators measuring employability and quality in higher education (Lees, 2002; Harvey, 2001). Building on Hillage and Pollard definition of employability, Brown *et al.* (2003, p111) define graduate employability as 'the relative chances of finding and maintaining relative forms of employment'. They disagreed with the word 'capability' in Hillage and Pollard's definition of employability that ignore the fact that graduates' success is primarily determined by local, national and international labour market conditions than the capabilities of individuals.

Therefore, they have replaced the word capability to relative chances. Similarly, they also viewed employability as a multi-faceted construct with the combination of both absolute and relative dimensions. The absolute dimension refers to the individual characteristics such as having appropriate skills, knowledge, commitment or business acumen to perform a job whereas the relative dimension refers to the state of the labour market (Brown *et al.* 2003). Additionally, they also added that relative chances of finding and maintaining employment are influenced by other factors such as the programme or area of study choices made by individuals, the reputation of the institutions attended and employer's preferences. Therefore, in short, having the relevant knowledge, skills, and attitudes will not guarantee the chances to be employed.

Moreover, according to Harvey (2001, p98) graduate employability can be measured by the 'propensity of students to obtain a job' taking into considerations the type of job they secured, the time duration of getting a job, attributes required to make them employable, willingness to learn and continue learning, and possession of employability skills. He also commented that employability as an enabling process of learning involving the continuous development of critical attributes, techniques or experience that will enable students to get a job or progress within a current career (Harvey *et al.* 2002; Harvey *et al.* 2003). The final product of this enabling process is employment (Harvey *et al.* 2003; Lees, 2002). Besides, Glover *et al.* (2002) viewed employability as graduateness that can be described by seeing students completed university course with the level of knowledge, skills and understanding which allows them to transit into the national and international employment. They also added that the expectations by completing a programme are to gain certain skills or competencies that may or may not have been developed during the programme and ensure that the university experience will provide them with the recognition to secure future work and career.

In an alternate definition, Yorke (2006, p8) defined employability in the context of higher education as 'a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy'. Additionally, Yorke and Knight (2006, p2) also describe graduate employability as the probability of getting and succeed in a 'graduate-level position' by recognising the importance of other combination factors such as extra-curricular achievements, core or key skills, academic intelligence, practical intelligence, good learning and employability related learning. Alternatively, instead of focusing on employability skills, Holmes (2001) offered the view of employability in personal attribute term

as the performance and 'graduate identity' of graduates. He added that employability skills alone would not help to understand the graduate career path or trajectories after they graduated from university. Therefore, in his view, employability needs to be viewed with performance or behaviour of graduates in the job that they secure and in also succeeded in gaining affirmation of their identity as a graduate in the labour market. In the context of this study, graduate employability is viewed as the combination of skills, knowledge, personal attributes that a graduate has that makes him or her more likely to attain a job in their chosen field. Since employability is a multidimensional construct, graduate employability in this study will also be measured using internal and external aspects.

Self-Perceived Employability (SPE). Now that we have discussed the definitions of employability from the perspectives of working and graduate population, the third element of this study is the approach used in defining employability. In literature, employability can be conceptualised as an outcome (objectively) and an antecedent (subjectively) (Dries *et al.* 2014; Veld *et al.* 2015). Outcome-based or Objective employability refers to the measurement of objective factors that are describing whether or not a person can obtain and retain a job. For example, objective employability can be achieved when an individual able to prove that they can find employment and can be measured through facts of one's profile such as their employment status, education and labour market position (e.g. McArdle *et al.* 2007; Mancinella *et al.* 2010). Conversely, antecedent based or subjective employability refers to the measurement of a construct based on the perception of individual of their own employability. For example, subjective employability can be obtained through individuals evaluating their skills, abilities, motivational attitudes and behaviours that may help them finding a new job or maintaining current job (e.g. Bernston *et al.* 2006; Rothwell and Arnold, 2007; Rothwell *et al.* 2008; Rothwell *et al.* 2009; Van Dam, 2004; Van der Heijde and Van der Heijden, 2006; Silla *et al.* 2009; Kirves *et al.* 2014). In line with the objectives of this study and the challenges to obtain accurate data of objective employability, the author is interested in the psychological notion of employability (e.g. skills, abilities, motivational attitudes and behaviours) of students and contextual dimension (e.g. Labour market) as determinants of employability. Therefore, in the present study, employability is interpreted on the level of individual and on subjectivity by focusing on university students' perceptions of their own employability (also referred to as SPE).

In short, SPE can be defined as 'the individual's perception of his or her possibilities of getting new employment' (Bernston and Marklund, 2007, p 281). Building on Bernston and Marklund's (2007) definition, Vanhercke *et al.* (2014) added the possibility to maintain current

employment next to getting employment as part of their definition. Therefore, SPE is defined as 'the individual's perception of his or her possibilities of obtaining and maintaining employment' (Vanhercke *et al.* 2014, p594). In similar lines, based on Forrier and Sels (2003) definition of employability, Veld *et al.* (2015) proposed that SPE as how the individual perceived his or her probability of a job in the internal and external labour market. Besides, Rothwell *et al.* (2008, p2) proposed a definition from the graduates' perspective where he defined SPE as 'the perceived ability to attain sustainable employment appropriate to one's qualification. Additionally, Rothwell *et al.* (2008; 2009) also added that other psychosocial factor such as ambition and contextual factors such as labour market and university reputation could be important determinants of employability. In summary, SPE concerns the individual's perceptions of his or her possibilities of getting employment or keeping a job in the internal and external job market.

Employability of students in this study will be measured by using self-report method (e.g. measuring instruments) on how they will perceive themselves in acquiring new employment post completing their programme. The assumption is that the higher the expectation on SPE, the higher chances one will obtain new employment. In the study of Roskies and Louis-Guerin (1990), there has been an argument that self-perceptions are important as a determinant of employability, given that there is a high tendency that an individual will act upon their perception rather than objective reality. This argument was supported by past studies (Emmerick *et al.* 2012; Kim *et al.* 2015 and Bernston and Marklund, 2007) that perceived employability (individual perception) has a better predictive advantage than objective employability for assessing employees' attitudes, intentions and psychological well-being. Additionally, perceived employability is also assumed to have overall positive contributions to individual and organisation. For example, employability may lead to fruitful employment and higher employability among employees (Fugate *et al.* 2003); contribute to better health and well-being (Bernston and Marklund, 2007); promote continuous and voluntary learning behaviour (Kim *et al.* 2015); and increased performance (De Cuyper *et al.* 2014); and increased willingness for mobility (Veld *et al.* 2015). Therefore based on the above literature and benefits of SPE, the central argument used in this study is that an individual (graduates) with high SPE will think that it is easier to acquire new employment or maintaining current employment upon and after graduation.

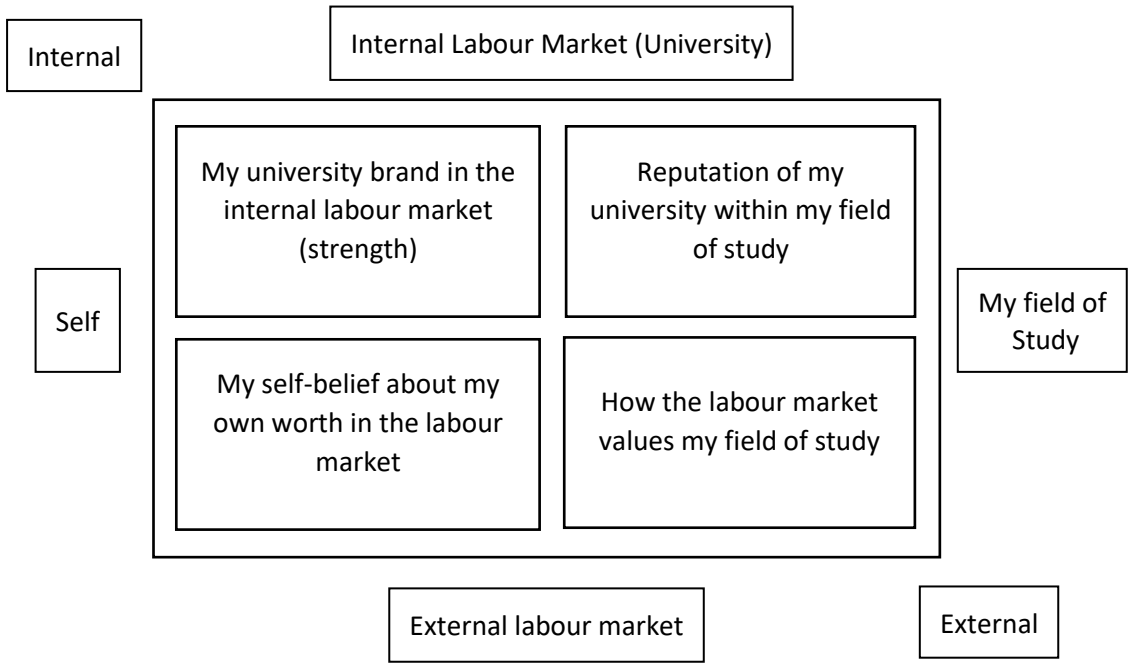
2.3.2 Review of Students Self-Perceived Employability (SSPE) Model and Other Relevant Graduate Employability Model

Over the years, the growing literature on employability studies has illustrated the notion of employability as a multi-faceted construct and also categorised in many ways based on research streams, themes and goals such as objective versus subjective approach (e.g. Vanhercke *et al.* 2014); competency-based approach (e.g. Van der Heijde and Van der Heijden, 2006); dispositional approach (e.g. Fugate and Kinicki, 2008); possibilities or self-perceived approach (e.g. Rothwell *et al.* 2008). In line with the objective of this study, the following section will include discussions on the main and other relates models used to expand the understanding and conceptualisation of employability in this study and specifically in the context of higher education and education settings.

Students Self-Perceived Employability (SSPE) Model. As introduced in chapter 1, the author is using the SSPE model by Rothwell *et al.* 2008 and Rothwell *et al.* 2009 as the umbrella concept and foundation for the construct of employability in this study. In this section, the detailed discussion of the model, components and assumptions will be presented. This model viewed employability from the subjective approach or also known as perceived employability where it measures perceived ability of individual possibilities of getting continuous employment on par with the qualification level that one has obtained (Rothwell *et al.* 2008). For many young people, education has been considered as the main gateway for employability once they completed their programme. Therefore in this model, the primary objective is essentially focused on students' aspirations and their perceptions of their own future career and their readiness to work before their transition to the workplace. Similar to many past studies and models on employability discussed earlier, SSPE model also viewed employability as a multifaceted and multidimensional construct which influenced by both internal and external factors. Therefore, the assumptions in this model are that students' perceptions towards their chances of securing employment a position in the labour market may differ depending on internal employability and external employability. Similarly, according to Vanhercke *et al.* (2014) and Fugate *et al.* (2004), an individual with similar profiles may have a different perception of employability influenced by many factors such as their knowledge of the labour market, their access to personal networks or their motivation to participate in employability enhancing activities.

According to Rothwell *et al.* (2008), SPE can be measured based on four components, namely, self-belief; my university (reputation and brand image); my field of study; and the state of the external labour market. These components have been developed into a measuring instrument the SPE for University Students Scale (SPESUS) to measure students employability based on this model. Additionally, two other components, namely, ambition and UC have also been included as part of the SPE empirical studies by Rothwell *et al.* (2008) and Rothwell *et al.* (2009). The measuring instrument will be discussed in chapter 3. Figure 2.6 also illustrates the overall concept of internal and external employability of university students.

Figure 2.6: Internal and External Employability Model for University Students by Rothwell *et al.* (2008)



The first component is **self-belief** which measures students' confidence towards their abilities and skills for future jobs and careers. This component is in line with the literature proposed Fugate *et al.* (2004, p18) where they suggested that individual characteristics in adaptation to changes are a critical part of contributing to employability. Therefore, employability of students is being predicted on how confident they are with their skills and abilities to get them a job. Besides, this is also supported by the model of employability proposed by Pool and Sewell (2007), where they highlight the importance of self-efficacy, self-confidence and self-esteem providing a crucial link between knowledge, understanding, skills, experience

and personal attributes and employability. According to Bandura (1995, p2), perceived self-efficacy refers to 'beliefs in one's capabilities to organise and execute the course of action required to manage prospective situations'. Efficacy beliefs influence how people think, feel, and motivate themselves and act'. Therefore, in this model, Rothwell *et al.* (2008) reckon that high self-belief will lead to greater employability due to the fact that individuals will be highly driven to gain motivation and manage them to be employed through their skills and capabilities.

The second component measures the students' perception of their **university reputation's** towards their employability. According to Rothwell *et al.* (2008), universities' reputation and brand image may have a similar effect on an individual resume. Past studies provided substantial evidence that recruiters of graduates do limit their target range of universities to look for specific talents based on reputation and brand image (e.g. Finch *et al.* 2013; Murray and Robinson, 2001; Drydakis (2016). Hence, the assumption of the higher the brand and reputation of the university perceived by their students, the greater the credibility of their qualifications which will influence their employability in the labour market (e.g. Hoekstra, 2009; Broecke, 2012; Dale and Krueger, 2002).

The third component focuses on the chosen **field of study**, which was also believed to influence student's SPE. In reality, there are different demands from the labour market for individuals who graduated from various courses, majors and subjects. According to Clarke and Patrickson (2008), employability has been driven by the economic impact of skill and labour shortages. In other words, a particular field of study may have higher job market values compared to the other areas of study depending on the needs of the market (McGuinness, 2003). From the graduate employability perspective, Harvey (2003) mentioned that institutions of higher education provide employability development opportunities to students such as courses, programmes and various field of studies where students can develop relevant skills and knowledge to gain employability. In this study, the reputation of the university had in the area of study is believed to be influential to the employability of the students. Hence, in this study, the students' perceptions towards the university's reputation on the field study are used to measure whether or not the current programme that they are studying will be able to help them to improve their attractiveness and gain employability in labour market post completion of the programme (Rothwell *et al.* 2008).

Finally, the fourth component of this model focuses on **external employability.** This component measures the students' perceptions of the influence of labour market towards their

employability. Rothwell and Arnold (2007) commented that employability could be measured by the future-oriented perspective of individuals and their ability to proactively address the challenges of the labour market. Based on past studies and existing literature, the labour market is a significant contributor to the definitions, dimensions, and the concept of employability (e.g. Hillage and Pollard, 1998; Lees, 2002; Bates and Lewis, 2009; Thijssen *et al.* 2008; Tomlinson, 2007). Besides, Fugate *et al.* (2004) also suggested that employability helped individuals to cope with work transition in turbulent employment. Therefore, it is assumed that students who have a high level of external market awareness would have a high level of SPE. This is based on the fact that students with high awareness are believed to be able to address challenges in the labour market proactively and to be able to balance on their own and employer's needs, hence lead to the possibilities of seeing the opportunities in the external labour market (Rothwell *et al.* 2008; Wittekind *et al.* 2009).

Besides the four components mentioned earlier in SSPE Model, Rothwell *et al.* (2008) and Rothwell *et al.* (2009) also included two additional components, namely, **ambition** and **university commitment (UC)**, which was supported by existing literature to have positive correlation and relationship with SPE. According to De Vos *et al.* (2011), SPE was found to be positively related to career success in their study on more than 500 employees in a large financial service organisation. The term 'career success' used for working population in Rothwell and Arnold (2007) was changed to 'ambition' for university students in Rothwell *et al.* (2008). The ambition component was included as part of SSPE model because students have yet to join the employment or the labour force; hence their perceptions towards future career success were incorporated as one of the essential internal element in determining the students' future employability and employment (Rothwell *et al.* 2008). Built on the literature of Nabi (2001) and Greenhaus *et al.* 1990 on career success, Rothwell *et al.* (2008) ambition component focuses on the subjective evaluation of students' towards their aspirations, expectations and their goals that will influence their future careers success, skills and development. Similarly, Dries *et al.* (2008, p255) added that 'subjective career success could be measured by individual's perceptions of their own success, based on the evaluations of personal accomplishments and future prospects'. Additionally, Ashby and Schoon (2010) commented that the terms expectations, aspirations and ambitions are often used interchangeably in many past studies and operationalised in different ways (e.g. Croll, 2008). In fact, past studies also established that career aspiration of young people related positively to adult career attainment (e.g. Mello, 2008; Schoon *et al.* 2007; Schoon and Parsons, 2002). In other words, an individual with high career aspirations is more likely to have better job attainment in adulthood. Therefore, in the context

of this study, the higher the ambition of the students, the higher chances to obtain employment in the labour market.

Another additional component included in Rothwell's *et al.* (2008) study on SPE is UC. The commitment component was originally proposed in Rothwell and Arnold (2007) as professional commitment (adopted from Tsui *et al.* 1997) in their study on working population where they expect that a person's sense of attachment and loyalty to his or her profession may relate positively with SPE. This was supported by the study of De Cuyper and De Witte (2011), and Van Dam (2004) where SPE was found to be positively associated with affective organisational commitment. With the assumptions that university's reputation as an asset in a competitive labour market, the commitment component was later extended to the study on undergraduate (Rothwell *et al.* 2008) and postgraduate (Rothwell *et al.* 2009) students. The word 'professional commitment' was changed to 'university commitment' and measuring items were amended from work setting to education setting. Although there were reputation and brand image of the university items included in the SPE scale, the items were focusing mainly on the credibility of qualifications and overall reputation of the university that may influence student's employability in the labour market.

The UC component was developed as subjective evaluation of students' affective commitment towards their association, relationship and emotional attachment with their university that may result in creating inspirations leading to better academic performance and students promoting the university to their friends and family (Rothwell *et al.* 2008; Rothwell *et al.* 2009). Besides, a recent study also showed the importance of student-university identification and relationship. According to Balaji *et al.* (2016), students who identified with their university perceived their destiny as connected with the university and will result in driving students' desire to engage in university supportive behaviours. Besides, Dennis *et al.* (2016) also revealed that students brand attachment strength with the university affects satisfaction, trust and commitment of students and graduates. This is also supported by the argument by Fugate *et al.* (2004) that possession of a university degree and 'fellowship' membership status is positively correlated with employability of an individual. Additionally, Fugate *et al.* (2004) also added that employability is a psycho-socially constructed concept. Hence, a measure of commitment as human capital variables may help students relate their education and university experiences to the life experiences which may impact their future employability (Rothwell *et al.* 2008). For example, according to Fugate *et al.* (2004) past studies have shown that human capital factors, education and experience have been found to be the strongest predictors of

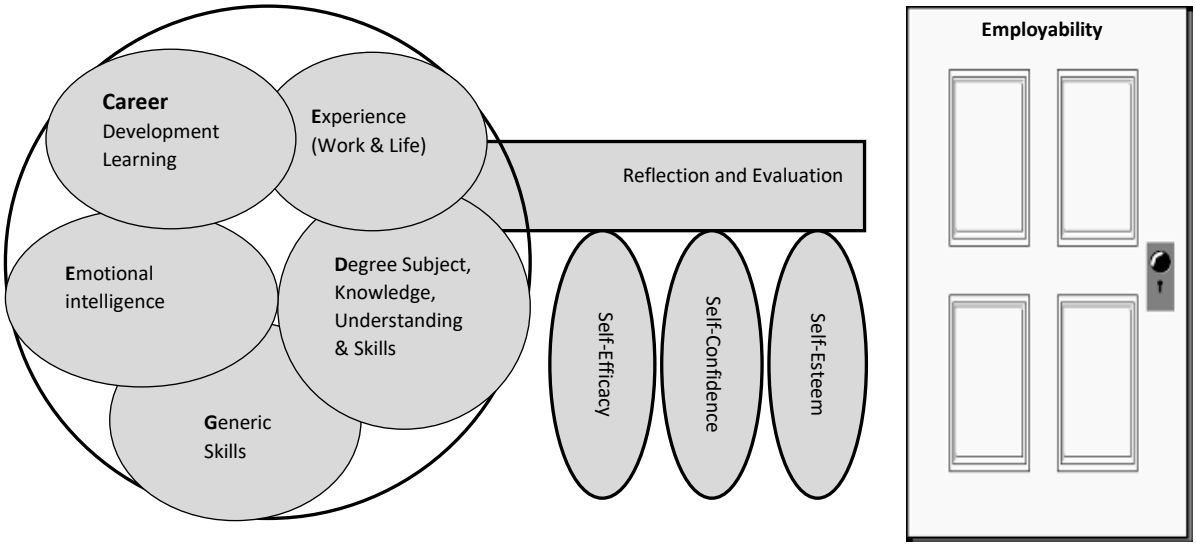
career progression (e.g. Judge *et al.* 1995; Kirchmeyer, 1998; Tharenou *et al.* 1994). In other words, an individual with high UC is more likely to have better career attainment and progression. Therefore, in the context of this study, the higher the UC level of the students leads to the higher chances to obtain employment in the labour market. In addition, both ambition and UC components have been developed into a measuring scale by Rothwell *et al.* (2008) and will be discussed in chapter 3.

Although SSPE model is relatively new in literature, numerous empirical studies relevant to the model have been conducted. One of the main studies was related to the development and validation of SPESUS, and the instrument is measuring SPE, ambition and UC based on the SSPE model. Rothwell and Arnold (2007) developed the SPE scale with the objective to measure individuals' perceived employability from a group of human resources professionals in the UK. The study also aimed to examine the SPE scale construct validity and correlations with demographic variables. Rothwell *et al.* (2008) later constructed and validated the SPE scale for undergraduate university students (in short SPESUS in this study). Further validation of SPESUS was conducted by Rothwell *et al.* (2009) from based on the responses of postgraduate students. Based on the empirical studies conducted, SPESUS was found to be valid and reliable. Therefore, empirical studies using the SSPE Model emerged over the years from scholars around the world due to high reliability scores of SPESUS such as Hinton (2012), Katyal and Arora (2013), Forstenlechner *et al.* (2014), Huang (2015), Creed and Gagliardi (2015), and Karli (2016). However, Rothwell *et al.* (2008, 2009) did highlight a few limitations on the SPESUS scale such as the accuracy of students perceptions since it is a self-report measure; subscales ambition and UC that needs further development due to design issues; lack of research supporting the use of SPESUS in international context, longitudinal study to translate self-perceived employability into reality and application in different cultural context. Despite these limitations, the SSPE model is still a viable and relevant conceptual model framework to understand graduates employability and perceived employability (Vanhercke *et al.*,2014).

Besides the SSPE model, other graduates employability models related to tertiary education environments were reviewed as part of this study. The discussion is limited to four most recent models that include internal and external employability of university graduates. **Career EDGE Key to Employability Model.** This model was introduced by Pool and Sewell (2007); Pool *et al* (2014) where they proposed graduate employability can be built and enhanced through five essential components, namely, career development learning ; the experience of work and life; degree subject knowledge, understanding and skills; generic skills; and emotional

intelligence. The model suggested that students should be provided with opportunities to access these components to develop essentials skills, knowledge, attributes, understanding and also for reflection and evaluation of the learning experiences. The reflection and evaluation opportunities are critical components as it enables the student to integrate new information and knowledge that will lead to the development of student's self-efficacy (belief that one has the capability), self-confidence (ability to present oneself as with self-assurance) and self-esteem (having self-respect and feeling of self-worthiness); which are crucial links to their employability. (See figure 2.7). In the context of this study and in line with SSPE model, this practical model would be appropriate to explain the concept of employability and provide suggestions to institutions of higher education, lecturers, students and other relevant stakeholders involved in employability activities to ensure that these essential components are available for students throughout the duration of the university programme.

Figure 2.7: Pictorial Version of CareerEDGE – Key to Employability Model by Pool and Sewell (2007)

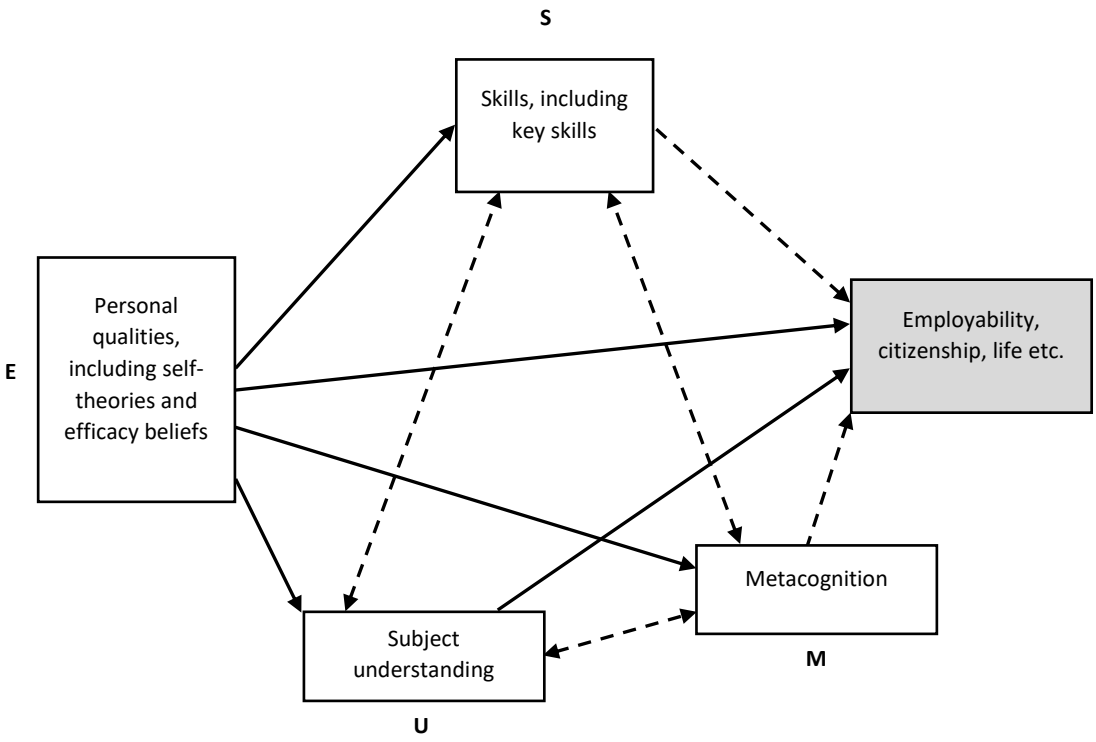


Career Development Learning; **E**xperience (Work & Life); **D**egree Subject Knowledge, Understanding & Skills; **G**eneric Skills; **E**motional intelligence

USEM Employability Model. According to Yorke and Knight (2006), graduate employability is influenced by four broad and inter-related components or areas: **U**nderstanding, **S**kills, **E**fficacy belief, and **M**etacognition. The USEM account of employability is illustrated in figure 2.8. The understanding component refers to the understanding of subject matter of the degree or programme or knowledge in the form of mastery of particular subject

which is a key outcome or output of institution of higher education. In this model, the word 'understanding' is preferred compare to 'knowledge' because knowledge is often misled or confused with retention of information (Knight and Yorke, 2004). The second key element to employability is 'skill'. In this model, skills also can be described as skilled practices, generic skills, subject-specific skills or key skills that can be measured, readily transferable to a range of different setting or can be improved through repetition and practices. Understanding and skills provided by the university alone are not sufficient contributions to employability. Therefore, the efficacy belief (E) component is one of the central areas that suffuses other component contributions to employability (see the direction of the interaction of each element). Efficacy belief refers to the need of students to have fixed and adaptable self-theories or personal qualities where they believe that they have the capability and can make an impact on different situations or event or when facing challenges (Yorke and Knight, 2006).

Figure 2.8: USEM Employability Model by Yorke and Knight (2006)



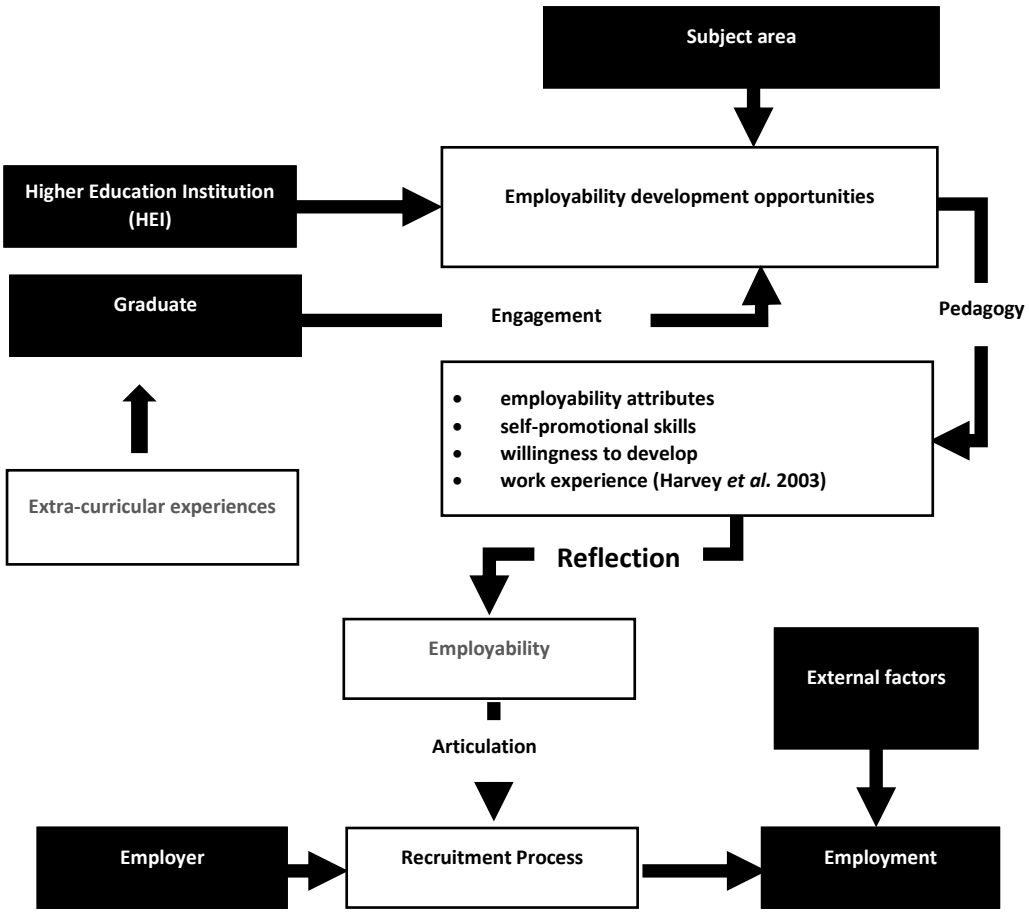
Finally, the component of metacognition refers to three essentials elements, namely, 'awareness of what one knows and can do, and of how one learns more'. (Knight and Yorke, 2004, p38). Besides, metacognition component also required students to have the capacity to reflect on, in and for practice on learning; and capacity of self-regulation to enhance

employability. In the context of this study, USEM model can be utilised by the university in deciding how university programme can be designed to improve student requirement to employability by getting a better understanding of the skills and personal qualities of students attending university programme.

Graduate Employability Development (GED) Model. Similar to the employability process model for working population by Forrier and Sels (2003), Harvey's *et al.* (2002) GED model focuses on a process of learning and development that leads to graduate obtaining, keeping and developing fulfilling jobs or careers. The GED model account of employability linking together various factors, development attributes and relevant stakeholders for students getting an appropriate job are summarised in figure 2.9. In this model, the graduate is responsible for engaging and choosing employability development opportunities (implicit and explicit of the programme they enrolled) provided by the institution of higher education (university). At the same time, the graduate will also gain skills, knowledge and experience through extracurricular activities during the duration of the programme in the university. Harvey *et al.* (2002) highlighted that the employability development opportunities has four main objectives, namely, 1) to develop employability attributes (which is important in obtaining and keeping jobs or careers; 2) development of self-promotional skills (such as job seeking skills and career management skills which are important when finding jobs); 3) willingness to learn and reflect on learning (involve encouragement of learning and the awareness of the need to continue learning); 4) Work experience (through part-time employment, work placement or internship);

Besides, the model also outlined three core or critical processes which will impact on graduate employability: 1) pedagogy (the process where lecturer encourage the development of graduate through the module of the programme implicitly and explicitly; 2) self-reflection (Opportunity for students to reflect and integrate new information and learning with the existing knowledge); 3) articulation (where graduates able to demonstrate the skills, knowledge, abilities and behaviour learnt through experience and development opportunities). In the context of this study, this model provides an overview of the internal and external process similar to SSPE model that university students participated in this study may have to go through to claim their employability.

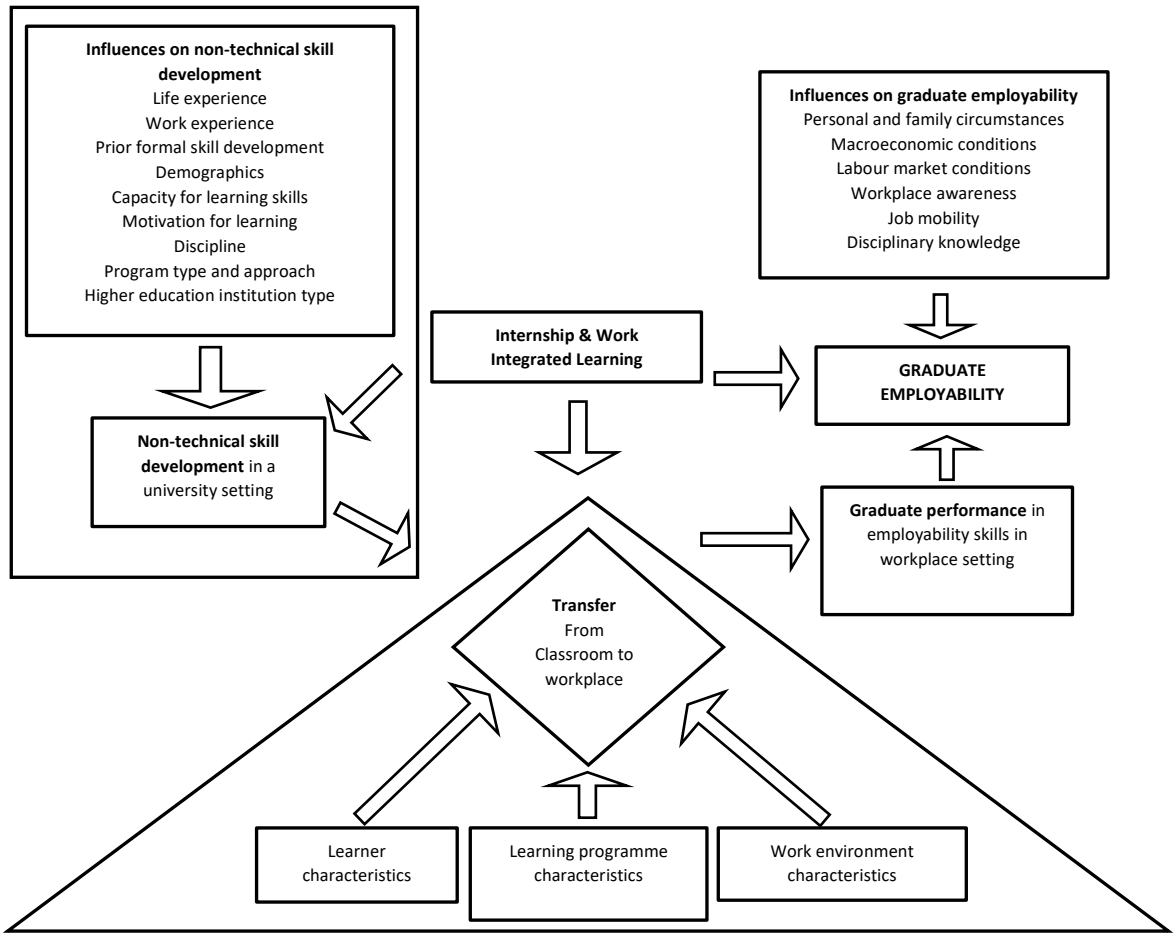
Figure 2.9: Graduate Employability Development Model (GED) by Harvey *et al.* (2002)



Jackson's Graduate Employability Model. Jackson (2013) proposed a holistic model of graduate employability with the focus on learning transfer of non-technical skills acquired from university to the workplace and linking together determining factors and forces that influence employability. Drawing from many past studies on employability and transfer of learning, the account of graduate employability in this model is illustrated in figure 2.10. Non-technical skills are one of the central key concepts of this model and also referred to as a key, professional or generic skills. The non-technical skills definition of this model was adopted from Goleman's (1998, p4) work, where it refers to 'prime qualities that make and keep us employable'. In other words, non-technical skills also can be described as skills (e.g. cognitive, social, self-management, soft skills or administrative skills), capabilities and attributes that graduates require to assist them to transfer or apply their disciplinary knowledge, skills and expertise gained from university to different contexts in the workplace.

The model consists of two critical stage that graduates will need to go through before their transition to claim their employability. The first stage consists of the development of non-technical skills or generic skills in the university setting to increase and enhance work-readiness. Taking into considerations external and internal influences, the university plays a primary role to ensure that these skills are imbibed and included in the learning curriculum or any other development opportunities (such as an internship or work-integrated learning) for students during the duration of the programme. Since this model was developed in the context of business graduates, Jackson (2013) highlighted prominent example of non-technical skills related the business discipline such as critical thinking, problem solving, decision management, oral communication, leadership, political skills, self-discipline and professional responsibility (Jackson and Chapman, 2012a; Jackson and Chapman, 2012b).

Figure 2.10: Graduate Employability Model by Jackson (2013)



The second stage involves the university-workplace transition where non-technical skills acquired by students in the university setting are successfully applied and demonstrated in a different context at the workplace. The outcome of this process will be the graduate performance at the workplace. The overall climate of transfer plays a primary role in ensuring successful transfer of learning. Similar to past studies, this model also suggested that employability is a multi-faceted construct with both internal and external dimensions. Graduate employability also influenced by other factors such as labour market conditions (McQuaid and Lindsay, 2005) and personal circumstances (Hillage and Pollard, 1998) as presented in figure 2.10 (Jackson, 2013). In the context of this study, the foundation of this model is relevant to objectives of this study where teaching and learning transactions are evaluated to enhance the employability of university students.

2.3.3 Summary and Evaluation of Employability Models

Based on the above theoretical models presented, the notion of employability does not guarantee any employment for students when they graduated. However, further understanding of this multidimensional concept and appropriate action taken by shared responsibilities of individuals (in this study, graduate students), employers and universities will increase the chance of a person obtaining suitable employment compared to other job seekers. In the context of higher education based on all the models presented, SPE influenced five major internal and external interrelated components, including self-belief, ambition, university reputation, field of study, and external labour market (e.g. Rothwell *et al.* 2008; Pool and Sewell, 2007; Yorke and Knight, 2006; Harvey *et al.* 2002; Jackson, 2013). Particularly, this study utilised the SSPE model to investigate the multifaceted view of SPE (internal and external components) to measure the subjective self-perceived employability of university students in the absence of objective employability data. Using the quantitative approach of SPESUS by Rothwell *et al.* (2008), this study used six factors (self-belief, university reputation, the field of study, external labour market, ambition and UC) to measure the perceptions of students regarding their ability to attain employment appropriate to their qualification. To be precise, SPE in this study is viewed as an attempt to predict the objective employability based on students' perceived employability on their attitudes, intentions and psychological well-being. This is in line with the argument that individual will act upon their perception rather than objective reality (e.g. Roskies and Louis-Guerin, 1990; Emmerick *et al.* 2012; Kim *et al.* 2015; Bernston and Marklund, 2007).

According to Fugate *et al.* (2004, p18), 'individuals with high employability are likely believed to be able to identify a wider array of career alternatives and opportunities and realise those they can pursue. Behaviourally, those with high employability are likely to assert themselves, thereby reducing uncertainty'. Besides, Wittekind *et al.* (2009) and Kluytmans and Ott (1999) have also analysed existing models of employability from the literature, and they revealed three core variables that play a significant role in determining perceived employability, namely, 1) Job-related qualification; 2) Willingness to develop new competencies and change jobs; and 3) Knowledge of labour market. Similarly, these three core variables were mentioned directly and indirectly of all four graduate employability models presented earlier. A few noticeable weaknesses of using SSPE model and SPESUS scale in this study include the lack of research supporting its use for students SDL; not accounted for cultural contexts which may impact the SPE of students; no indication on what score imply high levels of employability; and no research found in the Middle East educational settings environment.

Similar to SDL as discussed earlier, the concept of SPE is well-established in literature and has been utilised in many past studies for measuring employability and investigating the relationship with other constructs such as employees health and well-being (Bernston and Marklund, 2007; De Cuyper *et al.* 2008); human capital and labour market factors (Bernston *et al.* 2006); psychological contract (Dries *et al.* 2014); employee willingness to training and development, and mobility (Veld *et al.* 2015); employee well-being and organizational success (De Cuyper *et al.* 2011); contract type, perceived mobility and optimism (Kirves *et al.* 2014); job insecurity (Silla *et al.* 2009; De Cuyper *et al.* 2008); intrinsic and extrinsic motivation (Emmerick *et al.* 2012); voluntary learning behaviour, employee self-esteem and self-efficacy (Kim *et al.* 2015); dispositional hope (Hinton, 2012) and many other published studies not listed here. Furthermore, SPE has also being utilised in past studies focusing particular groups such as graduate students (e.g. Rothwell *et al.* 2009; Creed and Gagliardi, 2015; McIlveen *et al.* 2013); employed (e.g. De Cuyper and De Witte, 2010; Dries *et al.* 2014); and unemployed (e.g. Wanberg *et al.* 2010; McArdle *et al.* 2007). As discussed earlier, this study uses SDL variables as predictors for employability of university students with the expectation that the increase of SDL among students will increase their perceived ability to attain sustainable employment appropriate to their qualification. Therefore as the independent variable of this study, the focus is on measuring perceived employability based on student's attitudes, intentions and psychological well-being using existing valid and reliable measuring instrument (SPESUS). Hence, from the above evaluation of models and past studies, SSPE model was the most suitable model to be used in

this study. With the support of existing literature, in summary, the study focuses on how SPE associated with SDL (as a construct) among students (graduates).

2.4 Theoretical Links between Self-Directedness in Learning and Employability

The following section will feature an overview of past studies and literature that had shown the theoretical links between SDL and employability. Based on the literature discussed in earlier sections, theoretical links between SDL and employability can be viewed from two main perspectives: 1) Locus of responsibility of the individual in SDL and employability; 2) Attributes, personal qualities, skills and competencies associated with SDL and employability.

From the first perspective, links between employability and SDL can be viewed from the dominant employability discourses that promote individual responsibility for managing their own career and dealing with organizational changes and job security due to today's knowledge-driven economy (Wittekind *et al.* 2010; De Grip *et al.* 2004; Guilbert *et al.* 2016; Fugate *et al.* 2003). Similarly, there is also shift of responsibility from the focus of obligation in generating employment by policy makers (government) towards individual (employees, graduates) obligation and responsibility to foster employability (Sin *et al.* 2016; Brown *et al.* 2003; Bridgstock, 2009; Wilton, 2011; Moreau and Leathwood, 2006). Furthermore, new career concepts such as 'protean careers' (Hall, 2004) and 'boundaryless careers' (Arthur *et al.* 2005) as alternatives to job insecurity also emphasise on individuals to manage their own personal career success. Therefore, the shift of responsibility on the individual to manage their own employability indicates the importance of lifelong learning, SDL, continuous and voluntary learning behaviours to remain current in today's competitive and information-oriented society (Walumbwa *et al.* 2009; Kim *et al.* 2015) .

Additionally, according to O'Donoghue and Maguire (2005, p 442), due to the lack of security of employment and the shift of responsibilities from employer to individual in taking control of their future employability, 'individuals nowadays need to take responsibility for their own personal development, take ownership of their own employability and view their career in terms of wider employability across industries and sectors'. In order to maintain high employability, one must consistently learn and develop a career path and select successful routes in learning. Therefore, if we refer back to the literature that has been discussed in the earlier section, SDL play a primary role in job attainment, job mobility and job retention of an individual. Therefore, Raemdonck *et al.* (2011) highlighted that individual who is not self-

directed in learning would be running on the higher risk that their knowledge will become obsolete and will impact their employability to current and future employees. Similarly, this will apply to graduates students who are going to secure sustainable employment in the labour market post completing their education programme from the institutions of higher education.

According to Guglielmino and Guglielmino (2006), in order to meet the demands of the rapidly changing workplace, individuals need to function as a self-directed learner. Moreover, Savin-Baden and Major (2004) added that the twentieth century is an era of higher education programmes focuses on the role of learners in determining what they want to learn, and their responsibilities to be self-directed and self- regulated in their learning process. Besides, from an external factors point of view, technology advancement in this digital era has also transformed SDL into a major factor in learning and development at the workplace and institutions of higher education (Song and Hill, 2007; Karakas and Manisaligil, 2012). With progressive development and changes in the technology world, individual as are engaging self-direction and take responsibility for continuous learning for their careers by learning new skills and knowledge required in the knowledge economy through online learning, web-based learning, digital tools, web 2.0 technologies, social networking tools and social media (Song and Hill, 2007; Karakas and Manisaligil, 2012). Therefore, SDL abilities are critical to foster the abilities of the individual to continue to learn and enhance their competencies required for any employment or future employment.

From the graduate employability view, the level of SDL is necessary to ensure that students take ownership of their learning and being empowered to learn from employability development opportunities provided by institutions of higher education (Harvey, 2001; Harvey *et al.* 2002). There have been many debates about the effectiveness of traditional education over the years on the ability of higher education institutions preparing their students for the world of work. In fact, according to Williams (2001), professional education programmes across the globe share the same goal of producing competent graduates who will make a successful transition to the world of professional practices. However, there was also the realisation by employers, that they are not getting the right 'type' of employees with the right skills to today's economy (Wee and Kek, 2002; Harvey, 2001). Similarly, debates can also be heard across the globe that universities are not producing quality graduates who are highly valued by industries (De La Harpe *et al.* 2000). The question here is what could be done better? From a macro perspective, Tan (2002), stated that education in the 21st century is about dealing with new real-world problems. Education programmes not only need to have the ability to provide learning on

how to get things done, but also the capacity to deal with changes, and capacity to adapt, select and shape our interactions with the environment (Sternberg, 1990). Yeo (2005) commented that learners today need to determine what they want to learn, how they want to learn, and the level of participation based on their current work experience. In summary, SDL is essential for students to fulfil the ever demanding workplace and maintain their attractiveness and employability in the labour market.

Additionally, there are several past studies available that shown the theoretical links between SDL and employability from the perspective of individual responsibility. For instance, Raemdonck *et al.* (2011) in their research highlighted that SDL contributes to employees' upward mobility and make them more employable. They also proposed that SDL and self-directedness in the career of an individual predict employability through job retention and job mobility. Besides, Gijbels *et al.* (2010) in another study also found that there is a significant relationship of SDL affecting employability through work-related learning behaviours. In brief, work-related learning behaviour refers to activities that help individuals to learn and develop through the acquisition of new information, finding solutions to problems and increasing performance by doing new tasks. The findings of the research indicated that individuals who are highly self-directed in their orientation of learning would learn more in a work-related way which will help them acquire skills that can result in higher employability in the labour market (Gijbels *et al.* 2010).

Literature also has shown that students with high self-direction approach will be involved more in actual work-related learning and will learn more in the workplace hence contributing to higher work performance (Taris and Kompier, 2005; Walumbwa *et al.* 2009; Kim *et al.* 2015). Other past studies also have shown that SDL behaviours positively correlated and enhanced SPE and career success of an individual (e.g. Botha *et al.* 2015; Kim *et al.* 2015). According to Guglielmino and Guglielmino (1994), individuals who have developed high SDL skills or have high self-directedness level tend to perform better in jobs requiring a high degree of problem-solving ability, creativity and change. Besides, Drucker (1993) in his book Post-Capitalist *Society* also emphasised the importance of SDL as an essential competence for employees at all levels. In the context of learning organisations in the knowledge economy, companies nowadays want workers who can adapt to change and transformation through motivation, SDL and critical thinking (Senge, 1990).

On the other hand, Wittekind *et al.* (2010) highlighted the importance of individual's willingness and positive attitudes to develop new competencies, change jobs, and participation in training as determinants of employability. They added that employees are responsible for adapting to new work situation or acquiring new competencies when there are organisational changes taking place in order to maintain their job. Therefore, SDL plays a crucial role in ensuring employees to adapt and transit into the new role. Besides, Kim *et al.* (2015) in their study also found a positive correlation between voluntary learning behaviour and perceived employability. They described voluntary learning behaviour as 'continuous, SDL and development that volitionally enhances human capital, such as knowledge, skills, experience and qualifications' (Kim *et al.* 2015, p 265). In short, employees' responsibility of being self-directed is an essential component to gain employability for current and future employment.

The second perspective of links between SDL and employability can be viewed from the human capital elements of attributes, personal qualities, skills and competencies shared by both constructs. In short, in order for an individual to be a self-directed learner and to gain employability, one needs to have a range of characteristics, attributes, personal qualities, skills or competencies. The following are some of the examples in the context of this study. For instance, self-directed learners are self-motivated to learn and acquiring skills to solve specific issues (Knowles, 1994) whereas intellectual skills such as problem-solving skills, critical skills and creative thinking skills are the core competencies that can influence employability of an individual (Reid and Anderson, 2012; Halpern, 1998). Stockdale and Brockett (2011) also described self-directed learners to have a proactive personality as they take control and initiative in their own learning process. They also added that proactive personality is a crucial element for individual's future career success. Past studies have shown positive relationships between proactive personality and career success (e.g. Brown *et al.* 2006; Seibert *et al.* 2001; Erdogan and Bauer, 2005; Tymon, 2013). Besides, self-directed learners assume and take primary responsibility for planning, implementing and evaluating learning process (Brockett and Hiemstra, 1991). Similarly, an individual who is employable is expected to have the willingness to learn and accept responsibility (Andrews and Higson, 2008; Wittekind *et al.* 2010). Self-directed learners also have the ability to respond to problems, challenges, and newness to the environment (Guglielmino, 2008), whereas the level of employability of an individual is influenced by the flexibility and adaptability of an individual (Fugate *et al.* 2003). Furthermore, self-directed learners are able to interact and collaborate with peers and fellow learners to exchange valuable information and getting support (Brookfeild, 1985; Hammond and Collins, 1991) whereas individual is expected to have good interpersonal skills and communication skills

in order to enhance their employability in the job market (Lievens and Sackett, 2012; Gardner *et al.* 2005). Therefore, based on the above examples, self-directed learner and employability shared a range of characteristics.

According to Guglielmino and Guglielmino, 1994), individuals who have developed high SDL skills and level tend to perform better in jobs requiring a high degree of problem-solving ability, creativity and change. Raemdonck *et al.* (2011) in their research also mentioned that employees would have better employability chances when they adopt a higher level of self-directedness in relation to their learning and career development. Research by Bary and Rees (2006) also found that SDL skills are of prime importance to the success of innovation processes, which are required by students to become engineers. Additionally, it is mentioned that there have been positive links between SDL readiness skills and their capacity to conceive projects, manage them and reach their goals. McQuaid and Lindsay (2005) also highlighted a few attributes such as self-discipline, self-motivation, proactivity and adaptability that are closely related to SDL abilities.

Past studies also shown the characteristics shared between SDL and employability constructs. Here are some of the previous studies identified. For example, Seibert *et al.* (1999) conducted a study which focuses on the relationship between proactive personality and career success among employed business and engineering graduates. The result of the research shows that proactive personality was significantly and positively associated with employees' career success. In the research, proactive individuals are those who are more likely to identify and pursue opportunities for self-improvement, such as acquiring further education or skills needed for future promotions (Seibert *et al.* 1999). These behaviours are very similar to individuals who have high SDL. Therefore, based on this research, the author can assume that proactive personality contributes to the higher employability of an individual.

Similarly, King (2004) also conducted a study which can be used to support the theoretical framework between SDL and employability. The study argued that individual engaging in career self-management can deliver positive psychological outcomes including enhanced career, life satisfaction, self-efficacy and well-being. Therefore, career self-management is hugely beneficial for self-motivated and highly skilled workers seeking to adapt to a changing world of work (King, 2004). The self-managing behaviours highlighted in the research such as self-efficacy, desire for control over career outcomes, self-promotion and upwards influence have many similarities with self-directed learners characteristics which focus

on taking own responsibilities for personal growth. Therefore, it is fair to mention that SDL characteristics do have a positive relationship with career advancement of a person, hence promote employability. A recent study by Botha *et al.* (2015) reported that adult learner' sense of SDL positively affected and predicted their self-perceived confidence in their employability attributes. The study also highlighted four psycho-social behavioural domain of SDL (strategic utilisation of officially provided resources, engaged academic activity, success orientation for open distance learning, academically motivated behaviour) that positively correlated with employability attributes from three psycho-social behavioural dimensions (intrapersonal, interpersonal and career). In summary, SDL has been associated with employability due to the fact that both constructs shared many characteristics and psycho-social behaviours.

Additionally, there have been numerous models of employability proposed by many academic scholars who emphasised the importance of SDL characteristics as a positive determinant of individuals' employability. For instance, Pool and Sewell (2007) introduced the CareerEDGE model as the key to employability. In the model, they proposed the importance of self-efficacy, self-confidence and self-esteem (SDL attributes) with individual employability. Besides, there were early studies conducted to explore the relationship between self-confidence, self-esteem and self-efficacy. McCune (1989) in her research found a significant relationship between SDL with confidence. Besides, Hoban and Sersland (2000) in their paper also pointed the relationship between Bandura's (1997) definition of self-efficacy with SDL performance. Furthermore, Bridgstock (2009) in her employability model also highlighted the importance of career management skills and career building skills which are related to SDL to enhance graduate employability. She proposed career management skills emphasise the need for an ongoing process of engaging in reflective, evaluative and decision-making processes using skills for self-management and career building. Individuals with career management skills will be able to "creating a realistic and personally meaningful career, identifying and engaging in strategic work decisions and learning opportunities, recognising work-life balance and appreciating the broader relationships between work, the economy and society" (Bridgstock, 2009, p36). In summary, with these skills, individuals will be able to obtain and maintain work, hence improve employability.

On the other hand, from the hospitality industry perspectives, Lema and Agrusa (2006) in their paper mentioned about the importance of SDL readiness with career advancement. They added that in the hospitality organisations, the level of adaptability by employees towards changes is very crucial. Therefore, it is critical for employees to have high SDL readiness, which

required them to take control, to adapt and be flexible over their own learning and development to transit into the new work settings and remain productive (Fugate *et al.* 2003). Besides, SDL characteristics play a significant role in job retention and mobility, which reflect on the employability of individuals who work in the hospitality industry.

As a conclusion, it is important to develop SDL abilities among university graduates. In this way, graduates can acquire skills that can result in higher employability in the labour market as well as organisational success (Guglielmino and Guglielmino, 1994; Jackson, 1996; Raemdonck and Thijssen, 2005; and Thijssen *et al.* 2008). With the above literature and past studies supporting the role of SDL in enhancing graduates' employability, therefore, it is critical to conduct an empirical study to explain the strength of the relationship and contribute to the development of knowledge as mentioned in chapter 1.

2.5 Factors Influencing Graduate Employability

As an extended study of the earlier mentioned construct of SPE, factors are influencing graduate employability focus specifically on selected skills, attributes, personal qualities, competencies and external aspects which will not be used for correlational and inferential statistical analysis. In line with objective 3 of this study, the author aims to conduct an evaluation of subjective factors (perceived importance of factors) that are important to graduates employability based on the perceptions of the students participated in this study. These employability factors will be viewed from the perspective of specific and categories of employability skills, attributes, personal qualities, competencies and external elements from published literature. As it is widely acknowledged that employability is a multidimensional construct, internal and external factors related to graduate employability will be included in this subjective evaluation. The following section describes the overall literature used to evaluate the SPE factors in this study.

According to Clarke (2008), to a large extent, many existing definitions of employability mentioned that individual characteristics and behaviour as the core element in determining employability. This is generally true from an employers' perspective, where employability is usually refers to whether or not an individual possessing the required attributes, skills or competencies that match the current employment needs, responds to future demands in the workplace or labour market (Bates and Lewis, 2009; McQuaid and Lindsay, 2005; Baruch, 2001). According to Sullivan and Arthur (2006), it is a norm for today's economy that employees will

experience multiple careers and job movement during their working lives. Therefore, it is important that employees have transferable skills that will allow them to have the flexibility, adaptability and ability to work across different organisations or jobs (Fugate *et al.* 2004; Fugate and Kinicki, 2008; Wittekind *et al.* 2010). From the perspective of the employer, Cox and King (2006, p 263) defined employability as 'a person possesses the capability to acquire the skills to do the required work, not necessarily that they can do the work immediately and without further training'. In fact, the ever-changing and complex needs of present-day workplace have accelerated the employers' expectations and requirements on employment-ready graduates who are adaptable, equipped with job readiness skills, knowledge and attitudes that can add immediate value to organisations with the minimum supervision (Bennett *et al.* 1999; De La Harpe *et al.* 2000; Jackson, 2013).

The following are a few definitions of employability skills relevant for this study. Employability skills can be defined as 'basic skills necessary for getting, keeping and doing a job well' (Robinson, 2000, p1). Robinson added that these generic transferable skills, attitudes and actions can be applied to all industries, businesses and job levels that will enable employees working together and help to make sound and critical decision. Similarly, as highlighted earlier through the CareerEDGE Employability Model by Pool and Sewell (2007), generic skills obtained from university education support students in transferring or applying their disciplinary expertise in different contexts and situations in the university or workplace. In fact, there have been many debates on the terminology used for generic skills such as key skills, core skills, transferable skills, common skills, and work or employment-related skills (Bennett *et al.* 1999; Knight and Yorke, 2004). Besides, generic skills also are used interchangeably with other terms such as attributes, characteristics, values, competencies and qualities (Clanchy and Ballard, 1995). In the context of this study, employability skills will be defined according to Wilton (2008, p145) as 'transferable skills that one might expect to be developed during the duration of university programme but which have broad applicability in the workplace'. Therefore, it is assumed that the skills listed in this study are transferable from university into employment in a wide variety of context.

Although there are many factors or skills affecting graduate employability exist in literature, the author decided to review selective employability factors based on existing recent research instead of developing a new list. Therefore, the list of employability factors in this study is adopted mainly from the study by Finch *et al.* (2013). At the same time, other employability factors that are important to graduate employability were also included in this study. According

to Finch *et al.* (2013), there are two levels of employability factors. The first level consist of specific employability factors (e.g. listening skills, writing skills) and the second level consist of higher order composite categories that include a group of related specific employability factors (e.g. soft skills, functional skills). Based on the review of the literature, Finch *et al.* (2013) proposed five high-order categories namely, soft skills; problem-solving skills; functional skills; pre-graduate experience and academic reputation. Based on further extensive review of other existing literature and also taking into consideration the population of the study, the author amended Finch *et al.* (2013) work by adding one more category and re-categorized the employability factors (combination of generic skills, functional skills and external factors) to six high-order composite categories which include: 1) Intellectual skills; 2) Soft skills; 3) Functional skills; 4) Academic and University Reputation; 5) Pre-graduate work experience, career and job seeking skills; 5) External factors. (See Appendix A). Each category will be discussed with the support of existing literature separately in the following section.

2.5.1 Intellectual Skills.

The first high-order composite category of employability factors that have been identified as core to graduate employability is intellectual skills. Adopted from the problem-solving skills category in Finch *et al.* (2013) study, the author used the term 'intellectual skills' as a high order composite category instead and replaced 'problem-solving skill' as one of the specific employability factors under the broader umbrella of intellectual capabilities. In fact, many past studies have mentioned that intellectual skills play a primary role in graduate employability (e.g. Lim *et al.* 2016; Rahman *et al.* 2011; Jackson and Chapman 2012a; Halpern 1998). Since intellectual skills are related to general mental abilities and intelligence, Schmidt and Hunter (2004) revealed that intellectual skills could be a good predictor of job performance across a variety of occupations. Besides, intellectual skills is applicability across disciplines such as business, engineering, education and science (e.g. Punturat *et al.* 2014; Drummond and Selvaratnam, 2009; Smith and Kruger, 2008; Selvaratnam and Mavuso, 2010); type of employer (e.g. Stiwne and Jungert, 2010; Wellman, 2010) and transferable to wider context (e.g. Jackson, 2013). In this study, intellectual skills are defined based on many definitions from various scholars. According to Voss *et al.* (1995, p155), Intellectual skills refers to 'skills essential to human mental activity' which provides individuals with the ability to use their cognitive skills or mental ability for effective learning and application through logic, deduction and scientific reasoning to reach conclusions and deal with problems.

Based on the definitions mentioned above, intellectual skills incorporates a range of competencies. In this study, five specific skills namely, critical thinking skills, problem-solving skills, creative thinking skills, leadership skills and adaptability were included as the measurement of intellectual skills. Firstly, critical thinking skills are defined as 'the conjunction of knowledge, skills, and strategies that promote improved problem solving, rational decision making, and enhanced creativity (Finch *et al.* 2013, p690). According to Jackson (2013), the ability to think critically allows students to develop pattern recognition, conceptualisations and evaluation of scenarios or ideas that will help employers reach desired outcomes. Secondly, employer also value students who have a problem-solving skill where they are able to identify problems, gathering feasible information and developing practical solutions through rational, logical and analytical reasoning, judgement analysis, and synthesis to solve problems (De Guzman and Choi, 2013; Reid and Anderson, 2012; Jackson, 2013). Thirdly, creative thinking skills refer to the ability to generate unique and original ideas that can be applied in different context and increase the competitiveness of the organisation (Kilgour and Koslow, 2009; Halpern, 1998). Similar to Finch *et al.* (2013, p690), in this study, creative thinking is defined as 'the creative process that students able to bring to the workplace and the value their ideas bring to the business'.

Fourthly, leadership skills are defined as 'the ability to motivate other employees and guide them to success (Finch *et al.* 2013, p691). Leadership skills are highly associated with problem-solving, critical thinking and creative thinking skills due to the fact that leaders are expected to use multiple and appropriate methods of dealing with problems, turning ideas into action and managing stakeholders in an organisation. For example, past studies have shown that those leadership skills are critical to employers especially in communicating with others (Conrad and Newberry (2012) and helping others to understand problems faced by the organisations (Heimler *et al.* 2012; Rosenberg *et al.* 2012). Fifthly, adaptability skills is a critical intellectual skill where employers today are expecting graduates to be able to handle multiple demands, respond positively to changing environments and be flexible when handling change and problem-solving processes (Goleman, 2001). Since the population of this study are graduate students with the majority of them not having substantial working experience, adaptability to technology is used as the measure of adaptability responses and tactics to fit fluid circumstances. Furthermore, the ability to adapt to technology is an essential skill for graduates to stay competitive especially in today's knowledge economy which relies heavily on information technology advancement to solve the organisational problems (Jabr, 2011; Barr *et al.* 2009).

2.5.2 Soft Skills

The second composite category of employability factors in this study is soft skills. Similarly adopted from the Finch *et al.* (2013) study, the author uses the same term 'soft skills' to measure soft skills related capabilities and competencies. Past studies and literature have shown soft skills as a critical predictor of graduate employability and future career success (e.g. Ali *et al.* 2012; Chamorro-Premuzic *et al.* 2010; Rynes *et al.* 1997; Masole and Van Dyk, 2016; Wilton, 2008). For example, the study conducted by Barrie (2007) reported that soft skills increase academic performance of students which lead to occupational success. Besides, soft skills are also critical for productive performance at the workplace where many studies have found that soft skills are related positively to job performance (O'Boyle *et al.* 2011; Cote and Miners, 2006; Farh *et al.* 2012), predict work readiness (Masole and Van Dyk, 2016), and career progression (Robles, 2012). Additionally, based on the study by Sisson and Adams (2013), 86% of the competencies identified to be essential for the hospitality management individual was related to soft skills. Similar to intellectual skills, soft skills are generic skills which are transferable and useful to a range of working environments and contexts in the workplace (Wilton, 2008; Chamorro-Premuzic *et al.* 2010); and disciplines (e.g. Rao, 2014; Sisson and Adams, 2013; Lievens and Sackett, 2012; Wellman, 2010)

In this study, soft skills are defined based on many definitions from various scholars. Here are a few relevant definitions suitable for the context of this study. According to Andrews and Higson (2008), 'soft skills' are related to intangible, people-related, interpersonal competencies or skills. These 2 groups of skills or competencies represent a 'synergetic compilation' or 'complement each other' of what a graduate required to succeed in the workplace (Andrews and Higson 2008, p419; Robles, 2012; Rao, 2014). In other words, a well-trained technical skills graduate must possess appropriate soft skills in order to be a superior performer and become employable. Besides, Robles (2012, p457) defined soft skills as 'combination of interpersonal (people) skills and personal (career) attributes' that one possesses. Additionally, Sisson and Adams (2013) described soft skills as 'soft competencies' related to personal behavioural attributes, values, or traits. In an alternate definition, soft skills can be referred to dispositional traits and attributes of an individual that involved a wide range of competencies from operational skills to interpersonal skills (Chamorro-Premuzic *et al.* 2010).

Based on the definitions mentioned above, soft skills incorporates a range of competencies, and related past studies are abundant. However, in this study, seven skills were

included as the measurement of soft skills and had been identified as contributing to employability. In Finch *et al.* (2013) study, five soft skills were included, namely written communication, verbal communication skills, listening skills and professional skills were the soft skills critical for graduates. After further review of existing literature, the author added two additional soft skills in this study namely, emotional intelligence and cultural awareness skills that fit the context and the population of the study. Firstly, written communication skills refer to the ability to communicate effectively, appropriately, fluently, comprehensively and professionally in writing (Graham *et al.* 2010; Ariana, 2010). This will include the ability to produce clear reports, letters, emails or any written format for specifically to targeted readers. Besides, written communication skills are not only one of the most valued skills by the employer in hiring new graduates; it is critical to job performance, career advancement, and organisational success (Gardner *et al.* 2005; Robles, 2012; Roebuck *et al.* 1995). In addition, with the influence of technology advancement that changes the way people communicate at the workplace today, it is assumed that written communication skills are definitely critical generic soft skills to be developed by students.

Secondly, verbal communication skills or oral communication skills refers to the ability 'to communicate orally in a clear and sensitive manner which appropriately varied according to different audiences and seniority levels' (Jackson and Chapman, 2012b, p549). New graduates with good verbal communication skills are expected to be able to 'effectively comprehend, critique, and analyse information; communicate clearly and persuasively; express ideas' in order to be successful and employable (Finch *et al.* 2013, p689). Thirdly, as a complementary to verbal/oral communication, listening skills play a significant role in a helping individual to have focused attention on the main points or message during a conversation, discussion and communication process (Knight and Yorke, 2004). Similar to Finch *et al.* (2013, p689) study, listening skills are defined as 'selective perceiving, interpreting, understanding, assigning, meaning, reacting, remembering, and analysing what is heard'. Studies have shown that individuals with high listening skills are more productive that ultimately leads to higher job performance, job satisfaction and an increase of employability (Cooper, 1997; Goby and Lewis, 2000).

Fourthly, interpersonal skills in this study are defined as 'one's ability to work and communicate with others while bringing value to the organisation' (Finch *et al.* 2013, p690). Interpersonal skills are associated with a range of factors, behaviours, personal qualities and competencies such as social sensitivity, relationship building, working with others, listening,

communication skills (Leivens and Sackett, 2012); conflict management, negotiation skills, oral presentation (Sisson and Adams, 2013); nice, personable, sense of humour, friendly, nurturing, empathetic, have self-control, patient, sociability, warmth (Robles, 2012). Therefore, new graduates who have the capability of using interpersonal skills in building relationships and working with others can be a strong predictors of future career success (Leivens and Sackett, 2012); high job performance (Rosenberg *et al.* 2012) better career adaptability (Guzman and Choi, 2013) and have high chances of being hired from the labour market (Rynes *et al.* 1997; Wilton 2008). Fifthly, professionalism refers to dedication to the profession and autonomy demands of a role (Shafer *et al.* 2002). It is generally associated with behaviours such as business-like, well-dressed, appearance or poised that are important to employers (Robles, 2012). Besides, Mat and Zabidi (2010) added that professionalism is industries centric where the individual is required to perform specific professional obligations, ways of interacting with people, attitudes and attributes that are suitable for the role, qualities and values of the organisation. Therefore, there is a need to evaluate the person-organization fit when analysing the level of professionalism of a new graduate (Cable and Judge, 1996). Employees who have the similar professionalism values with the organisations they work with will result in higher level of commitment, job satisfaction and performance which leads to increase of employability (Shafer *et al.* 2002).

The sixth soft skills which have been identified that will increase new graduates employability is emotional intelligence (EQ). According to Goleman (1998), EQ is a prime quality that keeps a person employable. The ability to manage own emotions, sensitive to others emotions and understand the effects of managing these emotions are among the critical attributes to new graduates and have been included in many models of employability (Pool and Sewell, 2007; Knight and Yorke, 2004). Past studies have shown that EQ produces desirable outcomes not only for individuals (students; employees) but employers as well such as: increase work readiness for graduates (Masole and Van Dyk, 2016); increase of job performance (Farh *et al.* 2012; Cote and Miners, 2006; O'Boyle *et al.* 2011); teamwork effectiveness (Farh *et al.* 2012); high organizational commitment (Utami *et al.* 2013); adaptability (Goleman, 1998; Goleman 2001). Finally, the seventh soft skills included in this study is cultural awareness skills. The process of internationalisation and globalisation in today's knowledge economy such as the expansion of international trade, rising of multinationals companies and cross-border talent movements have resulted in the need for graduates with the ability to operate culturally diverse contexts (Crossman and Clarke, 2010). Similarly, Jackson and Chapman (2012b) also note the need for graduates to develop cultural and diversity management skills which will allow them to

work productively with people of diverse cultures, races, ages, gender, religions and lifestyles in the future. As complementary skills to many other soft skills, institutions of higher education are urged in preparing new graduates with cultural awareness skills to prepare them to work collaboratively in a team from different background and internationally which will lead to better job performance and employability (Del Vitto, 2008; Busch, 2009).

2.5.3 Functional Skills.

The third category of employability factors is functional skills. This category was also adopted from the Finch *et al.* (2013) study where the author is using the same term 'functional skills' to measure job specific related capabilities and competencies. According to Cox and David (2006) possessing transferable or generic skills alone are not sufficient and will not guarantee employability for graduates. Therefore, they added that graduate employability could also be viewed from the subject-specific skills gained from their chosen subject where students are able to apply their specific disciplinary expertise relevant to particular career or profession in the workplace. In similar veins, Andrews and Higson (2008) also mentioned the fact that graduate employability can be measured by transferring specific job-related knowledge or skills (hard skills) obtained from education programme to the workplace. Past studies and literature have shown job-specific functional skills are important when considering individual employability and future career success (e.g. Laker and Powell, 2011; Huang and Lin, 2011; Pang and To Ming, 2005; Shah *et al.* 2004). It is also acknowledged that, in comparison to soft skills, job-specific functional skills are not transferable and general context, field or profession specific (Finch *et al.* 2013). For example, the technical skills required by a doctor will differ from those required by an accountant.

In this study, functional skills can be defined as technical skills that involve in working with specific job requirement such as equipment, data or software (Laker and Powell, 2011). According to Van der Heijde and Van Der Heijden (2006), functional skills can be described as 'occupational expertise' which consists of professional knowledge and skills related to the particular occupation which is a prerequisite for positive career outcomes of employees. In short, functional skills also known as job-specific competencies or general skills that are skills required based on the profession (Finch *et al.* 2013).

Based on the definitions mentioned above, functional skills may incorporate a range of competencies. Since the population of this study are still studying and yet to join the workplace,

the author decided to use general functional skills which are not profession specific. In this study, four skills were included as the measurement of functional skills and had been identified as contributing to employability. In Finch *et al.* (2013) study, only three functional skills were included, namely, job-specific competencies, job-specific technical skills and knowledge of computer software. The author added one more critical functional skills which are project management skills as part of this subjective evaluation. Firstly, job-specific competencies generally consist of a wide range of subject-specific knowledge that can be developed or gained based on the degree programme the student enrolled into. In fact, one of the primary motivator an individual enter higher education is to gain knowledge on the specific disciplinary expertise that will qualify him or her for entering the occupation with direct relevance and greater employment opportunities after the completion of the programme (Pool and Sewell, 2007). Past studies have shown that employers are expecting institutions of higher education to provide students with job-specific competencies that are industries relevant, workplace useful, related to the world of work and meet the demands of the labour market over the span of the educational programme (Huang and Lin, 2011; Shah *et al.* 2004). Secondly, job-specific technical skills are skills that are often tangible, factual and can be measured. For example, the civil engineer analysing the structure of a building using statistical techniques or an accountant preparing financial forecast based on daily, monthly and yearly financial records. In this study, job-specific technical skills are defined as 'using specific technical skills to problem solve in order to complete one's job' (Finch *et al.* 2013, p691). Past studies indicated that job-specific technical skills are essential for graduates' preparedness for work and to meet the demand of labour market (Smith *et al.* 2008; Pang and Ho, 2005; Andrews and Higson, 2008).

The third functional skills identified is knowledge of computer software. In the current era of information technology advancement, fundamental computer literacies is a necessity in today's job market, and some may use it entirely as a discipline-specific technical field such as programming and data analytics. In this study, knowledge of software refers to the ability to use a range of computer software or programme as an analytical, decision making and or processing tool to perform required job or work (Mallough and Kleiner, 2001). Past studies have indicated the need for graduates to have a knowledge of core and discipline-specific information technology and software to prepare them for their future jobs and increase their employability (Shoemarker, 2003; McCorkle *et al.* 2001). Besides, students who are exposed to similar computer software within their discipline while they are undergoing their education programmes will also influence the hiring decision of the employers as their existing knowledge on software may be able to transfer effectively into the workplace once they graduated

(Shoemaker, 2003). Fourthly, another essential job specific functional skills which have been identified as important for graduates employability is project management skills. As a complement to leadership skills, graduates are expected to have good project management skills in managing multiple projects such as allocation of resources, obtained support from stakeholders, monitor progress, ensure quality, and anticipate complex issues and delegate as required (Jackson and Chapman, 2012b). Past studies have also reported that project management skills not only have significant impact on students' technical skills but also improved their academic performance, problem-solving skills, working in team and assist in better transfer of knowledge and skills to the workplace (e.g. Smith *et al.* 2008; Fish, 2007; Bentley *et al.* 2012; Stewart, 2007). Therefore, project management skills are added as part of the measurement of functional skills in this study.

2.5.4 Academic and University Reputation

The fourth category of employability factors included in this study is academic and university reputation. Adopted from the academic reputation category in Finch *et al.* (2013) study, the author uses the term 'academic and university reputation' instead of 'academic reputation' to measure reputation factors in this study. As an external employability factor, existing literature has shown that academic and university reputation has a significant role in graduate employability (e.g. Rothwell *et al.* 2008; Harvey, 2001; Tomlinson, 2008; Mihail and Elefterie, 2006). For example, graduates who are studying in universities that are ranked in a better position affects invitations to interview by employers and getting better entry-level salaries (Drydakis, 2016). Additionally, the reputable universities will also more influential in the attraction and retention of good candidates that in the long run will help them to gain competitive advantage by attracting employers and graduates recruiters (Pampaloni, 2010). Besides, Harvey (2001) also added that university's reputation would result in good graduate employment rates because of employers' perceptions that best students go to reputable institutions.

According to Walker (2010), the reputation of an organisation is positively correlated with sustained competitive advantage and organisational performance. Reputation, image and identity are always used interchangeably to define the organisational reputation. In this study, organisation refers to the institutions of higher education (universities). According to Fombrun and Van Riel (1997, p10), corporate reputation is a collective representation of a firm's past actions and results that describe the firm's ability to deliver valued outcomes to multiple

stakeholders. Alternatively, Rindova *et al.* (2005, p1033) defined reputation as 'Stakeholders' perceptions about an organisation's ability to create value relative to competitors'. In this study, academic and university reputation can be defined as the perceptions of the ability of the university to create values to their stakeholders (e.g. students, employers and governments). According to Finch *et al.* (2013) academic reputation and its relationship to employability can be considered at three levels, namely, institutional-level reputation, programme-level reputation, and academic performance. Therefore the current study seeks to evaluate the importance of four employability factors related to academic and university reputation, namely, academic performance, academic credentials, institutional/university reputation, and programme reputation.

Firstly, academic performance refers to Cumulative Grade Point Average (CGPA) of graduates obtained in their education programme and often used as a performance indicator by prospective employers for hiring (Ng *et al.* 2010). Besides, Qenani *et al.* (2014) in their study found that students with higher CGPA have greater confidence in their employability comparing students with lower CGPA. They added that students with good academic performance perceived themselves to have better achievement from the skills, knowledge and experience they gained during the education programme makes them more competitive and employable. Academic performance is not only playing an important role in enhancing employability for students but also to the overall reputation of the university to produce highly qualified students with strong job-specific technical skills and attributes (Pan and Lee, 2011). Secondly, the current study also seeks to evaluate the importance of academic credentials to students in securing a job in the labour market. In the context of this study, academic credentials refer to having qualifications that are recognised internationally, associated with specific professionalism or social status group, and able to provide a positional advantage over other graduates students (Tomlinson, 2008; Waters, 2009; Baruch and Peiperl, 2000). For example, according to Mihail and Elefterie (2006), students perceived that by gaining an MBA degree on top of their first degree will provide them business related competencies that will enhance their employability, promote career advancement and lead to increased compensation. On the other hands, Waters (2009) commented that young graduates are using academic credentials to maintain positional advantage by seeking internationally recognised qualifications as a vital supplement to their employability. Besides, according to Tomlinson (2008), some jobs pay higher compensation to more educated people not because they have good performance but according to the education credentials that established them being part of a group that commands wider range of economic, occupational and social opportunities.

Thirdly, institutional/university reputation plays a major role in creating their image, branding and identity among the industries and job market which can influence graduates seeking employment (Drydakis, 2016; Dale and Krueger, 2002; Harvey 2001). Murray and Robinson (2001) added that recruiters would review university track record, academic standards and university reputation as criteria in their selection process. As mentioned earlier, universities reputation refers to the ability to create value for its stakeholders that may significantly influence in attracting the best students and in return providing them with the advantage to being recruited by prospective employers (Alessandri *et al.* 2006; Pampaloni, 2010). Past studies also have shown the positive relationship of university reputation with graduates' salaries and rewards (e.g. Dale and Krueger, 2002; Hoekstra, 2009; Drydakis, 2016). Additionally, Qenani *et al.* (2014) commented that reputable universities also possess broader forms of social and cultural capital that will enhance students' perceptions of how employable they view themselves. The final factors in this category are programme reputation. Past studies have shown that reputation from a programme level could influence perceived employability skills (e.g. McGuinness, 2003; Helgesen and Nesset 2009; Rothwell *et al.* 2008). Besides, the emergence of programme-level ranking systems (for example, business school) (Finch *et al.* 2013), the average compensation of new graduates (Drydakis, 2016), and real-world experience curriculum (Ehiyazaryan and Barraclough, 2009) are examples of the link between programme-level reputation and student employability.

2.5.5 Pre-graduate Work Experience, Career and Job Seeking Skills.

The fifth category of employability factors included in this study is pre-graduate work experience, career and job seeking skills. This category was partially adopted from Finch *et al.* (2013) study where the author of this study proposed additional related factors that influence graduate employability instead of pre-graduate work experience and self-confidence factors only. Literature has shown other essential factors related to career management and job search skills that students should acquire before their graduation and transition to work. According to Knight and Yorke (2004), formal and non-formal work experience are essential elements of graduate employability and can be used as supporting evidence for attracting employers in hiring decision. According to Harvey (2001), work experience is an important factor for graduates to attract graduates recruiter which can be obtained through a full-time job as part of their programme of study or extracurricular work was undertaken on a part-time basis. Besides, there was empirical evidence found that work experience positively correlated with job performance (Schmidt and Hunter, 2004). The assumption behind this is that work experience

provides individual the medium and opportunity to learn job-related skills, knowledge, attitudes and competencies which in turn lead to higher job performance. On the other hand, Hillage and Pollard (1998) highlighted the importance of individual to have deployment skills (abilities such as job search skills, career development skills and career management skills) and presentation skills (the ability to present to the labour market or employers one employability skills through job interview and internship at the premises of prospective employers) in order to gain and maintain employability. Additionally, Vermeulen and Schmidt (2008) also reported that the quality of academic learning environment, learning process and extra-curricular activities opportunities provided by the university are determinants of graduates' career success. Therefore, the current study seeks to evaluate the importance of six employability factors related to pre-graduate work experience, career and job seeking skills, namely, pre-graduate work experience, extra-curricular activities, job seeking skills, interviewing skills, self-confidence and attitude towards work.

Firstly, pre-graduate work experience refers any work experience gain through in-programme experiential learning opportunities (e.g. internships or work placements) or other informal career-related work experience such as part-time or summer employment (Finch *et al.* 2013). Many past studies have shown that work experience gains through internship or work-related learning are able to provide graduates with many advantages such as less time to secure first full-time position, receive higher starting salary, greater overall satisfaction (Gault *et al.* 2000; Gault *et al.* 2010); development of competencies, skills, attributes and personal qualities required in the world of work (Jackling and Natoli, 2015; Muldoon, 2009; Wilton, 2012); provide opportunity for labour market preparation, work readiness and enhance transfer of learning from university to work (Jackson, 2013; Sin *et al.* 2016; Ehiyazaryan and Barraclough, 2009); enhanced employer-perceived value of the internship programme thus improving quality of students (Gault *et al.* 2010); and helping student to reflect and apply their skills and knowledge in wider context of what they have learnt (Pool and Sewell, 2007; Heyler and Lee, 2014). Secondly, studies revealed that students who have high engagement with extra-curricular activities would assume responsibility for their employability and also proactively seek to gain a positional advantage in the job market (Sin *et al.* 2016). In the context of this study, extra-curricular activities refer to activities outside of academic work, related to students organisations or societies, interactions with other students and people for collegiate experience during their education programme. Past studies revealed that generic employability skills such as communication skills, interpersonal skills and cultural awareness skills are best learned through extra-curricular activities (Stwine and Jungert, 2010; Vermeulen and Schmidt, 2008).

According to Thompson *et al.* (2013), the university should encourage students to engage in extra-curricular activities as they may help to facilitate reflection and to enable them to make the best use of their experiences for future careers.

According to Harvey *et al.* (2002), the university plays a major role in providing self-promotional skills to students to enhance their employability in the labour market. Similarly, Hillage and Pollard (1998) highlighted the self-presentation skills required by every individual when searching for opportunities in the labour market. Therefore, the third factor in this category is job seeking skills. According to McQuaid and Lindsay (2005, p211) job seeking skills can be defined as 'how well a person identifies and searches for a job, including the effective use of formal search services/information resources; the use of appropriate technology; awareness and effective use of informal social networks; ability to complete curriculum vitae and application forms, interview skills/presentation; labour market awareness including the appropriateness of the types of jobs sought; and the amount, efficiency and effectiveness of job search effort.' Past studies revealed that job seeking skills was positively associated with employability (Kanfer *et al.* (2001). For example, McQuaid (2006) found that time spent using job search channel was significantly and positively associated with job search success. Additionally, Onyishi *et al.* (2015) also found that perceived employability was positively associated with job search behaviour. The fourth factor is interviewing skills. Although interviewing skills are related to job seeking skills, employment interview plays a critical role for graduates' initial avenue to employment and the opportunity for them to showcase and articulate their skills, abilities, and competencies during the recruitment procedures of employers (Harvey *et al.* 2002). Similarly, Wittekind *et al.* (2010) also highlighted that individual need to have the ability to present 'employability' characteristics (e.g. skills) to the labour market in an accessible way (e.g. through the interview). Past studies on self-efficacy showed that interviewing skills are good predictors of job search success (Kanfer *et al.* 2001; Saks, 2006). Patron *et al.* (2002) in their study revealed the impact of speech styles, form of speech, fluency level, verbal and non-verbal components during employment interview on the formation of interviewers' impression and the interview outcome. They also found that powerful speech style in a job interview has resulted in higher evaluations of competencies, employability and credibility of candidates. Therefore, interviewing skills is included as one of the employability factors in this evaluation.

The fifth factor that can influence employability of graduates is self-confidence. Finch *et al.* (2013, p692) in their study use the term 'professional confidence' and defined the term as

'one's ability not to fear certain situations, remain assertive in-group discussions and remain confident in decision making'. This is similar to Goleman (1998, p68) definition where he defined self-confidence as 'ability to present themselves with self-assurance and have presence'. Past studies have shown that individual with high self-confidence tended to perform better than their peers and more likely to be more efficient, hence achieving better work performance (Weiner *et al.* 1999; Chowdhury *et al.* 2002). According to Pool and Sewell (2007), it is possible for students to increase their levels of self-confidence during the duration of the educational programme. Self-confidence can also be developed through internship and work placements where students will be given the opportunities to learn job competencies and essential interpersonal skills which will lead to better self-confidence for future career success (Knouse *et al.* 1999). Finally, the sixth factor is related to the attitude of graduates towards work. According to Cappelli (1995, p111), work attitudes can be defined as 'an individual's tendency to evaluate and responds to given situations'. In the context of this study, attitude towards work is referred to behaviour, orientation and responds towards work, employment or job opportunities. Tomlinson (2007) proposed that graduates attitudes towards work can be captured based on their orientation to the labour market in which they will come to understand and manage their employability. For example, students who are 'careerist' are more likely to develop a strong orientation towards future work and will take an active role in managing their employability through their skills, resources, opportunities and credentials. Conversely, students who are 'ritualist' are more passive on their stakes for their future employment and looking for more secure and less competitive environment. Besides, Worth (2002) and Worth (2003) found that negative attitudes, perceptions and avoidance in job search among young school leavers towards certain jobs outside the norm of traditional employment also have an impact on their employability in the labour market. From the organisational view, studies also found that positive attitude is related to higher levels of job performance and valued by the employer (Cappelli, 1995).

2.5.6 External Factors.

In line with the fact that employability is a multidimensional construct, the final category of employability factors included in this study is external factors. Clarke (2008) commented that having the right skill mix may increase the chance of an individual of getting employed, but it is not guaranteed especially in a highly competitive labour market or market with limited opportunities. According to Hillage and Pollard (1998), external labour market and personal circumstances are one of the fundamental elements that influence individual employability.

Similarly, Wittekind *et al.* (2010) also indicated the knowledge of labour market as one of the critical components that has been considered in most employability models. From external employability perspective, it is assumed that individual can take appropriate steps to improve their overall marketability through other factors. However, they are not able to control the labour market characteristics or conditions (Clarke, 2008). Besides, past studies and literature have shown external factors such as labour market, macroeconomic factors, recruitment factors and enabling support factors are important determinants when considering individual employability and future career success (e.g. Forrier and Sels, 2003; Kluytmans and Ott, 1999; McQuaid and Lindsay, 2005; Qenani *et al.* 2014; Wilton, 2011). Therefore, the current study seeks to evaluate the importance of four employability factors related to external factors, namely, labour market awareness, labour market conditions, government policy, and personal and family circumstances.

Firstly, labour market awareness refers to opportunity awareness or having the information about employment opportunity in the labour market (Wittekind *et al.* 2010). Forrier and Sels (2003, p108) proposed that the understanding and familiarising with the current labour market provides various advantages such as to give an idea of an individual's current opportunities in the labour market, to use current labour market position as point of reference for the assessment of further transitions in the labour market, and finally to provide the ability to influence future changes in the job market. Additionally, labour market awareness is associated and overlap with job seeking effort where the individual is expected to aware about the types of jobs available, the amount of energy, time and persistence that one must put in order to get a job (Kanfer *et al.* 2001). Secondly, labour market conditions refer to local demand conditions in the job market. Many past studies have shown that labour market conditions play a major role influencing employability of graduates (e.g. Tomlinson, 2009; Boden and Nedeva, 2010). For example, Bernston *et al.* (2006) shown that employability was perceived as higher during economic prosperity than during the economic recession. James *et al.* (2013) highlighted the oversupply of graduates in the labour market today has a significant impact on labour market conditions which has resulted in skill mismatch among graduates especially on their first job and taken up jobs that are not relevant to their skills or disciplinary expertise. Additionally, Tholen (2015) also commented that the existent of a large pool of qualified candidates in the labour market that outstripping employer demand also created disadvantaged to many graduates who did not make through the selection process.

The third factor in this category is government policy. The current study also seeks to evaluate the importance of government policy and interventions in the labour market to graduates employability. Past studies have reported that tertiary education directed by government policies have resulted in a direct influence on graduates' employability. For example, Harvey *et al.* (2002) and Murphy and Calway (2008) have commented that in the pursuit of employability agenda, government interventions are critical to ensuring more collaboration between university and employers to provide students with professional development through work-based learning or work-integrated learning. On the other hand, government interventions on labour markets policies that may be in favour of employers could also adversely impacting the social justice and tertiary education as a whole (Boden and Nedeva, 2010). For example, James *et al.* (2013) added that governmental expansion in higher education has resulted in an over-supply of graduates compared to the number of traditional graduate jobs available in the market which has adjusted the power balances in favour of employers.

Finally, the fourth employability factor in this category is personal and family circumstances. According to McQuaid and Lindsay (2005, p212), personal circumstances can be described as 'any socioeconomic contextual factors related to individuals' social and household circumstances that may affect the ability, willingness or social pressure for someone to take up an employment opportunity'. For example, individual with household circumstances (caring responsibilities of children or family members) may not be willing to take up job opportunities with long working hours that will jeopardise their time commitment to family members. Baum *et al.* (2008) in their research also highlighted that personal circumstances (Household circumstances, family background, social capital, social network, non-work responsibilities) are associated with labour underutilization in local labour markets. In order words, some individuals did not take up employment opportunity due to various reasons related to personal circumstances. Besides, Croll (2008) in his research found that young people from more occupationally advantaged families are more ambitious, achieved better educationally and had better occupational outcomes than other young children from less advantaged families.

In summary, in order to demonstrate professional or job-specific skills or knowledge, individuals are expected to have a broad range of skills, abilities and qualities (Clarke, 2008). It is acknowledged by the author that even though there are many other factors affecting graduates employability, the author has decided that these 30 employability factors are essential for the scope of this study and will be used as the supporting literature for the measuring instruments SPEF which will be discussed in next section. Appendix A also presented

the overall summary of supporting literature for each employability factor considered for this study.

2.6 Summary

The primary objective of this chapter is to outline the literature of SDL and SPE, ambition and UC used in this study. As per the discussion in an earlier section, past studies indicated that theoretical linkage between employability (e.g. skills, personal qualities, competencies, attributes, external factors) with SDL characteristics (e.g. willingness to learn, continuous learning, proactive personality, lifelong learning) already exists. However, the direct empirical relationship between these constructs in one study is limited and rare. As mentioned in chapter 1, no empirical research on the relationship between SDL and employability was found in the Middle East context and literature. Therefore, this is an opportunity to fill the knowledge gap and hence the need for this study.

Chapter 3: Researching Self-Directedness in Learning and Employability

3.1 Introduction

This chapter describes the overall research methodology used in this study. This chapter focuses on the research paradigms, approaches, data collection methods, ethical considerations, empirical investigations, data analysis, statistical methods and steps taken to conduct this study after due consideration.

3.2 Research Strategy, Paradigm and Design

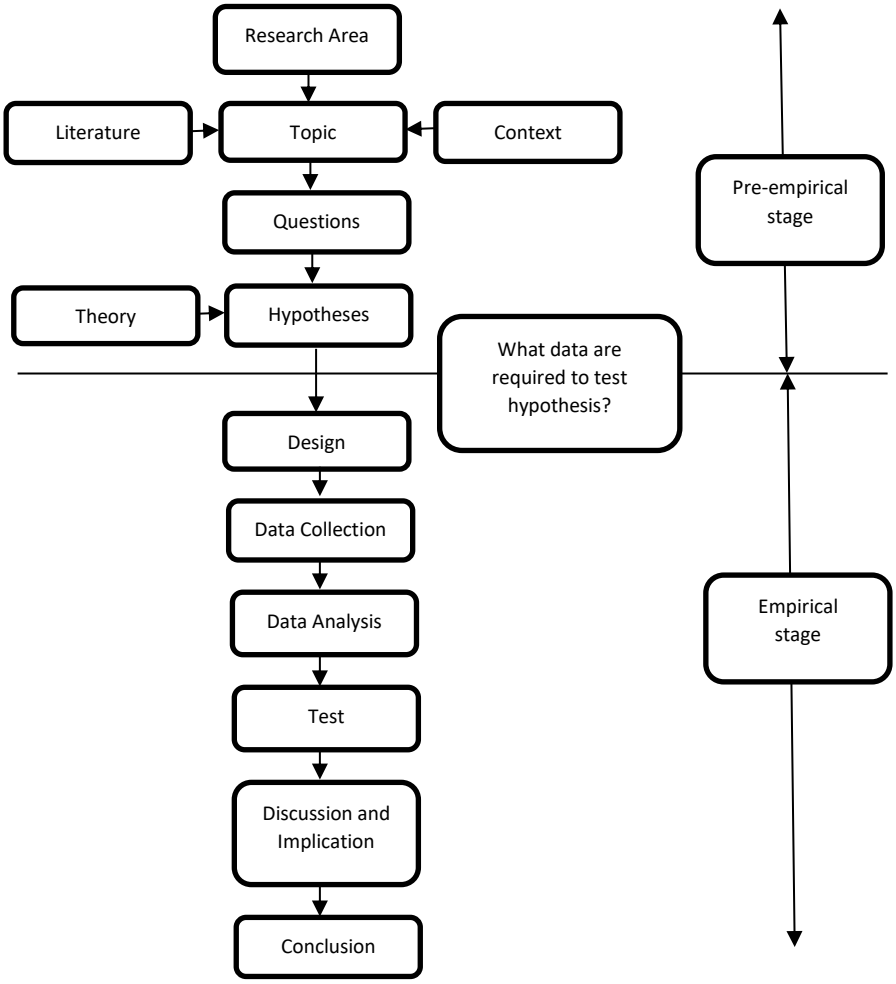
The following section describes the overall research strategy, paradigm and design used in this social science study. In other words, the next section highlights how the research questions formulated in Chapter 1 and 2 being addressed using relevant research methodologies. Based on the review of the literature, objectives of the research and the overall research questions proposed earlier, the philosophical and epistemological orientation of this investigation are underpinned by the paradigm of post-positivism. In terms of definition, post-positivism or also known as realism according to Bryman (2008) emphasises the fact that the natural and social science can and should be applied to some kind of approaches to collect data and explanation.

Besides, Pawson and Tilley (1997, p172) quoted that the desire of post-positivism research is to develop a "family of answers" that covers several contingent contexts and different reflective participants. In summary, post-positivism is an approach where research about the reality is being extended by generalisation to show how empirical findings can be applied to theories of social reality. There is a reality which is imperfect and needs multiple research methods required to know about the reality. From the ontology and epistemology views in this study, there are relationships between SDL and employability (measured by SPE, ambition and university commitments) among university students from University 1 (in Dubai, UAE) and University 2 (In Leicester, UK) for comparisons. As mentioned in chapter 1, based on the objectives of this study, the author would like to know to what extent and level of the relationship between these two primary variables, SDL and SPE can be proven based on theories and empirical findings from both universities.

By matching the research paradigms discussed earlier and the nature of the research questions, this study will be adapting the post-positivist paradigm. Data was collected objectively by using the same procedures with a fixed-response format (i.e. five-point Likert scale) to measure the two primary variables SDL and SPE among university students from two different universities (University 1 and University 2 as mentioned in the earlier chapter). In order to go further details on the research design, quantitative research method of this study is a survey. According to Jupp (2006, p284), survey can be defined as 'a method of social research which deals with human behaviour, knowledge, attributes, beliefs and attitudes. Survey produce a structured data set in the form of a variable-by-case grid. The grid consists of rows, representing cases, columns representing variables and cells that contain information about a case's attribute on the particular variable. Survey analysis is based on systematically comparing cases and examining variation and correlation between variables'. Based on the definition above and the objectives of this study, survey method is deemed to be the appropriate choice as it offers a variety of flexibilities in this research execution.

In the context of this study, the objective is to conduct a survey evaluation through a structured questionnaire on the relationship between SDL level and SPE, ambition and university commitment (UC) level of university students from University 1 in Dubai, UAE and University 2 in Leicester, UK. The survey will examine the research constructs based on the perceptions of the selected population of students using valid and reliable instruments. This will be followed by statistical methods such as correlations and regressions to answer the remaining research questions stated in the objectives of the study section. Besides, this study design is not without any precedent. Figure 3.1 illustrated the overall model of research and process of this study which was formulated and modified based on Punch's (2005) simplified model of research with hypotheses. This model was used to organise the planning, execution and finally the writing up of the research.

Figure 3.1: Model of Research



3.3 Population and Sample Size

In terms of determining the research population, it is essential to establish the scope of the population before selecting sampling methods. According to De Vaus (2014, p67), 'the goal of sampling is to obtain a sample that correctly mirrors the population it is designed to represent'. Research samples play a major role in contributing to the researcher to make a reliable statistical generalisation about a wider population of the study.

The population of this study consist of students from 2 different universities. The first group of students comprised of postgraduate students a leading business school in Dubai, UAE (University 1). University 1 was originally established in India and has been consistently ranked and recognised as one of the top business schools. The Dubai campus was founded in 2006 and received accreditation from the UAE government and international education accrediting

bodies. The university is privately owned which offers on-campus classroom lectures, blended mode delivery, and independent learning. They provide a high level of flexibility of learning method and opportunities to students and encourage students to possess SDL through projects and mandatory internship. In line with the objective 9 of this study, the second population of students are from a management school in Leicester, UK (University 2). University 2 is a leading university committed to international excellence, world-changing research and high quality, inspirational teaching in the UK. The university also ranked among the world's top 1% of universities.

The primary focus of this study is Year 2 (final year) University 1 students who enrolled in 2 years full-time postgraduate programme in the Dubai, UAE. The reasons for selecting final year students as the population of this study were taken from two different perspectives. From the self-directedness learning view, final year students would have already attended at least 2 semesters or more on-campus classroom lectures, experienced blended mode learning deliveries and independent learning in the university. Hence, their perceptions towards self-directedness of learning are believed to be more accurate and rich compared to those who just enrolled the programme. From the employability point of view, final year students will be graduating in the coming months, and they more likely planning for job hunting and looking for employment opportunities in the labour market. Hence, from the timing point of view, final year students will be more prepared to provide their SPE required in this study. These were the reasons final year students were selected for this study. As for University 2, data were collected from the school of management students without any restriction or specific criteria. All postgraduate and undergraduate students from the University 2 School of management were eligible to participate in the survey conducted through an online platform, monkeysurvey.com. This is in line with the objective to explore and validate the research findings from University 1 students using a different group of students outside of UAE.

In determining the population and sample size for University 1, literature suggested that there is a close connection between the strength of relationships in a research population and sample size required to detect these relationships accurately in a selected sample (De Vaus, 2014). This relationship can be defined based on the concept of statistical power analysis by Cohen (1988, 1992). As mentioned in chapter 1, the objectives of this study involved correlation and multiple regression statistical tests on primary variables, namely, SDL, SPE, ambition and university commitment. These statistical tests will be used to assess data collected from the sample of university students to make inferences about the statistical population. According to

Cohen (1988), the power of statistical test refers to the power or sensitivity of tests' probability in yielding statistical results which can be used as the basis for rejection of hypotheses correctly. Besides, power analysis can also be used to calculate the minimum sample size required in a study which can reasonably likely to detect an effect of a given sample size. Cohen (1992, p156) commented that 'statistical power analysis exploits the relationship among four variables involved in statistical inference: sample size (N), significance criterion (α), population effect size (ES) and statistical power'. Basically, the stronger the relationship exists in the population of research, the smaller the sample size required. Therefore, the author needs to know the sample size necessary to attain desired statistical power for specified significance criterion and hypothesised effect size when planning the study. These combinations are essential for any statistical model and inference (i.e. correlations analyses and multiple regression model analyses) to be included in this study for hypothesis testing.

In the context of this study, in order to determine sample size for this research for University 1, the combination of statistical power, significant criterion (α) and population effect size (ES) have been specified. In this study, the specification of statistical power to be used is 0.80 (β = 0.20). This is based on the convention level proposed for general use by Cohen (1992). Besides, a general significance level of $p \leq 0.05$ is chosen in this study to test the hypothesis. All *p* values obtained in this study were compared with this value before it is treated as significant. This also indicates how frequently the same research will yield the same results based on the chance if repeated. Hence, if $p = 0.05$, only 5 out of 100 times the repeated study will give a different result. In terms of effect size (ES), it was anticipated that based on literature, SDL (measured by PRO-SDLS scale) and SPE, ambition and UC (measured by SPESUS scale), has a medium effect size relationship (table 5.4 in chapter 5 reported a medium effect size relationship between PRO-SDLS and SPE/Ambition combined subscales). Therefore, the population *r* is on medium effect size (ES = $r = \geq 0.30 \leq 0.50$). In terms of multiple regression, R^2 results between SDL variables (independent variables) and SPE variables (dependent variables) are expected to be at medium effect size (ES = $R^2 = \geq 0.13 \leq 0.25$)(table 5.12 in chapter 5 reported a medium effect regression model between PRO-SDLS variables and SPESUS variables). For research planning, four subscales from PRO-SDLS scale (initiative, control, self-efficacy, motivation) were selected as independent variables to predict subscales from SPESUS (SPE, ambition and university commitment) as dependent variables. According to Cohen (1992), based on the statistical power (0.80; β = 0.20), significant criterion (α = 0.05) and population effect size (ES = medium) provided above, the necessary sample size required for correlation tests (N = 85) and multiple regression tests with 4 independent variables (N = 84).

At the time of the study, the population of final year students from University 1 were approximately 60 students per intake only. Therefore, the population size is below the resource level to have the required sample size as per Cohen's statistical power analysis model. In order to achieve a rigorous analysis of data, the study was extended to 2 cohorts of final year students from two different intakes. The first cohort of final year students was from the 2012 intake (N = 60) whereas the second cohort was from 2013 intake (N =63). Data for the study were collected from two cohorts of students via a questionnaire survey. Therefore, the final population for this research were 123 full-time postgraduate students who are within this study resources and time frame. Besides, based on Krejcie and Morgan (1970) sample size requirement calculation, 92 sample is needed to be representative of the given population of 120. In the context of this study, the ideal sample size required is between N = 85 and N = 92 based on both Cohen's (1992) and Krejcie and Morgan (1970) literature. In other words, this study required 69% to 75% of students from the total populations to participate in the survey. At the end of the survey, 90 completed questionnaires were completed, and this represented 73% of the total population. Thus, the sample was considered sufficient for multivariate statistical analysis. The details of the participation rate will be discussed next section.

In terms of sampling methodology, there will be no random sampling methods to be applied in this research. Since the population size in this study has been defined and relatively small in number, there was no attempt to sample them. All 123 students (total population) were given the equal opportunity of being included in the study sample. Without implementing any sampling from the total population, it was anticipated that the participation rate would increase the findings representation and generalisation of the sample towards the total population. Hence, this will also enhance the validity of the study. As mentioned earlier, the method for collecting data from the students was a self-completion questionnaire survey. In order to meet the principles of informed consent to voluntary participation in this study, students were given consent form which described the overall purposes of the study and was given the freedom whether or not to participate in the survey. The consent form also stated that their identity would not be disclosed and remained anonymous. Students who agreed to participate in the survey and returned the questionnaire were considered as a sample of the study. Further explanation of the administration of the survey questionnaire will be discussed in the subsequent section.

As for University 2 students, a non-probability voluntary sampling method and online survey questionnaire were used to collect additional data from the school of management

students. This is due to the fact that the population of students were approximately 500 and they are based outside of the UAE. The researcher of this study is not able to reach out all the population of the study in person, hence the use if online survey questionnaire. Similarly, permission to conduct research has been granted by University 2 to use the same survey questionnaires, and the consent form was also included.

3.4 Composition of the Sample

At the end of data collection phase 1, a total of 90 students from University 1 has agreed to take part in the study and returned the questionnaires, yielding a 73.2% return rate. 42% participants were from cohort 1, and cohort 2 was represented by 52 participants (58%). As mentioned earlier, the sample of this study was year 2 (final year) students who are currently enrolled in the full-time postgraduate programme. All students represented in the sample of this study were of Indian origin. At the time of the survey, the total eligible population were 123 University 1 students (from 2 cohorts group) as presented in table 3.1.

Data collection phase 2 from University 2 using online questionnaire yielded a much lower participation percentage at 9.6% compared to University 1. The low turnout is due to different distribution methodologies of the survey to the students. As mentioned earlier, face to face approach was used for University 1 students where the researcher able to meet and explain to the students the objectives and importance of the study. Contrary, University 2 students were reached through an online survey platform (surveymonkey.com) with no interaction opportunity granted to the researcher. There was high attrition rate where students from University 2 did not complete the survey and left the online website. Out of 73 responses received from University 2 students, only 48 usable surveys were identified. All participants collaborated voluntarily in this study.

Table 3.1: Participation and Sample of Study – Split by University

Cohort of Students (University 1)	Total Eligible Populations	Total Final Participation	Percentage of Final Participation (%) / eligible populations
Students Cohort 1	60	38	63.3
Students Cohort 2	63	52	82.5
Total	**123**	**90**	**73.2**
(University 2)			
Students from School of Management	**500**	**48**	**9.6**

The following section presents the characteristics and demographics of students from University 1 and 2 who have participated in the study. Characteristics and demographic information were also used later in the chapter to address research objectives outlined in this study. Table 3.2 indicated that a total of 64 students from University 1 responded to the questionnaire survey were male. Female students represent almost one-third of the sample who participated in the study (28.9%). Besides, female respondents (54.2%) from University 2 were higher than male (45.8%) as reported in table 3.2. In terms of age group, the sample of this study from University 1 consisted of 65.6% of students aged between 21 and 24, 32.2% of students aged between 25 and 28, and only 2.2% of students aged between 29 and 32. Similarly, the samples from University 2 consisted of 66.7 of students aged between 21 and 24. This was followed by 20.8% of students aged below 21.

Students from University 1 made up of 6 different CGPA groups. A majority of students up to 35.6% (32) were expecting to graduate with CGPA between 3.00 and 3.24. This was followed by 31.1% (28) students were expecting to graduate with CGPA between 3.25 and 3.49. Unfortunately, the data of CGPA for University 2 students were not available due to low respondents' rate from students. Only 14 out of 48 students responded to this question, and this is not suitable to be used for statistical analysis. Therefore, the researcher has chosen not to present the incomplete data.

Furthermore, table 3.2 shows a majority of the University 1 students who responded to the survey have working experience prior their enrollment to the programme. This represents

57.8% (52) of the sample. Up to 17.8% (16) of the students have less than a year working experience, and 32.2% (28) of students have 1 to 3 years of working experience. Some 7.8% (7) of students found to have 4 to 6 years working experience prior to their enrollment as full-time postgraduate students. As for University 2 students, 25% of the students who responded have no working experience compared to students with working experience. Majority of the students from University 2 who participated in the online survey has less than a year working experience (31.3%).

In terms of education attainment, table 3.2 indicates that majority of the students from University 1 who responded to the survey have obtained bachelor degree before attending the full-time postgraduate programme. This represents 85.6% (77) of the total sample. Only 4.4% (4) students found to have obtained postgraduate certificate and diploma prior to their enrollment as full-time postgraduate students. Some 10% (9) students found to have already received a master degree. Contrary, only 25% of the students from University 2 who responded to the survey earned a bachelor degree, and only 6.3% have obtained a master degree. Majority of University 2 students (60.4%) have no tertiary education qualification prior attending the current university programme.

Table 3.2: Demographics: Sample of Study – Split By University

	University 1		University 2	
Demographics	**Frequency**	**Percentage (%)**	**Frequency**	**Percentage (%)**
Gender				
Male	64	71.1	22	45.8
Female	26	28.9	26	54.2
Total	90	100	48	100
Age				
< 21	0	0	10	20.8
21 – 24	59	65.6	32	66.7
25 – 28	29	32.2	2	4.2
29 – 32	2	2.2	0	0
33+	0	0	4	8.3
Total	90	100	48	100
CGPA				
2.50 to 2.74	1	1.1	N/A	N/A
2.75 to 2.99	8	8.9	N/A	N/A
3.00 to 3.24	32	35.6	N/A	N/A
3.25 to 3.49	28	31.1	N/A	N/A
3.50 to 3.74	16	17.8	N/A	N/A
3.75 to 3.99	5	5.6	N/A	N/A
Total	90	100	N/A	N/A
Years of Working				
No working	38	42.2	12	25
Less than a year	16	17.8	15	31.3
1 to 3 years	29	32.2	8	16.7
4 to 6 years	7	7.8	7	14.6
7 to 9 years	0	0	2	4.2
10 years or more	0	0	4	8.3
Total	90	100	48	100
Education				
Bachelor Degree	77	85.6	12	25
Postgraduate Certificate/Diploma	4	4.4	4	8.3
Master Degree	9	10	3	6.3
Others	0	0	29	60.4
Total	90	100	48	100

3.5 Instrumentation – Measuring Instruments

Three measuring scales were utilized for this study, namely, Self-perceived employability Scale for University Students (SPESUS)(Rothwell *et al.* 2008; 2009); Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS)(Stockdale, 2003; Stockdale and Brockett, 2011); and lastly Self-perceived employability Factors Scale (SPEF) which was newly developed measurement scale for this study based on a list of published literatures for factors influencing individual employability. Overall, the combined measuring instruments in this study consist of 85 items (PRO-SDLS – 25 items; SPESUS – 30 items and SPEF – 30 items). For this study, the dependent variables were SPE, ambition and UC (measured by SPESUS scale) and the independent variables of SDL were control, initiative, motivation and self-efficacy (measured by PRO-SDLS scale). As for SPEF, the scale was utilised as an exploratory level to identify students' perception of internal and external factors that influence their employability. Compare to PRO-SDLS and SPESUS; SPEF was not included as independent or dependent variables in this study. The results of SPEF will be used for descriptive analyses, and no correlation or regression analysis was undertaken as per the objectives of the study.

3.5.1 Measuring Instruments for Self-Directedness in Learning (PRO-SDLS)

The first measuring scale in this study is **Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS)**. PRO-SDLS scale was used as one of the primary measuring instrument for investigating the SDL level among university students participated in this study. The scale was developed by Stockdale (2003) as part of her doctoral dissertation at the University of Tennessee based on Personal Responsibility Orientation (PRO) model of self-direction in learning proposed by Brockett and Hiemstra, (1991). As introduced in chapter 1 and further discussed in chapter 2, the PRO Model offers the foundation of understanding self-directed in learning. In the effort of validating and measuring self-direction empirically, PRO-SDLS was developed to examine both the *self-directed learning dimension* - teaching-learning component (TL) and *learner self-direction* - learner characteristics (LC) of the PRO Model in evaluating self-direction in learning. According to Stockdale and Brockett (2011, p167), their study aimed 'to develop a reliable and valid instrument to measure SDL among college students based on operationalization of process and learner characteristics components of the PRO Model of self-direction in learning'. Besides, the scale was also developed with a focus on the higher education context and suitable for use in an education setting.

Stockdale's PRO-SDLS used four factors to operationalize the PRO Model. These factors are **initiative** and **control** (from TL component also known as instructional methods); **self-efficacy** and **motivation (**from LC component also known as personality characteristics of the learner). For the TL component, the term initiative was developed from the definition of Knowles (1975) to mean that learners are proactively taking steps towards their actions or decisions in learning. Besides, Guglielmino (1977) in her research on developing Self-Directed Learning Readiness Scale (SDLRS) has included initiative as one of the necessary characteristics of self-directedness through the Delphi survey. Besides, control was the second factor in the TL component which was drawn from Brockett and Hiemstra (1991, p26) where it refers to 'the ability and/or willingness of individuals to take control of their own learning that determines their potential for self-direction'. According to Stockdale and Brockett (2011, p165), the TL component 'reflect agreement with actions that demonstrate proactively assuming control and initiative for planning, implementing and evaluating the learning process'. In summary, the TL component is used to measure the instructional method or the individualization of teaching and learning process of SDL. It is assumed that every learner adopts different SDL teaching and learning process. (Refer to **Appendix B** for scale items).

As for LC component, the factor motivation refers to 'learner desire or preference for assuming responsibility for learning' (Brockett and Hiemstra; 1991, p24). On the other hand, self-efficacy factor in PRO-SDLS scale was drawn from the Social Learning Theory (Bandura, 1997, p3) which refers to 'beliefs in one's capacities to organise and execute the courses of action required to produce given attainments'. Besides, in PRO model, self-efficacy is also based on the writings of learner's self-confidence in self-directed activities (Brockett and Hiemstra, 1991). The development of the motivation factor item is also taking into consideration that self-direction in learning can occur when the motivation for learning is internal and external (Deci and Ryan, 2000). In summary, the PRO-SDLS scale items from LC component evaluates the internal characteristics, beliefs and attitudes of the individual that contributing toward taking personal responsibility for their own learning and to be successful self-directed learners. Therefore, in the context of this study, the combination of TL component and LC component of learners contributes to the outcome of SDL.

Table 3.3 shows the overall component, factors and subscales of PRO-SDLS for evaluating directedness in learning in this study. PRO-SDLS scale consisted of 25 test items (refer to **Appendix B**) and based on a 5 point Likert-type format from 1 (strongly disagree) to 5 (strongly agree) scale for students to rate their level of agreement based on statements related to SDL

actions and opportunities. In other words, the higher agreement values indicate a higher level of SDL. Written permission was obtained from the author Dr Susan Stockdale prior administering the survey. Documentation of the permission is included in **Appendix E.**

Table 3.3: PRO-SDLS Scale – Component, Factors and Subscales

PRO-SDLS Component	PRO-SDLS Factors/Subscales	Number of Items
PRO Teaching Learning Component (TL)	Initiative	6
	Control	6
PRO Learner Characteristic Component (LC)	Self-Efficacy	6
	Motivation	7
PRO-SDLS Total		25

Subsequent studies indicated that PRO-SDLS is highly valid and reliable. According to Stockdale and Brockett (2011), the PRO-SDLS questionnaire has a calculated coefficient alpha for the 25 items scale of 0.91. Internal consistency values were estimated for the following subscales: initiative (.81), control (.78), motivation (.82) and self-efficacy (.78). PRO-SDLS' reliability has been consistent across many studies. Five studies that have used the PRO-SDLS were identified and obtained high level of internal consistency; Fogerson (2005) $\alpha = 0.91$, Gaspar *et al.* (2009) $\alpha = 0.89$, Hall (2011) pre-test $\alpha = 0.84$ and post-test $\alpha = 0.87$, Holt (2011) $\alpha = 0.91$, and Conner (2012) $\alpha = 0.90$. Besides, Chou (2012) in his attempt to develop the Chinese version of the PRO-SDLS obtained high Cronbach's alpha scores for all 4 subscales (Initiative: $\alpha = 0.82$; Control: $\alpha = 0.80$; Self-efficacy: $\alpha = 0.83$; Motivation: $\alpha = 0.79$. In terms of content validity, the instrument was also established by a panel of experts' opinion on each item of the instruments.

In the existing literature, many other existing psychological measurements to assess and measure SDL abilities were identified. Firstly, the oldest measurement Guglielmino's Self-Directed Learning Readiness Scale (SDLRS) developed by Guglielmino (1977) and Oddi's Continuing Learning Inventory (OCLI) developed by Oddi (1986); Self-directed learning Perception Scale (SDLP) developed by Pilling-Cormick (1997). More recently there are many other SDL measurements being introduced for specific areas of education or group such as Self-directed learning Readiness Scale for Nursing Education (SDLRSNE) designed by Fisher *et al.* (2001); Self-directed learning Instrument (SDLI) for Nursing Students developed by Cheng *et al.* (2010); Self-directed learning with Technology Scale (SDLTS) for young students designed by Teo

et al. (2010); Adult Learner Self-Directedness Scale (ALSDS) developed by Botha (2014); Botha *et al.* (2015). The above measuring scales mentioned have been reviewed and were not selected to be utilised in this study because these scales were designed specifically for particular groups and education field (e.g. nursing and open distance learning) or did not match with the objectives of this study.

The following are the reasons PRO-SDLS was chosen for use in this study. Firstly, PRO-SDLS was specifically designed for a classroom setting and graduate college students in higher education. This is in line with the overall objectives, target population and samples of this study. Besides, the instrument was developed in 2010, and it is so far one of the newest instrument with high reliability and validity based on many past studies mentioned earlier and content validated by a panel of experts (Stockdale, 2003). PRO-SDLS' reliability has been consistent across past studies as measuring instrument for SDL and has congruent validation with Guglielmino's SDLRS. The scale is relatively new, and only limited studies using PRO-SDLS were found till date. Furthermore, there is no study found using PRO-SDLS in the Middle East context till date. Therefore, this offers an opportunity for this study to conduct further validation of PRO-SDLS and further contribute to the literature of PRO-SDLS and PRO Model. Lastly, PRO-SDLS is also readily available without an incurred cost to use, and permission was provided by the author of PRO-SDLS, Dr Susan Stockdale.

In literature, many past studies have reported that SDL is associated positively or related to demographic variables such as age (e.g. Stockdale, 2003; Litzinger *et al.* 2005; Reio and Davis, 2005; Raemdonck, 2006; Merriam, 2001); gender (e.g. Kok et al, 2008; Reio and Davis, 2005); education level (e.g. Litzinger *et al.* 2005; Amey, 2008; Guglielmino and Roberts, 1992; Oliveira *et al.* 2010; Oliveira and Simoes, 2006) ; working experience (Fisher *et al.* 2001; Raemdonck *et al.* 2012; Cornelissen, 2012); and academic performance (CGPA) (e.g. Litzinger *et al.* 2005; Chou and Chen, 2008). Therefore, in this study, these six demographic variables were included as part of the study with specific objectives developed to assess whether or not there is significant differences or relationship exists between SDL and the above demographic variables particularly in the population of this study (University 1 and 2 students).

3.5.1 Measuring Self-Perceived Employability (SPESUS)

The second measuring instrument in this study is **Self-Perceived Employability Scale for University Students (SPESUS)** adopted from Rothwell *et al.* (2008) and Rothwell *et al.* (2009). In this study, the name SPESUS were used and represented the original scale in both studies by Rothwell *et al.* (2008; 2009). As mentioned earlier, SPESUS scale was used as one of the primary measuring tools for investigating the SPE, ambition and UC level among university students participated in this study. Following the study on undergraduate university students, SPE is defined as 'the perceived ability to attain sustainable employment appropriate to one's qualification' (Rothwell *et al.* 2008, p2).

SPE scale was originally introduced by Rothwell and Arnold (2007) to study the perceptions of 200 human resources professionals in the United Kingdom along with two other established measures of career success and professional commitment. The focus population of the study was to professional workers. Rothwell and associates expanded their research population to undergraduates and postgraduates university students in 2008 and 2009. The SPE scale was amended, reworded and further developed for the university students. Besides, instead of measuring career success and professional commitment, ambition scale and UC scale were developed for university students. Some of the items were adapted from the career success scale and professional commitment scale in the Rothwell and Arnold's (2009) study. Therefore, in this study, the final scale consists of SPE scale, ambition scale and UC scale. Similar to the first study on working adults' population, the study by Rothwell *et al.* (2008) for undergraduates' students and Rothwell *et al.* (2009) for postgraduate students was examined from the perspective of individuals.

Rothwell and Arnold (2007), Rothwell *et al.* (2008) and Rothwell *et al.* (2009) developed the SPE scale based on existing literature drawn from various scholars such as Forrier and Sels (2003); Fugate *et al.* (2004); Hillard and Pollard (1998); Van der Heijden (2002); Rajan (1997); and Thijssen *et al.* (2008). These scholars have suggested that perceived employability is a multidimensional construct comprising both internal and external factors. Many researchers supported that SPE was contributed by internal (individual) and external components. These internal and external components which can be differentiated between individual self-belief and their perceptions of the external labour market were part of the 16-items SPE scale.

In the effort of validating and measuring the multi-dimensional model of employability empirically, Rothwell and Arnold (2007) have developed an instrument to examine the employability perceptions of professional workers. This was followed by measuring instrument to examine the employability perceptions of undergraduates and postgraduate students (Rothwell *et al.* 2008; 2009) with the primary aim to develop a reliable and valid instrument based four-sided model and four main components (self-belief; my university; my field of study; the state of the external labour market) were represented in a matrix as shown in figure 3.2 (refer to **Appendix B** for scale items). Besides, self-belief component was later retitled to Individual skills and behaviour in the postgraduate students study to portray more accurate representation of the component in the model (Rothwell *et al.* 2009)

Each cell in the matrix generated two questions and in turn, produced 16-items scale to measure the expectations and self-perceptions of employability of students. In more details, cell number 2,4,6,8 consists of primary influence for the main components; self-belief; my university; my field of study; and the state of the external labour market; whereas cell number 1,3,5,6 consists of the interaction of two of the four components of employability. Rothwell *et al.* (2008) mentioned that the four components in the matrix model would not exist in isolation, therefore, the four corners of the matrix aimed to represent interactions between components. Besides, ambition was presented at the centre of the matrix as a reflection of the perceived conceptual relationship between self-belief and ambition of an individual rather than a central construct (Rothwell *et al.* 2008).

Figure 3.2: Student Self-Perceived Employability Matrix for University Students

My University

	1. My engagement with my studies and academic performance	2.My perception of the strength of the university's brand	3.The reputation my university has within my field of study
Self-Belief	8.My confidence in my skills and abilities	My ambition	4.The status and credibility of my field of study
	7.My awareness of opportunities in the external labour market	6.My perception of the state of the external labour market	5.The external labour market's demand for people in my subject field

My field of study

The state of the external labour market

As mentioned earlier, SPE scale comprising constructs from both internal and external aspects, therefore, it consists of two subscales namely, **internal employability** subscale and **external employability** subscale. Internal employability or Individual employability subscale (cell 1,7,8) measures individual's perceptions of employability related to his or her internal skills and ability, engagement with studies and academic performance, and ambition. Internal employability also related to a personal confidence level of an individual's ability to secure employment of choice. Besides, external employability subscale (cell 2,3,4,5,6) measures individual's perceptions of employability related to the state of the external labour market, the strength and reputation of university brand and the demand for his or her subject areas (Rothwell *et al.* 2008, 2009). Besides, the scale is suitable to be used in a range of contexts because there are not subject or culturally specific items included in the scale (Rothwell *et al.* 2008).

Besides SPE, there are two other measuring instruments were also included as part of SPESUS. Ambition scale was developed to evaluate the perception of students towards future career success. Two items out of the six items scale were drawn from scales of subjective career success originated from Nabi (2001) and Greenhaus *et al.* (1990). Rothwell *et al.* (2008) generated four out of the six items for the ambition measure. Besides ambition scale, UC scale was also included as part of Rothwell's studies. As discussed earlier, the UC scale is a subjective evaluation of students' affective commitment towards their association, relationship and emotional attachment with their university which may contribute and impact their future career success in the labour market. The eight items scale was adapted from a nine-item scale of affective organisational commitment identified by Tsui *et al.* (1997) with the word 'organisation' used in the original scale substituted by 'university'. One item from the original nine-item scale which was perceived as inappropriate for the university students studies was excluded from the UC scale by Rothwell *et al.* (2008) : 'I am willing to put in effort beyond the norm for the success of this organisation'. Another item (question number 2 in UC scale) – *I would have accepted almost any type of course offer in order to come to this university* which was initially included in Rothwell *et al.* (2008) undergraduate students study was removed due to low loadings in the exploratory factor analysis of the study. However, in this study, question 2 was retained as part of the UC scale with the purpose to revalidate its contribution to the scale in the Dubai, UAE setting and sample. Preliminary analysis of the item shown the adequate contribution to the overall scale. Further analyses on the internal consistency reliability of UC scale will be discussed further in chapter 4.

In this study, SPESUS aims to evaluate university students' expectations and self-perceptions of their employability, ambition and university commitment. Similar to PRO-SDLS, SPESUS scale was also developed with a focus on the higher education context and suitable for use in an education setting. SPESUS is based on a 5 point Likert-type format with anchors strongly disagree (1) to strongly agree (5) for students to rate their level of agreement based on statements related to their employability, ambition and university commitment. In other words, the higher agreement values indicate a higher level of expectations and self-perceptions of employability, ambition and university commitment. Rothwell *et al.* (2008, 2009) in their research paper did not indicate specifically what score indicates a high level of employability. However, they did conclude that a mean score of 2.5 (the mid-point) or above obtained from the sample of their research appeared to be modest. Table 3.4 summarises the overall SPESUS scale and subscales in this study. SPESUS contains 16 items for SPE subscale, 6 items for ambition subscale and 8 items for UC subscale. Within SPE two subscales were also included namely, internal employability subscale and external employability subscale. Written permission was obtained from the author Dr Andrew Rothwell prior administering the survey. Documentation of the permission is included in **Appendix F**.

Table 3.4: SPESUS Scale and Subscales

SPESUS's subscales	Number of Items
Self-Perceived Employability (SPE)	16
Ambition	6
University Commitment	8
Internal Employability (Subscale of SPE)	6
External Employability (Subscale of SPE)	10
SPESUS Total	30

Although SPESUS scale is relatively new in literature, subsequently published studies indicated that SPESUS is valid and reliable. According to Rothwell *et al.* (2008), SPE has a calculated coefficient alpha of $\alpha = 0.75$; Ambition scale ($\alpha = 0.60$) and UC scale ($\alpha = 0.87$). Similarly, in Rothwell *et al.* (2009) postgraduate students study, the scale was again obtained good Cronbach alpha coefficients. Scale reliabilities were reported at $\alpha = 0.84$ (SPE scale), $\alpha = 0.61$ (ambition scale), $\alpha = 0.90$ (UC scale). Additionally, SPE scale by Rothwell *et al.* (2008) was also found in other recent studies (e.g. Hinton, 2012; Katyal and Arora, 2013; Huang, 2015; Creed

and Gagliardi,2015; and Karli, 2016; Forstenlechner *et al.* 2014). Summary of previously published studies using SPESUS scale and Cronbach Alpha scores are presented in Table 3.5.

Table 3.5: SPESUS Previous Studies and Cronbach Alpha Scores

SPESUS's subscales	SPESUS Previous Studies and Cronbach Alpha (α)				
	Rothwell *et al.* (2008) N = 344	**Rothwell *et al.* (2009) N = 226**	**Hinton (2012) N = 266**	**Huang (2015) N = 220**	**Katyal & Arora (2013) N=124**
Self-perceived employability (SPE)	0.75	0.84	0.78	N/A	N/A
Ambition	0.60	0.61	0.63	N/A	N/A
University Commitment	0.87	0.90	0.89	N/A	N/A
Internal/ Individual Employability (Subscale of SPE)	N/A	0.72	N/A	0.76	N/A
External Employability (Subscale of SPE)	0.76	0.71	N/A	0.85	N/A
Self-perceived employability (SPE) and Ambition Combined	0.76	0.85	N/A	N/A	N/A
Internal/ Individual Employability and Ambition Combined	0.66	N/A	N/A	N/A	N/A
SPESUS Overall (SPE, Ambition and University Commitment Combined)	N/A	N/A	0.87	N/A	0.87

N/A = Not available

In existing literature there was another scale related to the employability of graduate students was identified; The Employability Attributes Scale (EAS) developed by Coetzee (2010) and Bezuidenhout (2011) and. The scale contains 56 items and eight subscales. They are career self-management, cultural competence, self-efficacy, career resilience, sociability, entrepreneurial orientation, proactivity and emotional literacy. Besides, the scale was developed for South African higher education context to measure students' confidence in their SPE attributes. EAS focuses mainly on internal employability attributes of an individual. In the absence of external employability elements such as external labour market, the field of study and university brand strength, EAS measurements were not in line with the objectives of this

study. After further considerations and reviews, SPESUS by Rothwell *et al.* (2008; 2009) was selected in this survey compared to EAS.

Other than SPESUS and EAS, six other existing employability related scales were identified, namely, Self-perceived employability Scale (PES) by Houser and Oda (1990) in Daniels *et al.* (1998); Competence-based and Multidimensional Operationalization and Measurement of Employability by Van der Heijde and Van der Heijden (2006); Employability Skills Scale by Misra and Mishra (2011); Dispositional Measure of Employability (DME) by Fugate and Kinicki (2008); Self-rated employability (SRE) by Cuyper and Witte (2011); Self-perceived employability Scale by Rothwell and Arnold (2007). The above measuring scales mentioned have been reviewed and were not selected to be utilised in this study because these scales were explicitly designed for particular groups or did not match the objectives of this study.

In summary, the following are the reasons SPESUS was selected for use in this study. Firstly, SPESUS was specially developed with a focus on higher education context and suitable for the use in an education setting. This is in line with the overall objectives, target population and samples of this study. In addition, SPESUS has been found to be a robust measure across cultures. Rothwell *et al.* (2009) in their study demonstrated the cross-cultural validity of the scale with a multicultural and diverse sample of British, Black and Asian postgraduate students. Besides, the instrument was developed in 2008, and it is so far the newest instrument available with good reliability and validity. SPESUS reliability has been consistent across past studies as measuring instrument for SPE, ambition and university commitment. The scale is relatively new, and only limited studies using SPESUS were found till date. Furthermore, there is no study found using SPESUS as a whole in the Middle East context till date. Therefore, this offers opportunities for this study to conduct further validation of SPESUS and contribute to its literature. Lastly, SPESUS is also readily available without an incurred cost to use, and permission was provided by the author of SPESUS.

In literature, many past studies have reported that SPE is associated positively or related to demographic variables such as age (e.g. Rothwell and Arnold, 2007; Van der Heijden, 2002; Sok *et al.* 2013; Clarke, 2009; Silla *et al.* 2009); gender (e.g. Stroh, 1992; De Cuyper *et al.* 2014; Bernston *et al.* 2006); education level (e.g. Ng and Feldman, 2009; Wittekind *et al.* 2010; Karli, 2016; Veld *et al.* 2015); working experience (e.g. Blackwell *et al.* 2001; Karli, 2016); and academic performance (e.g. Brown, 1990; Pan and Lee, 2011). Therefore, in this study, these six demographic variables were included as part of the study with specific objectives developed to

assess whether or not significant differences or significant relationship exists between SPE and the above demographic variables particularly in the population of this study (University 1 and 2 students).

3.5.3 Measuring Self-Perceived Employability Factors (SPEF)

The final instrument included in this study is **Self-Perceived Employability Factors Scale (SPEF)**. In order to enhance the understanding of employability from an individual perspective, a better understanding of the determinants is needed. Therefore, the scale is a newly developed scale adapted mainly from Finch *et al.* (2013) study and various published literature on factors that are critical to the employability of university graduates as discussed in earlier section. As mentioned earlier, there are many factors affecting graduate employability; the author decided to review selective employability factors based on existing recent research instead of developing a new list. The main reason behind this decision is to allow further validation of graduate employability factors reviewed in past studies (e.g. Finch *et al.* 2013 and other related literature). It is assumed and acknowledged by the author that understanding and overlap between these broad factors areas (e.g. skills, personal attributes, competencies and external factors) may influence the interpretations of university students participated in this study.

As per previous studies have suggested, employability is a multi-dimensional construct with both internal and external dimensions (e.g. Forrier and Sels, 2003; Fugate *et al.* 2004; Van der Heijden, 2002). Therefore, in line with this, SPEF was developed and used to examine 30 factors individually from both internal and external dimensions. These 30 factors were also grouped into six categories composite level of subscales, namely, 1) Intellectual skills; 2) Soft skills; 3) Functional skills; 4) Academic and University Reputation; 5) Pre-graduate work experience, career and job seeking skills; 5) External factors (refer to **Appendix B** for scale items). As an exploratory scale, SPEF was utilised to identify students' perceptions regarding internal and external factors that influence their employability in this study. As per the objective of this study, the results and findings of this scale will be used to generate constructive feedback to the university on the employability factors that are perceived to be important by the university students for their employability and future career success. In other words, it is also for the future development of competencies, skills, curriculum and enhancement of pre-graduate experience of students by the university. Furthermore, the findings from SPEF are also intended to assist the University in developing better university curriculum and future implementation of career interventions to enhance the employability of students. For example, past studies have

indicated the importance of continuously integrating work-related learning, real job experience and holistic curriculum into today's university programme to enhance the employability of students (Sarah *et al.* 2013; Ehiyazaryan and Barraclough, 2009; Hills *et al.* 2003; Stiwne and Jungert, 2010). The author hopes that this evaluation will be able to provide a preliminary assessment of how the university can help to enhance future career success of the students. An extensive review of the existing literature was used to identify 30 factors that affect graduate employability as mentioned in the earlier section.

As for SPEF, supporting literature and operationalization for each item and subscales have been discussed in chapter 2. In order to examine these factors empirically, all the 30 factors were then used to develop a scale contained 30 items and clustered into 6 subscales. These subscales are intellectual skills; soft skills; functional skills; academic and university reputation; pre-graduate experience, career and job seeking skills; and external factors. SPEF is a self-reporting instrument and is based on a 5 point Likert-type format with anchors not at all Influential (1) to Extremely Influential (5) for students to rate their level of agreement based on statements related to employability factors. In other words, the higher agreement values indicate a higher level of influence of the factor towards the individual's employability. Table 3.6 summarises the overall SPEF scale and subscales in this study.

Table 3.6: SPEF Scale and Subscales

SPEF Subscales	Number of Items
Intellectual Skills	5
Soft Skills	7
Functional Skills	4
Academic and University Reputation	4
Pre-graduate experience, Career and Job Seeking Skills	6
External Factors	4
SPEF Total	30

3.5.4 Measuring Demographic Variables

In addition to the three scales, the survey also includes a demographic section to collect information related to gender, age, CGPA, years of working experience, education attainment, nationality, course title, and current year of study. However, only demographic information related to gender, age, CGPA, years of working experience and educational attainment will be used for further statistical analyses and hypothesis testing. The rest of the demographic information is for validation and record purposes. The three measuring scales (SPESUS, PRO-SDLS and SPEF) and demographic information were combined into one questionnaire. The hard copy questionnaire was distributed to students together with a consent form for University 1 students (refer to **Appendix B**) and for University 2 (refer to **Appendix C)**, an online questionnaire was uploaded to surveymonkey.com.

3.5.5 Assessments of Strengths and Limitations of PRO-SDLS, SPESUS and SPEF

Based on the detailed review of the measuring instruments in this study, it is evident that all three scales are measuring independent variables for this study. The PRO-SDLS aimed to identify self-directed learning preferences of university students, whereas the SPESUS aimed to determine the perceptions of students towards their ability to secure employment. SPEF on the other end focuses on the identification of the factors that will influence the employability of university students. Table 3.7 indicated the summary of the purpose of each scale and the statistical analysis involved to address the objectives of this study.

Table 3.7: PRO-SDLS, SPESUS and SPEF Measurements

Measuring Instruments	Purpose of the Measuring Scales	Statistical Analysis
PRO-SDLS	Measuring the **perceptions of students** regarding their **self-directed learning preferences** based on the PRO Model by Brockett and Hiemstra (1991) in a higher education setting.	Reliability, Descriptive, Correlational, Inferential.
SPESUS	Measuring the **perceptions of students** regarding their **ability to attain employment appropriate to their qualification** based on Rothwell *et al.* (2008) model in a higher education setting.	Reliability, Descriptive, Correlational, Inferential.
SPEF	Measuring the perceptions of students towards **internal and external factors that influence their employability**	Descriptive

The following section will also feature an assessment overview of the strengths and limitations of all the three measuring scales used in this study. To begin with, both PRO-SDLS and SPESUS are proprietary questionnaires from previous researchers (i.e. Rothwell *et al.* 2008; 2009 and Stockdale, 2003; Stockdale and Brockett, 2011). Original questions from PRO-SDLS and SPESUS were used in this study with the objective to explore and validate the questionnaires using University 1 (Dubai based) and University 2 (UK based) students as sample groups. As for SPEF, the scale was newly developed and mainly adopted from a past study by Finch *et al.* (2013) and supported by the various published literature. Since SPESUS, PRO-SDLS and SPEF are proprietary questionnaires used in completely different studies and different sample groups, the argument put forward by the author is that there is no overlap of the variables measured by these measuring instruments. Besides, there are no past studies available to prove that these questionnaires have been used in one study. Therefore, in the context of this study, SPESUS, PRO-SDLS and SPEF measure separate variables. The author has proposed in chapter 7 that future research can be conducted to validate these measuring instruments further.

However, it is understood by the author of this study that proprietary questionnaires do come with strengths and limitations that will impact the overall findings of this study. In terms of strengths, both PRO-SDLS and SPESUS have been used in many other studies and reported high validity and reliability scores as mentioned earlier in this chapter and also in chapter 4. Additionally, PRO-SDLS and SPESUS have been widely used in research conducted in Asia and the western countries as discussed in earlier section. As for SPEF, the scale was supported by various published literature on factors that are critical to the employability of university graduates as mentioned in chapter 2. Therefore, with the above-mentioned published studies, it is evident that all three scales are suitable to be used for this study and able to produce valid and reliable findings.

In terms of limitations, even though there are numerous published studies available to support the findings of this study, there are some observations which may impact the overall results obtained from the sample of this study. Firstly, although the importance of students to be self-directed and demonstrate appropriate employability attributes was pointed out in literature, there is very limited research available regarding the relationship between these two constructs. There is no research found in the in the context of Middle East to provide data for comparisons. Hence, the data collected from University 1 may or may not be reflecting conclusive findings representing the Middle East sample. Therefore, in this study, the author collected additional data from University 2 (UK based university) to further explore and validate

the findings from University 1 (Dubai based University). Secondly, since this study relies only on student's completing the survey questionnaire, student's perceptions may be influenced by factors internal and external factors outside the learning and pedagogical setup of the university. Therefore, these factors may affect the perception of SDL and SPE. Thirdly, since this study is using the original proprietary questionnaires of PRO-SDLS and SPESUS without any amendments, factor analysis was not conducted as part of the development and evaluation of the scales. Therefore, the scales items and variables for both PRO-SDLS and SPESUS were not refined and reduced in line with the perceptions of students from the sample collected. Hence, in the absence of factor analysis, the items or variables from the measuring scales used in the study may not reflect the full perceptions of the students and impacted the overall findings.

As a conclusion, taking into account of all the reviews, strengths and limitation presented earlier, the measuring scales used in this study are valid, and data arising from these scales are suitable for the statistical analysis required to address the research objectives.

3.6 Data collection

As per the research paradigm and the nature of the research questions discussed earlier, this study adopted self-completion structured questionnaire survey as the main collection method for University 1 and University 2. The questionnaire was formed based on three measuring instruments namely PRO-SDLS, SPESUS and SPEF scales as discussed earlier. The survey was used to examine three primary constructs using Likert scales based on students' perceptions towards their level of SDL; SPE, ambition and university commitment; and SPE factors. During the data collection planning stage, drawbacks of conducting a survey approach were identified and evaluated. The following section will feature considerations in data collection using the measuring instruments such as gaining access, collection procedures, pilot test, and administration of questionnaire and scoring of the questionnaire.

3.6.1 Collecting the Data, Addressing Challenges and Administering the Measuring Instruments

The primary consideration of data collection is the availability of the students and access to the targeted population to distribute the questionnaires. According to De Vaus (2014), while using questionnaire survey to collect data, there are few considerations that researchers should take note, namely, response rates, obtaining representative samples, quality of answers, effects

on questionnaire design and implementing the survey. Therefore, it is utmost important to gain access to the targeted population of the study. As discussed earlier, the primary target population of this study are University 1 students from two different intakes. The first cohort of final year students was from the 2012 intake (N = 60) whereas the second cohort was from 2013 intake (N =63). In order words, the author of this study was given specific access and timing to meet the University 1 students at the campus classroom to distribute the questionnaires using face-to-face administration approach. Given that the data collection window and access to students are limited, questionnaire survey will be the most appropriate method of collecting data. Besides, data can be collected quickly, and it can reach all the final year students at the same time. Similarly, access to University 2 was also obtained to distribute the online survey (refer to **Appendix C**) to students through the administrator from the School of Management.

In the context of this study, the author was administering the data collection himself through face-to-face administration with University 1 students. While questionnaires were distributed in classroom settings, students were given a short briefing about the research and were advised the time it would take (approximately 20 minutes) to complete the questionnaires. University 1 students were then given a questionnaire booklet with clear instructions during the face to face meeting and were requested to complete the questionnaire and return them to the author. Students who agreed to participate in the study were assured data confidentiality. Each questionnaire distributed was included a cover letter to obtain the informed consent from the students to use their responses for the purpose of the study. The cover letter also explained the aim of the study, potential benefits of the study, withdrawal from the study, voluntary participation, confidentiality and anonymity. Data was collected objectively by using the same procedures with a fixed-response format (i.e. five-point Likert scale and the same set of statements). Some students have chosen not to participate in the study, and some students were not present in the class during the face-to-face questionnaire distribution session. As for University 2, the same questionnaire with cover page was used to collect additional data from students. However, due to larger population compared to University 1 and also students' location outside of Dubai, an online questionnaire platform – surveymonkey.com was used to distribute the questionnaire (refer to **Appendix C**). The main challenges faced using this method is high attrition and dropout participation rate due. This may be due to the students not able to seek clarification with the author when they have a question.

3.6.2 Editing and Coding of Collected Data

Post the data collection phase, all quantitative data from questionnaires required to be reviewed, edited and coded into numbers and classified into specific variables and categories before proceeding to the analysis work. According to De Vaus (2014, p147), 'there are six main steps required for coding and classifying questionnaires data. These steps include classifying responses; allocating codes to each variable; assigning column numbers to each variable; producing a codebook; checking for coding errors and entering data'. These steps and treatments were undertaken on raw data collected via the questionnaire survey. All responses from the questionnaire survey completed by students from University 1 and University 2 were checked and edited one by one before entering into Statistical Packaged for Social Science (SPSS) software for further analysis.

According to Pallant (2007), when conducting research, it is rare that one will obtain complete data from every case. Almost always that survey data contain missing values. Therefore, all questionnaires were reviewed and inspected for missing values. Any missing value needs to be treated accordingly before further analysis. De Vaus (2014) added that missing values could be a problem with data analysis because they can reduce the number of data and cases to be included for further analysis which can impact the overall results of the study. Pallant (2007) commented that it is crucial that missing values are inspected and find out whether missing values are happening randomly or there is a systematic pattern. Upon checking, there were missing values found in 22 questionnaires from University 1 students. Further analysis was conducted on missing values using SPSS Missing Value Analysis, and the result shows that there were less than 1% of the overall values of the instruments are missing. From the quantitative research perspectives, this is a very low percentage and will not dramatically affect or distorted the result of the study. However, these questionnaires were not discarded because there is an assumption that they contributed valid and insightful responses to those items they have responded to.

Therefore, in order to minimise the effect of missing values without deleting any case or variable from further analysis, Imputation method has been proposed for dealing with missing values. Hertel (1976) in De Vaus (2014) outlined that Imputation method will involve statistical techniques to predict the value of the missing values and substitute it with predicted data using regression method. According to Little (1988), Missing Completely at Random (MCAR) test is required tests the hypothesis that one's data are missing completely at random, which is an

assumption that must be satisfied prior to replace missing values with various imputation techniques. Therefore, MCAR test has been performed using SPSS to check the missing values of the entire measuring instruments are missing randomly or non-randomly. The null hypothesis use by Little's MCAR test is that the missing values of the measuring instruments are missing completely at random.

Table 3.8: Little's MCAR Test Result

MCAR Indicators	Results
Chi-Square	1738.003
DF	1801
Significance level (*p)*	.853

Table 3.8 revealed that the MCAR test result is not statistically significant (*P* = 0.853*),* and this has failed to reject the null hypothesis. Therefore, this shows that missing values are missing completely at random and therefore allow imputation techniques to be used to replace these missing values in order to have a complete data set for further analysis. Post MCAR test, expectation maximisation imputation methods were conducted to replace all missing values before further analysis. The above statistical processes were not applicable to University 2 questionnaires because the researcher has used the mandatory to answer feature provided by the online survey platform – monkeysurvey.com. The mandatory to answer feature was activated for PRO-SDLS, SPESUS and SPEF measuring scales only except demographic related questions where students have been provided with the freedom not to answer. The primary challenge of using mandatory to answer feature may have created a high percentage of students left the survey halfway and caused high attrition of participation rate.

3.6.3 Pilot Study at University 1

In order to ensure validity and reliability of the survey instrument, pilot test or pilot survey were conducted at University 1 before using the questionnaire. Post getting the permission from university management, a pilot survey was performed based on voluntary participation. Invitation to participate in the pilot survey was sent by the university 1 administrator to the final year students randomly. 12 final year students from University 1

participated in the pilot survey session. Pilot test also allowed the researcher to receive preliminary feedback on the draft questionnaire and opportunity for improvement if there is a significant issue such as the flow of the questionnaire whether or not the questions fit together, the timing required to answer all questions and interest of the respondents towards the questionnaire (De Vaus, 2014). During the Pilot survey session, students were given a short briefing about the pilot survey and ensured of data confidentiality. Students were advised to complete the draft questionnaires and return the questionnaires to the author once completed. Students were encouraged to ask questions if they have any doubt or facing any issue completing the questionnaires.

Post the pilot survey; preliminary evaluation was conducted, and all findings were gathered. There were a few modifications to the questionnaire. Firstly, students commented on the informed consent form which was initially printed as part of the draft questionnaire booklet. They felt less anonymity since the name and signature of the respondent were attached together with their responses. In the final questionnaire, the informed consent form was printed together with a cover letter and separated from the questionnaire booklet. Students submitted their completed questionnaire and informed consent form separately to promote anonymity and encourage participation. Secondly, there were students commented on the need to provide clearer instructions completing the survey. Minor modifications were done in the instruction sections for each scale where details steps were given to complete the survey. A short explanation about instruction section was included in the face-to-face briefing when the final questionnaires were distributed in the classroom for completion.

Besides, preliminary internal consistency reliability was also conducted for scales based on responses from 12 students. The Cronbach's alpha values yielded for all three scales were satisfactory ($\alpha = > 0.80$). According to Chua (2012), pilot study has its limitations because of the number of respondents used. The pilot study required fewer subjects compared to the actual research and also provide less statistical basis. In this study, pilot study subjects were taken from the total population of cohort 1 and were later returned to the population for the actual research. There are two main reasons supporting this arrangement. Firstly, the actual research was taken in a face-to-face approach where all students were present in the same classroom. Therefore, to promote anonymity and confidentiality of students participated in the pilot study, the author did not exclude them from the actual research. Secondly, as mentioned earlier, there is only 123 population identified to be eligible to participate in the study. Therefore, by removing the pilot study respondents, the author will be losing part of the respondents from the actual

research which may reduce the total sample size required for multivariate statistical analysis. Besides, the 12 pilot study respondents may contribute valid and insightful responses to this study.

3.7 Ethical Considerations

According to the University of Leicester Code Of Practice for Research Ethics, ethical approval is required for all research undertaken by University undergraduate and postgraduate students wherever research and related activities involve human participants or may raise ethical issues. In this study, meeting students and management of the university involved required for data collection and access to related documents. Therefore, ethical considerations were identified and addressed formally through the ethical approval procedures of the university. Written ethical approvals were granted by the members of the university ethical committee.

3.8 Research Data Analysis Methodologies and Addressing Analysis Challenges

The following section explains the overall steps taken in processing quantitative data collected from the survey questionnaire. As discussed earlier, survey research designs were utilised in this study to investigate the potential relationship between SDL; SPE, ambition and university commitment; and selected demographics variables using data from University 1 and 2. Therefore, in order to realise the empirical research objectives of this study, reliability, validity, descriptive, correlational and inferential statistical analyses were performed on data collected. In chapter 4, 5 and 6, analysis of the data will be presented.

3.8.1 Reliability and Validity Analysis

Prior to the analysis of data, all variables have been reviewed and examined for accuracy of data entry, missing values, outliers and incomplete data. This study also included validity and reliability analysis of the data collected through questionnaires distributed. Reliability analyses were tested on variables of research by computing the values of Cronbach Alpha using SPSS. Variables of research used for reliability analyses in this study were based on the three measurement instruments (SPESUS, PRO-SDLS and SPEF). The Cronbach's alpha coefficients and inter-item mean correlations values were used as an indicator of consistency of the research instruments and the related variables. Traditionally, a rule of thumb that applies to most

situations that Cronbach's alpha values above 0.70 are considered acceptable, and values above 0.80 are preferable. However, this has created a lot of debates in the statistical literature indicating directive alpha values of 0.70 or higher as acceptable which have caused many social science researchers to have cited Nunnally's 0.70 reliability as cut-off criteria (Lance *et al.* 2006).

On the other hand, Clark and Watson (1995, p.315) commented that 'there is no longer any clear standards regarding what level of reliability is considered acceptable'. Some researchers such as Dekovic *et al.* (1991) and Holden *et al.* (1991) have reported that reliabilities in the 0.60s and 0.70s alpha coefficients as good and adequate. Pallant (2007) recommended the mean inter-item correlation value to be reported as an alternative statistical marker of internal consistency since it may be sometimes difficult for measurement scales with a small number of items (less than 10 item) to get a decent Cronbach's alpha values. Some scholars find that Cronbach's alpha to be too sensitive to the number of measures or items. Briggs and Check (1986, p.114) offered a rule of thumb that 'the optimal level of homogeneity occurs when the mean inter-item correlation is in the 0.20 to 0.40 range'. Besides, Clark and Watson (1995) also recommended that an average inter-item correlation which falls in the range of 0.15 to 0.50 is considered desirable depending on the construct one is measuring. In this study, the aim was not to focus on individual predictions but the overall broad trends of perceptions from a group of students from University 1 and 2. Preliminary analysis of data collected and past research findings have indicated that Cronbach's alpha values obtained for PRO-SDLS and SPESUS were considered to be acceptable and have adequate reliability for the purpose of this study. The results of reliability analyses for SPESUS, PRO-SDLS and SPEF in this study have been presented and discussed in chapter 4 (for University 1 students) and 6 (for University 2 students as comparisons)

Besides reliability analysis, validity analyses for PRO-SDLS and SPESUS were also reviewed for construct validity, in which were tested by computing a Pearson product-moment correlation using SPSS. The aim of validity analysis is to determine whether the research measurement actually measures what it supposed to measure (Wellington, 2000). In the context of this study, PRO-SDLS was used to measure SDL, and SPESUS was used to measure SPE, ambition and UC of students. De Vaus (2002) commented that measurement scales are said to have construct validity when items or measures from the measurement scales are inter-correlated. Therefore, in the context of this study, construct validity analyses of PRO-SDLS and SPESUS were conducted based inter-correlation of all the measures. Besides, good reliabilities scores reported by previous researchers using PRO-SDLS (e.g. Hall, 2011; Holt, 2011; Conner,

2012) and SPESUS (e.g. Rothwell *et al.* 2009; Hinton, 2012; Huang, 2015) also indicated evidence that PRO-SDLS and SPESUS to have an adequate face and content validity. The results of validity analyses for PRO-SDLS and SPESUS in this study will be presented and discussed in chapter 5 (for University 1 students) and 6 (for University 2 students as comparisons)

3.8.2 Formulation of Research Hypotheses

Literature in chapter 2 has shown that employable and self-directed people shared a range of characteristics, attributes, personal qualities, skills and competencies. Therefore the following question arises: should employable students be capable of self-direction in learning or are employable students already self-directed in their learning? In the context of this study, the author has made five hypotheses based on the research questions and literature discussed earlier in chapter 1 and 2. These hypotheses are assumptions that will be examined empirically based on the data collected from the sample and the results of the analysis of these data from University 1 (Dubai based students) and University 2 (UK based students). Therefore, data collected from this study may either support or reject the hypothesis or assumptions made.

Table 3.9 presents an overview of the research hypotheses that were formulated for the purpose of this study. Generally, the hypothesis can be stated in two ways, namely, the null hypothesis (Ho) and the alternative hypothesis (Ha). For example, null hypothesis indicated that there is no relationship between variables whereas an alternative hypothesis is a statement opposing to a null hypothesis which indicates there is a relationship between variables (Chua, 2013). In this study, all hypotheses have been written and presented as alternative hypothesis (ha). Since significance test is used to test the research hypothesis in this study, there is no hypothesis formulated for objective 1, 2 and 3 since descriptive statistics were used to address these research questions. Significance tests were used for correlation and inferential statistical results in this study which will be addressed by objective 4,5,6,7 and 8. Hypotheses testing results and discussion will be presented in chapter 7.

Table 3.9: Summary of Research Objectives and Hypotheses – Using Data from University 1 and University 2

No	Research Objectives	Research Hypotheses	Statistical Procedures
1	To investigate SDL level among university students	Not applicable – No significance test	Descriptive Statistics
2	To investigate SPE, ambition and university commitment level among university students	Not applicable – No significance test	Descriptive Statistics
3	To identify essential SPE factors among university students using Self-perceived employability Factors Scale (SPEF).	Not applicable – No significance test	Descriptive Statistics
4	To investigate the empirical relationship between SDL and SPE, ambition and university commitment of university students.	Ha1: There is a significant and positive relationship between the SDL and SPE, ambition, and university commitment of university students	Pearson's Correlation Coefficient
5	To investigate the empirical relationship between SDL and selected demographic variables (age, CGPA, working experience and education attainment)	Ha2: There is a significant and positive relationship between the SDL and selected demographic variables (age, CGPA, working experience and education attainment)	Pearson's Correlation Coefficient
6	To investigate the empirical relationship between SPE, ambition, and university commitment; and selected demographic variables (age, CGPA, working experience and education attainment)	Ha3: There is a significant and positive relationship between the SPE, ambition, and university commitment; and selected demographic variables (age, CGPA, working experience and education attainment)	Pearson's Correlation Coefficient
7	To investigate whether there are significant differences between SDL, SPE, ambition, university commitment and selected demographic variables (gender, age, CGPA, working experience and education attainment) among university students	Ha4: There are significant differences between SDL, SPE, ambition, university commitment and selected demographic variables (gender, age, CGPA, working experience and education attainment) among university students	Non-Parametric Test: Mann-Whitney U & Kruskal – Wallis Test
8	To assess whether or not SDL of university students significantly and positively predicts their SPE, ambition, and university commitment.	Ha5: SDL of university students significantly and positively predicts their SPE, ambition and university commitment	Multiple Regression

3.8.3 Statistical Processing of the Data

Post editing and coding of collected data, the author conducted statistical processing analysis by determining the Cronbach's alpha for all the three measuring scales (PRO-SDLS, SPESUS and SPEF). Cronbach's alpha values obtained will determine the internal consistency of the measuring instruments for this study. Besides, inter-item mean correlation values for variables of PRO-SDLS, SPESUS and SPEF were also included as an alternative statistical marker of internal consistency for measurement variables or subscales with a small number of items as recommended by Pallant (2007). Analysis of internal consistency of measuring instruments was based on the guidelines and procedures discussed in section 3.8.1. Results of reliability analysis were presented in chapter 4 (for University 1) and 6 (with University 2 as comparisons) whereas results of validity analysis were presented in chapter 5 (for University 1) and 6 (with University 2 as comparisons).

Data from University 1 and 2 will be presented using descriptive statistics to assess the perception level of SDL (measured by PRO-SDLS), the perception level of SPE, ambition and UC (measured by SPESUS) and outcome of SPE factors (measured by SPEF) (Research objectives 1,2 and 3). Besides, descriptive statistics were used to describe the characteristics of the variables and subscales of measuring instruments in this study. Characteristics of the variables in this study were described using central tendency. According to Chua (2013), the central tendency can be measured by using a number or value to represent a set of data such as mean, median and mode. Based on the data of this study, mean scores were used to describe the result of PRO-SDLS, SPESUS and SPEF. De Vaus (2014, p357) define mean as 'an average for interval-level data that is computed by adding the values for all cases and dividing by the number of cases'. Both sum scores (PRO-SDLS) and composite scores (SPESUS and SPEF) were used in this study based on the methodology prescribed by the original owner of the measuring scale and past studies. On the other hand, standard deviations were included to indicate the way the collected data are distributed around the mean. Besides, skewness and kurtosis of data were also included to indicate the shape of the dataset. According to Pallant (2007), skewness and kurtosis values can be used to assess normality of data to some extent. Skewness value will provide the indication of the concentration at either end of the data distribution whereas kurtosis value will indicate whether the distribution of data is flat or peak compared to a normal distribution. Other methods such as reviewing histogram, Q-Q and scatterplots generated from SPSS were also used to evaluate collected data. Therefore, descriptive statistics were presented in tables with mean, standard deviation, skewness, kurtosis and number of items for each variable or subscales.

Based on these numerical data, the conclusion about the variables was made. Results of descriptive analyses for PRO-SDLS, SPESUS and SPEF, were presented in chapter 4 and 5.

Secondly, correlation tests using SPSS were conducted to investigate the empirical relationship between constructs of this study. Correlation tests were undertaken to determine the direction and strength of the relationship between the variables and subscales measured by PRO-SDLS and SPESUS (Research objective 4 and 6). The author used Pearson Product Moment Correlation from SPSS to run the correlation tests. Besides, preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity using Q-Q and scatterplots generated by SPSS. Correlations tests were also conducted to determine the empirical relations between the variables and subscales measured by PRO-SDLS, SPESUS with selected demographic variables (age, CGPA, working experience and education attainment)(Research objective 5, 6, 9). According to Pallant (2007), Pearson correlation coefficients (r) will produce values from -1 to +1 where the positive and negative sign in front of the value indicates whether there is positive (as one variable increases, the other increases as well) or negative (as one variable increases, the other decreases) correlation. In terms of interpretation, the strength of correlation between variables in this study is based on Cohen's (1992, p155-159) view where he suggested the following guidelines as presented in table 3.10.

In line with the sample size theory by Cohen (1992) for multivariate statistical analysis, the level of significance used for hypothesis testing for correlation analysis in this study is at $p \leq 0.05$. When $p \leq 0.05$ is obtained, the result is treated as significant. Correlations analyses conducted were presented in tables or graphs where appropriate with information such as *p* values, significant level and Cronbach's alpha reliability coefficients.

Table 3.10: Interpretation of Strength of Correlation or *r* values

Effect Size	***r* values**
Small	0.10 to 0.29
Medium	0.30 to 0.49
Large	0.50 to 1.0

Thirdly, inferential statistics were performed to allow the author to make inferences about the data based on research objective 7, 8 (for University 1) and 9 (For University 2 as comparisons). For objective 7 and 9, since preliminary analysis shown that demographic variables data collected were not normally distributed, non-parametric analysis from SPSS (The Mann-Whitney U test and Kruskal-Wallis test) were used for the purpose of this study. Pallant (2007) commented that Mann-Whitney U test is used when there are two independent groups of continuous measure involved such as gender. In this study, Mann-Whitney U-test was used to compare the differences between male and female students from University 1 and 2 in terms of their PRO-SDLS and SPESUS scores. On the other hand, Kruskal-Wallis Test was used for to compare scores on a continuous variable with more than three or more groups (age, CGPA, working experience and education attainment) for University 1 and 2 (CGPA was excluded for University 2 analysis due to insufficient data). Non-parametric analyses performed were presented in tables or graphs where appropriate with information such as Z, Chi-Square, Mean rank, and significant level.

Fourthly, In term of objective 8 (for University 1), standard multiple regression model were generated from SPSS to determine the proportion of variance that was explained by the independent variables (subscales of SDL - PRO-SDLS scale) regarding the scores of dependent variables (subscales of SPE, ambition and UC – SPESUS scale). Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity using normal probability plot (p-p), scatterplots, Variance inflation factor (VIF) generated from SPSS. According to Pallant (2007, p147), multiple regression can be used to address 'how well a set of variable is able to predict particular outcomes' and 'which variable in a set of variables is the best predictor of outcomes'. In the context of this study, the multiple regression models were used to assess how well SDL (independent variable) of students predicts their SPE, ambition and UC (dependent variable). In terms of interpretation, the strength of influence or prediction using standard multiple regression models between variables in this study is based on Cohen's (1988, p413-414) view where he suggested the following guidelines as presented in table 3.11. Multiple regression models were not generated for University 2 due to existing data not meeting the statistical rule of thumb criteria formulated by Green (1991) > 50 + 8 (M). In other words, with only 48 respondents from University 2, the total participants are not meeting the requirement to generate multiple regression models.

The level of significance used for hypothesis testing for multiple regression analysis in this study is at $p \leq 0.05$. When $p \leq 0.05$ is obtained, the result is treated as significant. Multiple

regression model analyses conducted were presented in tables or graphs where appropriate with information such as *R*-values, R-square, Adjusted R, significant level and Collinearity statistics. Results of correlational and inferential statistics were presented in chapter 5 (for University 1) and 6 (for University 2 as comparisons).

Table 3.11: Interpretation of Effect Size of R^2 Values

Effect Size	R^2 **values**
Small	≤ 0.12
Medium	≥ 0.13 ≤ 0.25
Large	≥ 0.26

3.9 Summary

The primary objective of this chapter was to describe the methodologies used in this study. Three measuring scales, namely, PRO-SDLS, SPESUS and SPEF along with selected demographic variables were combined in this study in an attempt to evaluate the SDL; SPE, ambition and university commitment; and SPE factors of students from University 1 and 2. In the effort determining whether a statistically significant relationship existed between research constructs, correlational and inferential statistical methods were conducted in this study.

Chapter 4: Result and Analysis – Reliability and Descriptive Analysis for PRO-SDLS, SPESUS and SPEF from University 1

4.1 Introduction

This chapter explains the results of data analysis of reliability tests and descriptive statistics for PRO-SDLS, SPESUS and SPEF conducted at University 1 (Dubai, UAE based students) as per the methodologies outlined in Chapter 3. The results of the study will also be integrated with literature reviews in chapter 7 for discussions and conclusions. The statistical results pertaining to the research objectives were reported in the following sequence outlined in table 4.1.

Table 4.1: Summary of Quantitative Analysis – Reliability and Objective 1, 2 and 3

Objectives	Quantitative Analysis
Reliability of PRO-SDLS	Cronbach's alpha coefficients (internal consistency reliability)
Reliability of SPESUS	Cronbach's alpha coefficients (internal consistency reliability)
Reliability of SPEF	Cronbach's alpha coefficients (internal consistency reliability)
Objective 1	Descriptive statistics (means, standard deviations, skewness and kurtosis)
Objective 2	Descriptive statistics (means, standard deviations, skewness and kurtosis)
Objective 3	Descriptive statistics (means, standard deviations, skewness and kurtosis)

4.2 Reliability Analysis

Post-coding, editing and checking collected data, internal consistency reliability analyses were conducted on the research instruments using SPSS. The primary focus of this reliability analysis is to assess and estimate the ability or capability of the instruments used in this research in producing a consistent result when the same scenario is repeatedly measured using the same instruments. In other words, according to Hambleton (2012, p.244), 'score reliability is about the consistency of the measurements obtained from a test administration'. It has a meaning that will shift and change depending on the purpose and usage of the measurements. There are three measurement instruments used in this research, namely, PRO-SDLS, SPESUS, and SPEF. The Cronbach's alpha coefficients and inter-items mean correlations values will be used as an indicator of consistency of the research instruments, and related variables are discussed and tabulated as below.

4.2.1 Internal Consistency Reliability - Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS)

PRO-SDLS is a 25-item scale developed by Stockdale (2003) based on the personal responsibility orientation (PRO) model for self-direction in learning with a focus on the higher education context. The overall calculated Cronbach's alpha value for the scale is α =.91. Besides, this scale has been used in many studies mainly in the United States and established high-reliability scores as discussed in greater detail in chapter 3. Table 4.2 shows the overall internal consistency reliability coefficients values for PRO-SDLS and its sub-scales obtained from University 1 in this study. The PRO-SDLS reliability scores in this study (α = 0.83) compare favourably to other five studies that have used the PRO-SDLS such as Fogerson (2005) α = 0.91, Gaspar *et al.* (2009) α = 0.89, Hall (2011) pre-test α = 0.84 and post-test α = 0.87, Holt (2011) α = 0.91 and Conner (2012) α = 0.90. A Cronbach's alpha coefficient of α = 0.83 was considered as good and adequate for the purpose of this study. Besides, Inter-item correlation obtained for all PRO-SDLS sub-components from University 1 in this study fall within the prescribed range of directives from Clark and Watson (1995) and Briggs and Check (1986).

The reliabilities for the subscales of initiative, control, self-efficacy and motivation vary between α = 0.60 and α = 0.75. Subscales control and motivation achieved slightly lower Cronbach's alpha coefficient of α = 0.64 and α = 0.60 respectively compared with other studies identified. Question 4 (control subscale) and question 14 (motivation subscale) have a higher

influence on the reliability of control and motivation sub-components respectively. However, removal of these two questions from this study will increase the Cronbach's alpha of the motivation component to α = 0.65 and α = 0.62 respectively which are not significant. Since the purpose of this study was not to focus on individual predictions but rather to investigate broad trends of perceptions from University 1 students and the relationships between variables, Cronbach's alpha values obtained for PRO-SDLS was considered to be acceptable and have adequate reliability for the purpose of this study.

Table 4.2: Internal Consistency Reliability Coefficients of the PRO-SDLS – University 1

PRO-SDLS & Subscales	Cronbach's Alpha (α)	Inter-Item Mean Correlation Values	Number of Items
Initiative	0.754	0.333	6
Control	0.640	0.231	6
Self-Efficacy	0.722	0.287	6
Motivation	0.607	0.168	7
PRO Teaching Learning Component (Initiative & Control)	0.800	0.246	12
PRO Learner Characteristic Component (Self-Efficacy & Motivation)	0.789	0.209	13
PRO-SDLS Total	0.836	0.180	25

4.2.2 Internal Consistency Reliability - Self-Perceived Employability Scale for University (SPESUS)

SPESUS was developed by Rothwell *et al.* (2008) with the aim to study expectations of employability from the perspective of business undergraduate students. This scale is relatively new in literature and obtained satisfactory reliability coefficients. The scale was originally introduced in 2004 to study the perceptions of a group of human resources professionals in the UK along with established measures of career success and professional commitment. The scale

was later developed, expanded and have been used to apply in the higher education setting. Table 4.3 presents the internal reliability consistency of the SPESUS scale and subscales from University 1 in this study. SPESUS consists of three primary subscales which are 16-item SPE scale, 6-item ambition scale and 8-item university commitment (UC) scale. Within the SPE scale, there are 2 other subscales which include 6-item internal employability scale and 10-item external employability scale.

According to Rothwell *et al.* (2008) the SPESUS scale has obtained good internal consistency in their undergraduate students study, where the study yielded good Cronbach alpha coefficients for all the sub-scales. Scale reliabilities in the study of 344 cases were reported at α = 0.75 (SPE scale), α = 0.76 (ambition scale), α = 0.87 (UC scale), α = 0.76 (external employability), α = 0.76 (SPE and ambition combined), and α = 0.66 (Internal employability and ambition combined). Similarly, in Rothwell *et al.* (2009) postgraduate students study, the scale was again obtained good Cronbach alpha coefficients. Scale reliabilities were reported at α = 0.84 (SPE scale), α = 0.61 (ambition scale), α = 0.90 (UC scale), α = 0.72 (internal/individual employability), α = 0.71 (external employability), and α = 0.76 (SPE and ambition combined).

The overall SPESUS reliability scores yielded from University 1 students in the current study compare favourably with the research conducted by Rothwell *et al.* (2008, 2009), Hinton (2012) and Huang (2015). As indicated in table 4.3, the overall scale reliabilities from data collected at Dubai based University 1 appeared to be reliable with Cronbach's alpha coefficients reported were α = 0.83 (SPE scale), α = 0.64 (ambition scale), α = 0.89 (UC scale), α = 0.69 (internal employability), α = 0.79 (external employability), and α = 0.85 (SPE and ambition combined). Additionally, Cronbach's Alpha obtained from University 1 for the 30-item SPESUS as a whole was α =.89, which indicated that the instrument is highly reliable using the data collected from Dubai based students.

Table 4.3: Internal Consistency Reliability Coefficients of the SPESUS – University 1

SPESUS's Sub-scales	Cronbach's Alpha (α)	Inter-Item Mean Correlation Values	Number of Items
Self-Perceived Employability (SPE)	0.836	0.243	16
Ambition	0.641	0.280	6
University Commitment (UC)	0.890	0.507	8
Internal Employability	0.692	0.275	6
External Employability	0.792	0.278	10
Self-perceived employability & Ambition	0.857	0.228	22
SPESUS Total	0.895	0.225	30

As mentioned earlier in chapter 3, In this study, question number 2 from the UC scale– *I would have accepted almost any type of course offer in order to come to this university* was included with the purpose to revalidate its contribution of the scale in the University 1 setting. Therefore, the original 8-item scale was used in this study to measure UC variable. This item was deleted in Rothwell *et al.* (2008; 2009) study due to low loadings and sat outside the main analysis in the exploratory factor analysis of the study. Besides, from table 4.3, it was also indicated that both subscales with 6-item, ambition (α = 0.64) and internal employability (α = 0.69) subscales obtained lower Cronbach's alphas than the other subscales. One item, in particular, question 22 which stated 'what I do in the future is not really important', significantly affected the reliability of the ambition scales. Removal of this question raises the Cronbach's alpha of the ambition scale to α = 0.81. Question 22 was retained in this study to allow completeness of the scales for comparison of current study scores in the University 1 setting with previous studies. Refer to **Appendix G** for the Cronbach's Alpha of the scale and the impact on the correlation analysis.

In comparison with the discussion of alpha values in Chapter 3, the obtained alpha values and the inter-item correlation obtained from University 1 clearly fall within the prescribed range of directives. Hence, it is considered as acceptable for this research. Besides, the purpose of this study was not to focus on individual predictions but rather to investigate broad trends of perceptions from a group of university students and the relationships between variables. Hence, SPESUS and its sub-scales were considered to be acceptable and have adequate reliability for the purpose of this study.

4.2.3 Internal Consistency Reliability - Self-Perceived Employability Factors (SPEF)

Self-perceived employability Factors Scale (SPEF) is a newly developed measurement scale for this study based on a list of published literature on factors influencing individual employability. The scale was used to identify the perception of University 1 students on specific internal and external factors that have an influence on their employability.

Table 4.4: Internal Consistency Reliability Coefficients of the SPEF – University 1

SPEF Subscales	Cronbach's Alpha (α)	Inter-Item Mean Correlation Values	Number of Items
Intellectual Skills	0.835	0.505	5
Soft Skills	0.883	0.520	7
Functional Skills	0.737	0.414	4
Academic and University Reputation	0.855	0.597	4
Pre-graduate Experience, Career and Job Seeking Skills	0.739	0.334	6
External Factors	0.633	0.306	4
SPEF Total	0.940	0.350	30

Table 4.4 shows that acceptable internal consistency reliability was obtained for overall SPEF α = 0.94 which was considered adequate for the purpose of this study. SPEF consists of six subscales, and the reliabilities for the six subscales vary between α = 0.63 and α = 0.88. Besides, inter-item correlation scores obtained for all the overall and subscales of SPEF fall within the prescribed range of directives from Clark and Watson (1995) and Briggs and Check (1986). Compare to the other three subscales; the external factor scale obtained a lower Cronbach's alpha value (α = 0.63). This may possibly cause by the small number of questions used for the sub-scale (Pallant, 2007).

4.3 Descriptive Statistics – PRO-SDLS, SPESUS and SPEF

This section presents the result of descriptive statistics used to address research objectives 1, 2 and 3 in this study. The means (M), standard deviations (SD), skewness and kurtosis were computed for PRO-SDLS, SPESUS and SPEF scales and subscales. Each objective is restated below, and data analysis results to address the objective are provided.

4.3.1 PRO-SDLS

The following section will present the data analysis result to address **research objective 1**. Table 4.5 summarises the means, standard deviations, skewness, kurtosis and number of items for PRO-SDLS scale and subscales obtained from University 1.

The PRO-SDLS scores are broken down into four subscales which are initiative, control, self-efficacy and motivation measured by the instrument as a whole. The four subscales can be further grouped into two principal components as per the PRO-SDLS Model, which are Teaching Learning component (Initiative and Control) and Learner Characteristic component (self-efficacy and motivation). As previously discussed in chapter 3, the total possible PRO-SDLS score from a student could fall between minimum 25 and maximum 125. This is calculated based on 25 questions of PRO-SDLS with a five-point Likert scale. Three subscales in the instruments (student's initiative, control and self-efficacy) each have a minimum score of six and maximum 30. Whereas for motivation, the minimum score is seven with a maximum of 35. In the original PRO-SDLS scale, sum score mean was used to analyse the result, hence, in this study, the author presented the result using the same format.

Table 4.5: Descriptive Statistics of PRO-SDLS Scale and Subscales – University 1

PRO-SDLS Scale, Subscales & Combined Subscales	Mean (M)	Standard Deviation (SD)	Skewness	Kurtosis	Number of Items
Initiative	22.876	3.398	-0.271	0.263	6
Control	23.086	2.956	-0.006	0.403	6
Self-Efficacy	21.222	3.879	0.174	-0.935	6
Motivation	23.540	4.016	-0.009	0.132	7
PRO Teaching Learning Component (Initiative & Control)	45.963	5.606	-0.103	0.217	12
PRO Learner Characteristic Component (Self-Efficacy & Motivation)	44.762	7.117	0.247	-0.603	13
Total PRO-SDLS	90.725	10.591	0.260	0.212	25

Based on the perception of students from Dubai based University 1, the PRO-SDLS sum score mean obtained in this study was M = 90.725, SD = 10.591, N = 90. The total mean scores on PRO-SDLS obtained from University 1 were within similar range compared to previous studies conducted. For example: Fogerson (2005) M = 96.91, SD = 11.82, N = 317; Gaspar *et al.* (2009) M = 90.64, SD = 12.30, N =14; Hall (2011) pre-test M =89.62 , SD = 10.03, N = 110 and post-test M = 91.17, SD = 10.92, N = 110; Holt (2011) M = 89.13, SD = 11.54, N = 519; Stockdale and Brockett (2011) M = 80.05, SD = 12.47, N = 195; and Conner (2012) M = 92.87, SD = 13.45, N = 137. Further comparisons available at chapter 6 with data collected from UK based University 2 students.

As shown in table 4.5, Motivation (M = 23.540, SD = 4.016) received the highest mean score of the four subcomponents or subscales. This was followed by Control (M = 23.086, SD = 2.956) and Initiative (M = 22.876, SD = 3,398) respectively. Self-efficacy (M = 21.222, SD = 3.879) received the lowest score. Besides, under the PRO Model, SDL is measured by external and

internal components. The external PRO teaching-learning component (also known as the instructional method measured by the combination of subscales initiative and control) yielded a mean sum score of M = 45.963, SD = 5.606. On the other hand, the internal PRO learner characteristic component (also known as the personality characteristics of the learner measured by the combination of subscales self-efficacy and motivation) yielded a slightly lower mean sum score compared to the external component (M = 44.762, SD = 7.117). Additionally, measures of skewness and kurtosis were also included as part of the descriptive statistics in Table 4.5 indicate an approximately normal distribution for the PRO-SDLS score. Skewness for all subcomponents ranged between -0.271 and 0.260. Based on the PRO Model discussed in Chapter 2, the above results indicated that students from University 1 perceived themselves to have higher external characteristics of teaching and learning transactions. Therefore, it is assumed that students from Dubai based University 1 may have a greater chance of success in self-direction when learning situation have instructor or facilitator assumes a more directive role. Further interpretations and applications will be discussed in chapter 6 and 7.

4.3.2 SPESUS (Self-Perceived Employability, Ambition and University Commitment)

The following section will present the data analysis result to address **research objective 2.** Table 4.6 summarises the means, standard deviations, skewness, kurtosis and number of items for SPESUS scale and subscales/subcomponents based on data collected from University 1. The SPESUS scores can be broken down into three main subscales/subcomponents which are SPE, ambition, and UC. As discussed in chapter 3, the total possible SPESUS score from a student could fall between minimum 30 and maximum 150 (in composite mean score will be minimum 1 and maximum 5). This is obtained based on 30 questions of SPESUS with a five-point Likert scale. The main subscale in the instrument is SPE with 16 items which may possibly obtain a minimum score of 16 and maximum 80. Ambition has 6 items with a minimum score of 6 and maximum 30. Whereas for UC, the minimum score is eight with a maximum of 40. In Rothwell *et al.* (2008) SPESUS study, the composite mean score was used to present the result. Hence, this study will use the same format.

Table 4.6: Descriptive Statistics of SPESUS – University 1

SPESUS's Sub-scales/components & Combined Scales/Components	Mean (M)	Standard Deviation (SD)	Skewness	Kurtosis	Number of Items
Self-Perceived Employability (SPE)	3.449	0.500	-.0685	0.686	16
Ambition	4.082	0.560	-1.051	1.826	6
University Commitment (UC)	2.784	0.853	-0.118	-0.673	8
Internal Employability	3.681	0.525	-0.094	-0.306	6
External Employability	3.310	0.579	-0.578	1.136	10
Self-Perceived Employability & Ambition	3.622	0.465	-0.752	0.373	22
Self-Perceived Employability , Ambition & University Commitment (SPESUS)	3.398[a] 101.965[b]	0.492 14.764	-0.620	0.170	30

a. Mean – Composite Score from Likert Scale (1 to 5)
b. Mean – Total Sum Score

Based on the perception of Dubai based University 1 student, the overall SPESUS sum score mean obtained in this study was M = 101.965, SD = 14.764, N = 90. This also can be translated into a composite mean score of 3.398 (SD = 0.492) out of a possible 5.0. Rothwell *et al.* (2008, 2009) in their research paper did not indicate precisely what score indicates a high level of employability. However, they did conclude that a mean score of 2.5 (the mid-point) or above obtained from the sample of their research appeared to be modest. SPESUS mean scores are based on a 1 (low) to 5 (high) scale. In other words, higher values indicate a higher level of employability. A mean score of overall SPESUS was 3.398 out of possible 5.0. This suggests Dubai based University 1 students have expectations towards their ability to gain employability. Table 4.6 also indicated that University 1 students perceived internal factors such as internal employability and ambitions contributes higher to their capacity to secure employment compared to external factors such as UC.

As shown in table 4.6, the highest mean score obtained from University 1 students was M = 4.082, SD = 0.560 for the subscale of ambition, while the lowest mean was obtained for subscale UC; M = 2.784, SD = 0.853. For the present sample, the 16-item SPE scale revealed a mean score of 3.449 (SD = 0.500) out of possible 5.0 which falls midway between mean score ambition and UC scales. As discussed in chapter 2 literature review, many researchers supported that SPE was contributed by internal (individual) and external components (Hillage and Pollard, 1998; Rothwell and Arnold, 2007; Van der Heijden, 2002; Rothwell *et al.*, 2009; Rajan, 1997). These internal and external components which can be differentiated between individual self-belief and their perceptions of the external labour market were part of the 16 item SPE scale. Therefore, a separate internal and external employability mean score had been included in table 4.6 which were M = 3.681 (SD = 0.525) and M = 3.310 (SD = 0.579) respectively. Rothwell *et al.* (2008, 2009) had also suggested that there was a strong relationship between employability and ambition. Therefore, further analyses were undertaken on 22-item combined scales of SPE and ambition, which have yielded a higher mean score of M = 3.622, SD = 0.465.

In comparison, mean scores obtained from University 1 compared favourably to previous studies. For example: Rothwell *et al.* (2009) (M = 3.59, SD = 0.46, N = 226) for 16 item SPE scale; and (M = 3.75, SD = 0.56, N = 226) for SPE and Ambition combined scale. Hinton (2012) (M = 3.78, SD = 0.39, N = 266); SPE scale (M = 3.49, SD = 0.41, N = 266) ; ambition scale (M = 4.21, SD = 0.46, N = 266); and UC scale (M = 3.64, SD = 0.67, N = 266); Huang (2015) Internal employability (M = 3.17, SD = 0.59, N = 220) and external employability (M = 3.31, SD = 0.57, N = 220) respectively. Further exploration and validation of SPESUS scores will be discussed in chapter 6.

4.3.3 Self-Perceived Employability Factors Scale (SPEF)

In this current study, an additional section was included to increase the understanding of factors that influence the employability of the university students. In order to achieve this, the analysis was performed to identify students' subjective perceptions regarding the factors that are critical to their employability. Therefore, this section is relevant to **Research objective 3.** The study findings will be utilized in developing feedback to the university for competencies and skills development of students.

As mentioned in chapter 2 and 3, SPEF is a newly developed measurement scale for this study based on a list of published literature on factors influencing individual employability. In

order to conduct this analysis, participants' scores on SPEF items were computed as a composite score based on the Likert scale used in the survey. Therefore, SPEF mean scores are based on a 1 (low) to 5 (high) scale. In other words, higher values indicate high influential of the factors towards employability based on student's perceptions. As discussed in chapter 3, the total possible SPEF sum score from a student could fall between minimum 30 and maximum 150. This is obtained based on 30 questions of SPESUS with a five-point Likert scale.

Table 4.7: Descriptive Statistics of SPEF – University 1

SPEF Subscales	Mean	Standard Deviation (SD)	Skewness	Kurtosis	Number of Items
Intellectual Skills	4.068	0.690	-1.566	4.010	5
Soft Skills	4.008	0.700	-1.629	4.441	7
Functional Skills	3.863	0.686	-0.558	0.363	4
Academic and University Reputation	3.597	0.857	-0.922	1.243	4
Pre-graduate Experience, Career and Job Seeking Skills	3.988	0.635	-0.937	1.400	6
External Factors	3.596	0.711	-0.274	0.281	4
Total SPEF	3.873	0.576	-1.086	2.568	30

Based on the overall perception of University 1 students in this study, the total SPEF composite mean score obtained was 3.873 out of a possible 5.0. This indicates that students do believe that their employability is impacted by various factors and have expectations on their employability. As shown in table 4.7, the highest mean score was M = 4.068, SD = 0.69 for the subscale of Intellectual skills, while the lowest mean was obtained for subscale external factors M = 3.596, SD = 0.711. The soft skills were at second place for influencing employability of university 1 students (M = 4.008, SD = 0.700). This was followed by pre-graduate experience, career and job seeking skills (M = 3.988, SD = 0.635) and functional skills (M = 3.863, SD = 0.686).

Similar to external factors, academic and university reputation (M = 3.597, SD =0.857) were perceived by University 1 students to be less influential on their employability compare to other employability factors in this study. The above findings illustrate that students place high importance on internal factors such as soft skills and intellectual skills in securing employability. University 1 students are also perceived highly on their pre-graduate experience, career and job seeking skills in playing an important part of their employability.

Further examination in table 4.8 revealed that from the intellectual skills subscale, University 1 students perceived that leadership skills (M = 4.277, SD = 0.861) and critical thinking skills (M = 4.111, SD = 0.0.866) to have the highest influence on their employability. In terms of soft skills, students rated interpersonal skills (M = 4.266, SD = 0.818) to have the highest influence on their employability. Other skills such as verbal communication skills (M = 4.100, SD = 0.887) and professionalism (M = 4.155, SD = 0.898) were also placed on the highest influence by University 1 students on their employability. Cultural awareness skills (M = 3.711, SD = 0.996) obtained the lowest mean compared to the rest of the factors in the same subscale. From the functional skills subscale, students placed job-specific technical skills (M = 3.991, SD = 0.919) and job-specific competencies (M = 3.966, SD = 0.905) at the highest importance on influencing their employability. Knowledge of computer software scored lower (M = 3.666, SD = 0.936) compared to other skills within the functional skills subscale.

In terms of academic and university reputation subscale, students perceived that institution/university reputation (M = 3.611, SD = 1.077) plays a role in their employability. Academic and programme reputation subscale score the lowest among all other subscales. Table 4.8 also revealed students' high perceptions two distinct areas in the pre-graduate, career and job seeking subscale. Both attitude towards work (M = 4.297, SD = 0.842) and self-confidence (M = 4.277, SD = 0.948) were placed high in terms of influencing employability of students. Lastly, from the external factors subscale, students placed labour market conditions (M = 3.720, SD = 0.971) to have a high influence on their employability. The overall examination results indicated that University 1 students have higher expectation towards internal factors such as intellectual skill, soft skills and functional skills for influencing their employability to compare to external factors such as university reputation and the labour market.

Table 4.8: Descriptive Statistics of SPEF Subscales – University 1

Factors	**Sub-Factors/Skills**	**Mean**	**SD**	**Skewness**
Intellectual Skills	Problem Solving Skills	3.966	0.929	-0.963
	Critical Thinking Skills	4.111	0.866	1.277
	Creative Thinking Skills	4.033	0.892	-1.133
	Leadership Skills	4.277	0.861	-1.653
	Adaptability	3.955	0.898	-0.958
Soft Skills	Emotional Intelligence	3.911	0.967	-1.037
	Cultural Awareness Skills	3.711	0.996	-0.920
	Written Communication Skills	3.933	0.896	-0.823
	Verbal Communication Skills	4.100	0.887	-1.186
	Listening Skills	3.977	0.923	-1.267
	Interpersonal Skills	4.266	0.818	-1.539
	Professionalism	4.155	0.898	-1.456
Functional Skills	Job Specific Competencies	3.966	0.905	-1.143
	Job Specific Technical Skills	3.911	0.919	-0.795
	Knowledge of computer software	3.666	0.936	-0.205
	Project Management Skills	3.908	0.910	-1.014
Academic and University Reputation	Academic Performance	3.522	1.030	-0.692
	Institution/University Reputation	3.611	1.077	-0.652
	Programme Reputation	3.577	0.971	-0.864
	Academic Credentials	3.677	1.025	-0.718
Pre-graduate Experience, Career and Job Seeking Skills	Interviewing Skills	3.877	0.897	-0.900
	Attitude towards work	4.297	0.842	-1.302
	Job Seeking Skills	3.800	1.00	-0.865
	Self-Confidence	4.277	0.948	-1.473
	Pre-graduate work experience (Internship)	3.888	1.126	-1.032
	Extra-Curricular Activities	3.787	0.941	-0.712
External Factors	Labour Market Awareness	3.466	0.996	-0.568
	Labour Market Conditions	3.720	0.971	-0.535
	Government Policy	3.666	1.016	-0.467
	Personal and Family Circumstances	3.533	1.133	-0.652

4.4 Summary

This chapter investigates the reliability of measuring instruments and the descriptive statistics obtained from PRO-SDLS, SPESUS and SPEF used at University 1. Based on the Cronbach's alpha coefficients analyses above, PRO-SDLS, SPESUS and SPEF were found to have acceptable and adequate reliability values for the purpose of this study. The reliability values obtained from PRO-SDLS and SPESUS scale and subscales compare favourably to other past studies that have used the same scales. Besides, SPEF, on the other hand, also obtained a good alpha Cronbach's score for being a newly developed scale for this study. Based on the above statistical analyses, this chapter also revealed University 1 students' perception towards their SDL and SPE using PRO-SDLS and SPESUS. Research findings also successfully identified students' perceptions regarding the factors and skills that are critical to their employability using the SPEF scale. In chapter 7, these outcomes are analysed and discussed in relation to previous researchers and literature.

Chapter 5: Result and Analysis – Correlations and Inferential Statistics for PRO-SDLS, SPESUS and Demographic Variables from University 1

5.1 Introduction

This chapter explains the data analysis results for five remaining objectives of this study conducted at Dubai based University 1 as per the methodologies outlined in Chapter 3. Similar to chapter 4, the results of correlations and inferential statistics in this chapter will also be integrated with literature reviews in chapter 7 for discussions and conclusions. The statistical results were reported as per the sequence provided in table 5.1 based on research objective 4, 5, 6, 7 and 8 as outlined in chapter 1.

Table 5.1: Summary of Quantitative Analysis – Objective 4,5,6,7 and 8

Objectives	Quantitative Analysis
Objective 4	Bivariate correlations analysis (Person product-moment correlations) between SPESUS and PRO-SDLS.
Objective 5	Bivariate correlations analysis (Person product-moment correlations) between demographic variables (age, CGPA, working experience and education attainment) and PRO-SDLS variables.
Objective 6	Bivariate correlations analysis (Person product-moment correlations) between demographic variables (age, CGPA, working experience and education attainment) and SPESUS variables
Objective 7	Non-parametric tests (Mann-Whitney U and Kruskal-Wallis) for mean differences results between demographic variables (gender, age, CGPA, working experience and education attainment) and SPESUS variables and; PRO-SDLS variables.
Objective 8	Multiple regression analyses result between PRO-SDLS variables and SPESUS variables.

5.2 Correlational Statistics – PRO-SDLS, SPESUS

The following section presents the data analysis results to address **Research objective 4, 5 and 6.** The relationship between perceived SDL (as measured by PRO-SDLS) and SPE, ambition and university commitment (UC) (as measured by SPESUS) at University 1 was investigated using Pearson product-moment correlation coefficient. Further correlations analysis of subscales of PRO-SDLS and SPESUS with demographic variables were also undertaken and investigated. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. When examining ambition scale from SPESUS for normality, the data were skewed. Since the skew of -1.051 was only slightly over the acceptance level of 1.0 for normality. Hence, the author proceeded with further statistical analysis based on the data collected.

In order to conduct this analysis, students' scores on PRO-SDLS items from University 1 were computed as composite scores based on the Likert scale used in the survey. Therefore, PRO-SDLS mean scores are based on a 1 (low) to 5 (high) scale. In other words, higher values indicate a higher level of SDL. SPESUS mean scores presented in the earlier section have already been computed in composite scores. Further inter-correlations analysis between subscales and subcomponent of PRO-SDLS and SPESUS were also undertaken and investigated. As mentioned in chapter 3, the strength of correlation between variables in this study are based on Cohen (1992, p155-159) interpretations where he suggested the following guidelines: Small effect: r = .10 to .29; Medium effect: r = .30 to .49; Large effect: r = .50 to 1.0. Besides, a significance level of $p \leq 0.05$ was used in this study and all p values obtained in this study were compared with this value before it is treated as significant.

5.2.1 Construct Validity of PRO-SDLS and SPESUS

Prior addressing objective 4, 5 and 6, data analysis of this section started with the validity of both measurement scales using inter-correlations analysis. According to Wellington (2000, p30), validity refers to 'the degree to which a method, a test or a research tool actually measures what it supposed to measure'. Measurement scales are said to have construct validity when items or measures from the measurement scales are inter-correlated, related and measure the same construct (convergent validity) or distinct measures which not supposed to be correlated, unrelated and not measuring the same construct (discriminant validity). As per the survey result of PRO-SDLS scale, table 5.2 shows that all four PRO-SDLS subscales (Initiative,

control, self-efficacy and motivation) were correlated positively and significantly between *r* = 0.246 (small effect) and *r* = 0.625 (large effect); N = 90. This indicated that PRO-SDLS scale has adequate validity in the sample from University 1 and hence confirmed that PRO-SDLS as valid measurement scales for SDL.

Table 5.2: Scale Inter-Correlations Statistics of PRO-SDLS – University 1

	PRO-SDLS Sub-scales & Combined Scales	1	2	3	4	5	6	7
1	Initiative	0.754						
2	Control	.555**	0.640					
3	Self-Efficacy	.333**	.373**	0.722				
4	Motivation	.252*	.246*	.625**	0.607			
5	PRO Teaching Learning Component (Initiative & Control)	.899**	.863**	.399**	.283**	0.800		
6	PRO Learner Characteristic Component (Self-Efficacy & Motivation)	.324**	.342**	.898**	.905**	.377**	0.789	
7	Total PRO-SDLS	.694**	.687**	.814**	.758**	783**	.872**	0.836

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)
Cronbach alpha reliability coefficients (α) are on the diagonal

Similar to PRO-SDLS, table 5.3 shows that SPESUS subscales (SPE, ambition, individual employability, external employability, UC) correlated positively and significantly between (*r* = 0.264 and *r* = 0.946; N = 90). This study also found that subscales ambition and UC were not correlated directly. As mentioned in the earlier section, no significant relationship was anticipated as ambition, and UC is separate but related constructs. However, when combined subscale of SPE and ambition were tested with subscale UC, a positive and significant correlation (*r* = 0.474) score was obtained. The findings from University 1 indicated evident construct validity of the SPESUS as valid measurement scales for SPE, ambition and UC.

Table 5.3: Scale Inter-Correlations Statistics of SPESUS – University 1

	SPESUS's Sub-scales & Combined Scales	1	2	3	4	5	6	7
1	Self-Perceived Employability (SPE)	0.836						
2	Ambition	.550**	0.641					
3	University Commitment (UC)	.550**	.135	0.890				
4	Internal Employability	.802**	.596**	.264*	0.692			
5	External Employability	.946**	.435**	.617**	.564**	0.792		
6	Self-Perceived Employability & Ambition	.962**	.757**	474**	.822**	.557**	0.857	
7	Self-Perceived Employability, Ambition & University Commitment (SPESUS Total)	.922**	.588**	.792**	.693**	.897**	.913**	0.895

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)
Cronbach alpha reliability coefficients (α) are on the diagonal

5.2.2 Correlations Statistics - PRO-SDLS and SPESUS

In response to research objective 4, table 5.4 shows that there were positive and significant relationships between PRO-SDLS variables and SPESUS variables. In other words, there was a positive and significant relationship between SDL and SPE. The relationship strength between total PRO-SDLS scores and SPE scores was at a small effect size (close to medium effect size) and statistically significant (r = .219, p < 0.05). In other words, when SDL level among University 1 students rises, so does their SPE.

Table 5.4: Scale Inter-Correlations Statistics of PRO-SDLS Scale, SPESUS Scale, Subscales and Combined Scales – University 1

SPESUS & PRO-SDLS Sub-scales & Combined Scales		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Self-Perceived Employability (SPE)	0.836													
2	Ambition	.550**	0.641												
3	University Commitment	.550**	.135	0.890											
4	Internal Employability	.802**	.596**	.264*	0.692										
5	External Employability	.946**	.435**	.617**	.564**	0.792									
6	SPE & Ambition	.962**	.757**	.474**	.822**	.557**	0.857								
7	Initiative	.402**	.442**	.077	.494**	.287**	.460**	0.754							
8	Control	.269*	.510**	-.053	.408**	.150	.377**	.555**	0.640						
9	Self-Efficacy	.058	.345**	-.273**	.235*	-.048	.158	.333**	.373**	0.722					
10	Motivation	-.017	.220*	-.215*	.147	-.104	.059	.252*	.246*	.625**	0.607				
11	PRO-SDLS TL (Initiative/ Control)	.386**	.537**	.019	.515**	.253*	.487**	.899**	.863**	.399**	.283**	0.800			
12	PRO-SDLS LC (Self-Efficacy /Motivation)	.022	.312**	-.270*	.211*	-.085	.119	.324**	.342**	.898**	.905**	.377**	0.789		
13	Total PRO-SDLS	.219*	.494**	-.171	.414**	.077	.333**	.694**	.687**	.814**	.758**	.783**	.872**	0.836	
14	TOTAL SPESUS	.922**	.588**	.792**	.693**	.897**	.913**	.355**	.237*	-.017	-0.59	.340**	-.042	.152	0.895

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)
Cronbach alpha reliability coefficients (α) are on the diagonal

Besides, the correlation analysis also revealed the statistically significant relationship between SDL and ambition (r = .494, p < 0.01). The relationship obtained was at the medium effect and close to large effect size. Therefore, the rise of SDL will also increase the level of

ambition of students. According to Rothwell *et al.* (2008, 2009), there was strong relationship suggested between employability and ambition. Therefore, further correlations analyses were undertaken on 22-item combined scales of SPE and ambition with PRO-SDLS scale. The examination revealed that by adding ambition into SPE scale, a higher correlations effect from small to medium size (r = .333, p < 0.01) with PRO-SDLS scale was obtained. Besides, by combining SPE and ambition scale, the significant level also increased to p < 0.01 from p < 0.05. As presented in table 5.4, there was a positive and significant relationship between SDL with SPE and ambition combined. As such, when SDL rises, so do SPE and ambition. Similarly, a statistically significant relationship was found between internal employability and SDL. The strength of the correlation reported was (r = .414, p < 0.01). However, there was no significant relationship found between SDL and UC (r = -.171, p = .106). Besides, the relationship between SDL and external employability was also found to be statistically not significant (r = .077, p = .471). This indicated that SDL was not influenced by student's perceptions of the strength of the university's brand and external labour market factors.

Correlations analyses were also performed to assess the relationship between subscales of PRO-SDLS (initiative, control, self-efficacy and motivation) and subscales of SPESUS. The examination shows that subscale initiative (from TL component of PRO-SDLS) had significant positive correlations with all SPESUS subscales except UC. The relationship strength obtained were small to medium effect. Table 5.4 showed medium effect relationship between initiative and SPE (r = .402, p < 0.01), ambition (r = .442, p < 0.01), and internal employability (r = .494, p < 0.01). A small effect relationship was found between initiative and external employability (r = .287, p < 0.01). Besides, subscale control correlated positively with SPE (r = .269, p < 0.05), ambition (r = .510, p < 0.01) and Individual employability (r = .408, p < 0.01). There is no significant relationship found between control and UC (r = -.503, p = .620); and external employability (r = .150, p = .159).

Although the TL component has dominated the relationship between PRO-SDLS and SPESUS, other significant and positive associations were also found between subscales from PRO-SDLS learners' characteristic (LC) component (self-efficacy and motivation) and SPESUS subscales. Significant and positive relationships were found between self-efficacy and ambition (r = .345, p < 0.01); and internal employability (r = .235, p < 0.05). It was anticipated that both ambition and internal employability might show positive correlations with self-efficacy due to its close relationship. Similarly, subscale motivation also found to have small effect correlations with ambition (r = .220, p < 0.05), but not with internal employability where no significant value

was reported (r = .147, p = .166). Results also shown that both self-efficacy (r = -.273, p < 0.01) and motivation (r = -.215, p < 0.05) correlated negatively with UC. This indicated that when self-efficacy and motivation rises, perceptions towards the strength of the university's brand as a contribution to employability will reduce. Besides, both subscales self-efficacy (r = -.048, p = 0.650) and motivation (r = -.104, p = 0.330) were found to have no statistical significant relationship with external employability. This indicated that self-efficacy and motivation were not influenced by student's perceptions of external labour market factors.

The results above provided supportive evidence for research objective 4 and hypothesis 4 where there are significant and positive relationships between the SDL (measured by PRO-SDLS) and SPE, ambition and UC (measured by SPESUS) of University 1 students in this study. The overall analysis results also indicated that the TL component of PRO-SDLS was stronger than LC component that has led to an overall significant and positive relationship with SPESUS variables. Further discussion will be included in chapter 7 on conclusions and recommendations.

5.2.3 Correlations Statistics - PRO-SDLS, SPESUS and Demographic Variables

As mentioned earlier, the relationship between perceived SDL (as measured by PRO-SDLS), SPE, ambition and UC (as measured by SPESUS) with selected demographic variables (age, CGPA, working experience and education attainment) were investigated using Pearson product-moment correlation coefficient. In response to research objective 5, table 5.5 shows that there was a positive and statistically significant relationship between PRO-SDLS variables and two demographic variables (age and CGPA) in the study of University 1 students. The relationship strength between the overall PRO-SDLS scores and age was at a small effect size and statistically significant (r = .232, p < 0.05). In other words, when ages of student rise, so do their SDL. In term of subscales, there were positive small effect relationship found between age with subscales initiative (r = .250, p < 0.05) and self-efficacy (r = .217, p < 0.05). Besides, the correlation analysis also revealed the statistically significant relationship between SDL and CGPA (r = .267, p < 0.05). The relationship strength was of small effect size. Therefore, the rise of CGPA will also increase the SDL level of students. Further examination also revealed positive and statistically significant relationship between CGPA and subscales initiative (r = .281, p < 0.01) and control (r = .228, p < 0.05). Table 5.5 also indicates no statistical relationship between PRO-SDLS variables and two other demographic variables (working experience and education attainment).

Table 5.5: Correlations of the PRO-SDLS and Demographic Variables - Age, Education Attainment, Working Experience and CGPA – University 1

PRO-SDLS, Sub-Scales and Sub-Scales		Age	Working Experience	Education Attainment	CGPA
Pearson's Correlation	PRO-SDLS	.232*	.133	.009	.267*
	Initiative	.250*	.136	.025	.281**
	Control	-.012	-.062	.019	.228*
	Self-Efficacy	.217*	.134	-.027	.121
	Motivation	.199	.150	.014	.181
	N	90	90	90	90

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)

In response to research objective 6, table 5.6 shows that there were positive and statistically significant relationships between SPESUS variables and three demographic variables (age, working experience and CGPA) in the study of University 1 students. The relationship strength between the overall SPESUS scores and age was at a small effect size and statistically significant (r = .215, p < 0.05). In order words, when the age of student rises, so do their expectation of employability. In term of subscales, there was positive small effect relationship found between age with subscales SPE (r = .261, p < 0.05). There was no statistically significant relationship found between subscales ambition, UC and age. Besides, the correlation analysis also revealed the statistically significant relationship between subscale SPE and working experience (r = .247, p < 0.05). The relationship strength was of small effect size. Therefore, the rise of working experience will also increase the employability expectations of students. Further examination also revealed positive and statistically significant relationship between SPESUS and CGPA (r = .224, p < 0.05). This indicates that the academic performance will influence employability expectation of University 1 students, such that when CGPA rises, so does employability. In term of SPESUS subscales, there were positive and statistically significant relationships found between CGPA and SPE (r = .256, p < 0.05); and ambition (r = .214, p < 0.05).

Table 4.39 also indicates no statistical relationship between SPESUS variables and education attainment.

Table 5.6: Correlations of the SPESUS and Demographic Variables – Age, Education Attainment, Working Experience and CGPA – University 1

SPESUS, Sub-Scales and Sub-Scales		Age	Working Experience	Education Attainment	CGPA
Pearson's Correlation	SPESUS	.215*	.190	-.029	.224*
	Self-Perceived Employability (SPE)	.261*	.247*	.054	.256*
	Ambition	.165	.120	.046	.214*
	University Commitment	.077	.062	-.149	.078
	N	90	90	90	90

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)

The results above provided partial supportive evidence for research objective 5 and 6 where there are significant and positive relationships between SDL (PRO-SDLS); SPE, ambition and UC (SPESUS); and demographic variables of university 1 students in this study. Further discussion will be included in chapter 7 conclusions and recommendations.

5.3 Test for Mean Differences – PRO-SDLS, SPESUS and Demographic Variables

In order to address **research objective 7**, non-parametric tests (Mann-Whitney U test and Kruskal-Wallis Test) were used to investigate whether age, CGPA, working experience and educational attainment groups differ significantly regarding their SDL, SPE, ambition, UC. Based on the results from Kolmogorov-Smirnov tests computed by SPSS, demographic variables data collected from University 1 students were not normally distributed. Therefore, non-parametric tests were used to perform the required analyses in this section. The Mann-Whitney U Test was used for the gender group while Kruskal-Wallis Test was used for age, education attainment, working experience and CGPA.

In order to conduct analysis in this section and for statistical comparisons purposes, participants' scores on PRO-SDLS items were computed as composite scores based on the Likert scale used in the survey. Therefore, PRO-SDLS mean scores are based on a 1 (low) to 5 (high) scale. In other words, higher values indicate a higher level of SDL. SPESUS scores presented in this section have already been computed in composite scores.

5.3.1 Non-Parametric Test – Mann-Whitney U Test on PRO-SDLS and SPESUS with Gender

The following section presents further examination whether gender group differ statistically significant regarding their SDL and SPE, ambition and UC. Mann-Whitney U tests were conducted to compare the PRO-SDLS, SPESUS and its subscales scores for males and females. Table 5.7 indicates that there was no significant difference in scores for male and female students for PRO-SDLS and SPESUS in University 1. Similar results were found for PRO-SDLS subscales (initiative, control, self-efficacy and motivation) and SPESUS subscales (SPE, ambition and UC).

Table 5.7: Results of Mann-Whitney U Test – Gender – University 1

Non-Parametric Test (Gender)	Mann-Whitney U	Z	Asymp. Sig (2 tailed)	Mean Rank	
SPESUS & PRO-SDLS				Male	Female
PRO-SDLS	779.500	-468	.640	44.68	47.52
Initiative	645.500	-1.320	.187	47.80	39.83
Control	803.000	-260	.795	45.95	44.38
Self-Efficacy	810.500	-.192	.848	45.16	46.33
Motivation	651.500	-1.611	.107	42.68	52.44
SPESUS	687.000	-1.291	.197	47.77	39.92
SPE	640.000	-1.712	.087	48.50	38.12
Ambition	816.000	-.143	.886	45.25	46.12
University Commitment	712.500	-1.065	.287	47.37	40.90
N	90			64	26

a. Grouping Variable: Gender

*p = <.05

5.3.2 Non-Parametric Test – Kruskal-Wallis Test on PRO-SDLS and SPESUS with Age, CGPA, Work Experience and Education Attainment

The following section presents further examination whether age group differ statistically significant regarding their SDL and SPE, ambition and UC. Kruskal-Wallis tests were conducted to compare PRO-SDLS and SPESUS scales/subscales scores for age groups of University 1 students. The test revealed a statistically significant difference in SDL across three different age groups (Group 1, N = 59: 21-24 yrs; Group 2, N= 29: 25-28 yrs; Group 3, N= 2: 29-32 years), χ^2 (2, N=90) = 7.266, p = 0.026. In the Kruskal-Wallis test output presented in table 5.18, the significance level is less than the alpha level of 0.05. Hence, the results suggested that there is a statistically significant difference in SDL level across the different age groups. An

inspection of the mean ranks for the groups suggests that the older group (25-28 yrs) had the highest PRO-SDLS scores (M = 56.19), with the youngest group reporting the lowest (M = 40.23).

Table 5.8: Results of Kruskal-Wallis Test – Age – University 1

Non-Parametric Test : Age	**Chi-Square**	**df**	**Asymp. Sig**	**Mean Rank - Age**		
SPESUS & PRO-SDLS Variables				**21-24**	**25-28**	**29-32**
PRO-SDLS	7.266	2	.026*	40.23	56.19	46.00
Initiative	6.305	2	.043*	40.70	53.79	66.75
Control	.691	2	.708	44.75	47.83	33.75
Self-Efficacy	5.467	2	.065	40.95	54.76	45.50
Motivation	4.844	2	.089	41.18	54.17	47.25
SPESUS	3.563	2	.168	41.95	51.48	63.50
SPE	6.139	2	.046*	40.73	53.79	66.00
Ambition	2.189	2	.335	42.58	51.28	47.75
University Commitment	1.066	2	.587	43.94	47.64	60.50
N	90			59	29	2

a. Grouping Variable: Age
*p = <.05

Further examination of Kruskal-Wallis test also revealed a statistically significant difference in subscale initiative of PRO-SDLS across three different age groups of students in University 1. (Group 1, N = 59: 21-24 yrs; Group 2, N= 29: 25-28 yrs; Group 3, N= 2: 29-32 years), χ^2 (2, N=90) = 6.305, p = 0.043. The significance level obtained is less than the alpha level of 0.05. Therefore, the results suggested that there is a statistically significant difference in initiative level across the different age groups. An inspection of the mean ranks for the groups suggests that the older group (29 - 32 yrs) had the highest Initiative subscale scores (M = 66.75), with the youngest group reporting the lowest (M = 40.70).

In terms of employability, table 5.8 shows that only subscale SPE from SPESUS obtained a statistically significant difference across three different age groups. (Group 1, N = 59: 21-24 yrs; Group 2, N= 29: 25-28 yrs; Group 3, N= 2: 29-32 years), χ^2 (2, N=90) = 6.139, p = 0.046. The significance level obtained is less than the alpha level of 0.05. Therefore, the results suggested that there is a statistically significant difference in SPE across the different age groups. An inspection of the mean ranks for the groups suggests that the older group (29 - 32 yrs) had the highest SPE subscale scores (M = 66.00), with the youngest group (21-24 yrs) reporting the lowest (M = 40.73). As a conclusion, Kruskal-Wallis test results for age groups revealed that SDL and SPE level among students appeared to increase as the ages of the students increased. Older students appeared to have higher SDL, and SPE compares to younger students.

In terms of CGPA, table 5.9 Kruskal-Wallis test results revealed a statistically significant difference in SDL across six different CGPA groups in University 1. (Group 1, N =1: 2.50 - 2.74 CGPA; Group 2, N= 8: 2.75 - 2.99 CGPA; Group 3, N= 32: 3.00 - 3.24 CGPA; Group 4, N= 28: 3.25 - 3.49 CGPA; Group 5, N=16: 3.50 - 3.74 CGPA; Group 6, N= 5: 3.75 – 3.99 CGPA), χ^2 (5, N=90) = 12.337, p = 0.030. The significance level obtained is less than the alpha level of 0.05. Therefore, the results suggested that there is a statistically significant difference in SDL across the different CGPA groups. An inspection of the mean ranks for the groups suggests that students from CGPA group (3.50 – 3.74) had the highest PRO-SDLS score (M = 59.41). The test results for CGPA groups revealed that SDL among students appeared to increase as their CGPA increased. Besides, further examination of Kruskal-Wallis test also revealed a statistically significant difference in subscale initiative of PRO-SDLS across six different CGPA groups where chi-square value recorded was χ^2 (5, N=90) = 14.287, p = 0.014. In summary, students with better CGPA in University 1 appeared to have higher SDL compared to students with lower CGPA. Table 5.9 also indicates that there was no statistically significant difference in SPESUS scale and subscales scores across six different academic groups.

Table 5.9: Results of Kruskal-Wallis Test – CGPA – University 1

Non-Parametric Test : CGPA	Chi-Square	df	Asymp. Sig	Mean Rank – CGPA					
SPESUS & PRO-SDLS Variables				**2.50 to 2.74**	**2.75 to 2.99**	**3.00 to 3.24**	**3.25 to 3.49**	**3.50 to 3.74**	**3.75 to 3.99**
PRO-SDLS	12.337	5	.030*	1.00	43.56	37.16	50.68	59.41	37.40
Initiative	14.287	5	.014*	3.00	37.75	37.81	52.75	59.16	31.30
Control	9.703	5	.084	6.50	44.19	37.42	50.16	57.44	42.80
Self-Efficacy	3.562	5	.614	32.00	46.56	40.97	45.66	55.31	43.20
Motivation	6.029	5	.303	1.00	46.19	41.28	47.86	54.16	39.40
SPESUS	5.836	5	.322	17.00	37.13	39.89	50.36	52.66	50.40
SPE	9.326	5	.097	40.00	34.81	37.14	51.82	56.81	45.60
Ambition	9.540	5	.089	16.50	45.69	37.33	46.54	59.69	52.10
University Commitment	2.485	5	.779	10.00	41.81	46.14	46.55	44.22	52.60
N	90			1	8	32	28	16	5

a. Grouping Variable: CGPA
*p = <.05

Similar to qualification groups, Kruskal-Wallis test was conducted to compare the PRO-SDLS, SPESUS scales/subscales scores for four different working experience groups of students in University 1. Table 5.10 indicates that there was no statistically significant difference in PRO-SDLS and SPESUS scores across four working experience groups. Similar results were found for PRO-SDLS subscales (initiative, control, self-efficacy and motivation) and SPESUS subscales (SPE, ambition and UC), where there is no statistically significant difference found between the four different student groups.

Table 5.10: Results of Kruskal-Wallis Test – Working Experience – University 1

Non-Parametric Test : Working SPESUS & PRO-SDLS Variables	Chi-Square	df	Asymp. Sig	Mean Rank – Working Experience			
				No Working Exp.	Less than a year	1 to 3 years	4 to 6 years
PRO-SDLS	3.004	3	.391	40.12	49.31	50.47	45.43
Initiative	3.191	3	.363	39.97	49.28	48.67	53.71
Control	2.300	3	.513	44.28	53.38	41.81	49.43
Self-Efficacy	3.311	3	.346	39.93	52.50	48.52	47.21
Motivation	6.191	3	.103	40.00	45.47	54.83	36.79
SPESUS	3.305	3	.347	40.14	48.09	48.52	56.14
SPE	5.492	3	.139	38.22	48.31	51.07	55.50
Ambition	2.850	3	.415	40.28	51.38	47.93	50.36
University Commitment	1.416	3	.702	43.59	45.53	45.36	56.36
N	90			38	16	29	7

a. Grouping Variable: Working Experience
*p = <.05

Further analyses were performed to assess significant differences in PRO-SDLS, SPESUS and its subscales scores for three different educational attainment groups of students in University 1. Table 5.11 indicates that there was no statistically significant difference in PRO-SDLS and SPESUS scores across three students education attainment groups. Similar results were found for PRO-SDLS subscales (initiative, control, self-efficacy and motivation) and SPESUS subscales (SPE, ambition and UC), where there is no statistically significant difference found between the three different student groups.

Table 5.11: Results of Kruskal-Wallis Test – Education Attainment – University 1

Non-Parametric Test : Qualification	Chi Square	df	Asymp. Sig	Mean Rank – Education Attainment		
SPESUS & PRO-SDLS Variables				Bachelor Degree	Post. Grad Cert/Dip	Master Degree
PRO-SDLS	.376	2	.829	45.78	37.75	46.56
Initiative	.865	2	.649	45.06	39.00	52.17
Control	.174	2	.917	45.70	48.38	42.50
Self-Efficacy	.314	2	.855	45.93	38.50	44.94
Motivation	.082	2	.960	45.45	42.75	47.17
SPESUS	.678	2	.712	45.95	35.00	46.33
SPE	.758	2	.685	45.01	40.25	52.06
Ambition	1.229	2	.541	45.55	33.25	50.56
University Commitment	2.781	2	.249	47.35	31.13	36.06
N	90			77	4	9

a. Grouping Variable: Education Attainment
*p = <.05

The results above provided partial supportive evidence for research objective 7 where there are statistically significant differences found between SDL (PRO-SDLS); SPE, ambition and UC (SPESUS); and demographic variables of students from University 1. Further discussion will be included in chapter 7 on conclusions and recommendations.

5.4 Inferential Statistics – Multiple Regression Analysis of PRO-SDLS and SPESUS

This section is relevant to **research objective 8.** Based on the data collected using SPESUS and PRO-SDLS from University 1 students, seven separate simple multiple regression analysis models were computed using SPSS based on the subscales of SPESUS as dependent variables (SPE, ambition, UC, internal employability, external employability, SPE and Ambition combined) and the variables of PRO-SDLS scale (initiative, control, self-efficacy and motivation)

as Independent variables. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. When examining ambition scale for normality, the data were skewed. The skew of -1.051 was only slightly over the acceptance level of 1.0 for normality. Hence, the author proceeded with further statistical analysis based on the data collected. All variables were entered simultaneously into SPSS to assess whether PRO-SDLS variables were statistically significant predictors of SPESUS variables.

As mentioned in chapter 3, effect size of R^2 values in this study are based on Cohen's (1988) suggested guidelines as interpretations: $R^2 \leq 0.12$ (Small effect size); $R^2 \geq 0.13 \leq 0.25$ (Medium effect size); $R^2 \geq 0.26$ (large effect size); Besides, a significance level of $p \leq 0.05$ was used in this study and all p values obtained in this study were compared with this value before it is treated as significant.

5.4.1 Multiple Regression Analysis – Model 1: SPE, Ambition and University Commitment Combined (SPESUS) as Dependent Variable

The first regression model was performed to assess whether PRO-SDLS variables (initiative, control, self-efficacy, motivation) were statistically significant predictors of employability as a whole (SPE, Ambition and UC - Combined - SPESUS). Table 5.12 indicates that the regression of the PRO-SDLS variables on SPESUS variables produced a statistically significant model with medium effect size ($R = 0.401$; $F = 4.067$; $p = < 0.001$). The model accounted for 16% of variability in SPESUS ($R^2 = 0.161$). In a further analysis of self-direction' four variables, only subscale initiative is a significant predictor of SPESUS variables as seen in table 5.12. According to the standardised beta coefficients, initiative contributed the most in explaining the variance of SPE, ambition and UC recording a beta value of $\beta = 0.360$; $p = < 0.01$. In order words, as the initiative level of University 1 students increased, so did SPE, ambition and UC. Apart from subscale initiative, other PRO-SDLS variables did not significantly predict SPESUS.

Table 5.12: SPE, Ambition and University Commitment Combined (SPESUS) Regression Predictors and Model Summary – University 1

Instrument	R	R Square	Adjusted R	Standard Error of Estimate	df	Mean Square	F	Sig
SPESUS	.401[a]	.161	.121	.46137	4	.866	4.067	.005**

a. Predictors (Constant): Initiative, Control, Self-efficacy, Motivation
b. Dependent Variable: SPESUS
*p = < .05; ** p = <.01; ***p = <.001
N = 90

Model	Unstandardized Coefficients		Standard Coefficients	t	Sig	Collinearity Statistics	
	B	Std.	Beta			Tolerance	VIF
SPESUS (Constant)	2.406	.448		5.370	.000		
Initiative	.313	.105	.360	2.969	.004**	.671	1.489
Control	.104	.123	.105	.850	.398	.652	1.533
Self-Efficacy	-.083	.102	-.108	-.812	.419	.553	1.808
Motivation	-.092	.109	-.108	-.843	.401	.607	1.646

Dependent Variable: SPESUS

5.4.2 Multiple Regression Analysis – Model 2: Self-Perceived Employability (SPE) as Dependent Variable

The result of regression analysis model in table 5.13 indicates that the regression of PRO-SDLS variables on SPE produced a statistically significant model (F = 4.755; p = < 0.01). The PRO-SDLS variables of initiative, control, self-efficacy and motivation explained 18% (R^2 = 0.183) (medium effect size) of the variance in SPE. Further analysis revealed that out of the four SDL subscales, only initiative was found to be a statistically significant predictor of SPE recording a beta value of β = 0.392; p = < 0.01. Initiative is a factor of the Personal Responsibility Orientation (PRO) Model's teaching-learning (TL) construct which measures learner's proactivity of taking steps towards decisions or actions in learning (Stockdale and Brockett, 2010).

Table 5.13: SPE Regression Predictors and Model Summary – University 1

Instrument	R	R Square	Adjusted R	Standard Error of Estimate	df	Mean Square	F	Sig
SPE	.428[a]	.183	.144	.46294	4	1.019	4.755	.002** *

a. Predictors (Constant): Initiative, Control, Self-efficacy, Motivation
b. Dependent Variable: Self-perceived employability (SPE)
*p = < .05; ** p = <.01; ***p = <.001
N = 90

Model	Unstandardized Coefficients		Standard Coefficients	t	Sig	Collinearity Statistics	
	B	Std.	Beta			Tolerance	VIF
SPE (Constant)	2.204	.450		4.902	.000		
Initiative	.346	.106	.392	3.274	.002**	.671	1.489
Control	.095	.123	.093	.770	.443	.652	1.533
Self-Efficacy	-.027	.102	-.034	-.261	.795	.553	1.808
Motivation	-.103	.110	-.118	-.935	.352	.607	1.646

Dependent Variable: Self-perceived employability (SPE)

5.4.3 Multiple Regression Analysis – Model 3: Ambition as Dependent Variable

The third regression model was performed to assess whether PRO-SDLS variables were statistically significant predictors of ambition. Ambition scale measures the University 1 students' perception of their future career success. The regression results in table 5.14 showed that the model was statistically significant (R = 0.562; F = 9.797; p = < 0.001). The model accounted for 32% of variability in ambition (R^2 = 0.316) (large effect size). In order words, PRO-SDLS variables were statistically significant predictors of students' ambition in this study. Further examination of the four variables of self-direction revealed that only control variable (β = 0.341; p = < 0.01) was found to be statistically significant in predicting students' ambition. Similar to initiative, control is also part of teaching-learning (TL) construct of the PRO Model, which refers to the ability or willingness of individuals taking control of their own learning and direct their own learning (Stockdale and Brockett, 2010).

Table 5.14: Ambition Regression Predictions and Model Summary – University 1

Instrument	R	R Square	Adjusted R	Standard Error of Estimate	df	Mean Square	F	Sig
Ambition	.562[a]	.316	.283	.47412	4	2.202	9.797	.000***

a. Predictors (Constant): Initiative, Control, Self-efficacy, Motivation
b. Dependent Variable: Ambition
*p = < .05; ** p = <.01; ***p = <.001
N = 90

Model	Unstandardized Coefficients		Standard Coefficients	t	Sig	Collinearity Statistics	
	B	Std.	Beta			Tolerance	VIF
Ambition (Constant)	1.384	.460		3.006	.003		
Initiative	.202	.108	.204	1.865	.066	.671	1.489
Control	.387	.126	.341	3.067	.003**	.652	1.533
Self-Efficacy	.137	.105	.159	1.315	.192	.553	1.808
Motivation	-.014	.112	-.015	-.127	.899	.607	1.646

Dependent Variable: Ambition

5.4.4 Multiple Regression Analysis – Model 4: University Commitment as Dependent Variable

UC is related principally to students' perception of the university's reputation and brand strengths as an asset in the labour market which will influence their employability. As can be seen in table 5.15, PRO-SDLS variables as a whole (initiative, control, self-efficacy and motivation) are statistically significant predictors of UC (R = 0.336; F = 2.699; p = < 0.05). However, the model as a whole only accounted for 11% of the variability in UC (R^2 = 0.113) (small effect size). Further examination of the model showed that none of the individual variables of PRO-SDLS significantly predict UC. Although no significant relationship was obtained in earlier analysis between PRO-SDLS and UC, this is a surprise result where a weak but significant model was obtained.

Table 5.15: University Commitment Predictions and Model Summary – University 1

Instrument	R	R Square	Adjusted R	Standard Error of Estimate	df	Mean Square	F	Sig
University Commitment	.336[a]	.113	.071	.82264	4	1.827	2.699	.036*

a. Predictors (Constant): Initiative, Control, Self-efficacy, Motivation
b. Dependent Variable: University Commitment
*p = < .05; ** p = <.01; ***p = <.001
N = 90

Model	Unstandardized Coefficients		Standard Coefficients	t	Sig	Collinearity Statistics	
	B	Std.	Beta			Tolerance	VIF
University Commitment (Constant)	3.578	.799		4.479	.000		
Initiative	.329	.188	.218	1.752	.083	.671	1.489
Control	-.089	.219	-.051	-.404	.687	.652	1.533
Self-Efficacy	-.359	.181	-.272	-	.051	.553	1.808
Motivation	-.130	.195	-.087	-.666	.507	.607	1.646

Dependent Variable: University Commitment

5.4.5 Multiple Regression Analysis – Model 5: Internal Employability as Dependent Variable

Internal employability is one of the subscales within SPE. It measures the personal confidence of individual ability to secure employment of choice (Rothwell *et al.* 2009). The following regression analysis was performed to assess whether PRO-SDLS variables were statistically significant predictors of internal employability. The regression results in table 5.16 showed that the model was statistically significant (R = 0.521; F = 7.935; p = < 0.001). The model as a whole accounted for 27% of the variability in internal employability (R^2 = 0.272). With large effect size, this is one the highest R^2 score obtained among all the models generated using data collected from University 1. In a further examination of the self-direction' four variables, only initiative is statistically significant predictor of individual employability (β = 0.381; p = < 0.01). In other words, as initiative increased, so did internal employability. The results showed that control, self-efficacy and motivation did not significantly predict internal employability.

Table 5.16: Internal Employability Regression Predictions and Model Summary – University 1

Instrument	R	R Square	Adjusted R	Standard Error of Estimate	df	Mean Square	F	Sig
Internal Employability	.521[a]	.272	.238	.45872	4	1.670	7.935	.000***

a. Predictors (Constant): Initiative, Control, Self-efficacy, Motivation
b. Dependent Variable: Internal Employability
*p = < .05; ** p = <.01; ***p = <.001
N: 90

Model	Unstandardized Coefficients		Standard Coefficients	t	Sig	Collinearity Statistics	
	B	Std.	Beta			Tolerance	VIF
Internal Employability (Constant)	1.512	.445		3.393	.001		
Initiative	.353	.105	.381	3.370	.001**	.671	.671
Control	.194	.122	.182	1.592	.115	.147	.652
Self-Efficacy	.048	.101	.060	.479	.633	.044	.553
Motivation	-.028	.109	-.031	-.261	.795	-.024	.607

Dependent Variable: Internal Employability

5.4.6 Multiple Regression Analysis – Model 6: External Employability as Dependent Variable

Similar to Internal employability, external employability is one of the subscales within SPE. External employability scale is measured by factors to do with the demand of the courses or subjects, strengths of the university's brand and state of the labour market (Rothwell *et al.* 2009). The following regression analysis was performed to assess whether PRO-SDLS variables (initiative, control, self-efficacy, and motivation) were statistically significant predictors of external employability using data collected from University 1.

Table 5.17: External Employability Regression Predictions and Model Summary – University 1

Instrument	R	R Square	Adjusted R	Standard Error of Estimate	df	Mean Square	F	Sig
External Employability	.346[a]	.120	.078	.55634	4	.894	2.887	.027*

a. Predictors (Constant): Initiative, Control, Self-efficacy, Motivation
b. Dependent Variable: External Employability
*p = < .05; ** p = <.01; ***p = <.001
N: 90

Model	Unstandardized Coefficients		Standard Coefficients	t	Sig	Collinearity Statistics	
	B	Std.	Beta			Tolerance	VIF
External Employability (Constant)	2.619	.540		4.847	.000		
Initiative	.342	.127	.334	2.692	.009**	.671	1.489
Control	.035	.148	.030	.238	.813	.652	1.533
Self-Efficacy	-.072	.123	-.080	-.585	.560	.553	1.808
Motivation	-.147	.132	-.146	-	.268	.607	1.646

Dependent Variable: External Employability

Table 5.17 indicates that PRO-SDLS variables were statistically significant predictors of external employability with medium effect size (R = 0.346; F = 2.887; p = < 0.05). The regression model as a whole accounted for 12% of the variability in external employability (R^2 = 0.120) (small effect size). The model showed that PRO-SDLS subscale of initiative was statistically significant in predicting external employability with a beta value of β = 0.334; p = < 0.01. The results showed self-direction variables of control, self-efficacy and motivation did not significantly predict external employability in this study. Similar to UC, despite no significant relationship was obtained in earlier analysis between PRO-SDLS and external employability, this is a surprise result where a weak but significant model was obtained.

5.4.7 Multiple Regression Analysis – Model 7: Self-Perceived Employability (SPE) and Ambition Combined as Dependent

As noted earlier in this study, literature suggested a strong relationship between SPE and ambition (Rothwell *et al.* 2008, 2009). Based on the correlations analysis presented earlier in this chapter, SPE and ambition combined scale also yielded a higher correlation value with PRO-SDLS scale. Therefore, further regression analyses were undertaken on 22-item combined scale of SPE and Ambition with PRO-SDLS variables using data collected from University 1 students. As shown in table 5.18, the result of the regression analysis model showed the self-direction variables of PRO-SDLS to be statistically significant predictors of SPE and ambition combined (R = 0.489; F = 6.693; p = < 0.001). PRO-SDLS variables were able to contribute 24% (R^2 = 0.24) (medium effect size) in explaining the variance of SPE and ambition combined variables. As per table 5.13, PRO-SDLS variables were statistically significant in predicting SPE alone with a value of R^2 = 0.183. Therefore, by adding ambition scale into SPE scale, the PRO-SDLS variables able to predict a higher percentage of variability. Further analysis revealed that out of the four PRO-SDLS subscales; only initiative was found to be a statistically significant predictor of SPE and ambition variables combined recording a beta value of β = 0.373; p = < 0.01. Besides, PRO-SDLS subscales of control, self-efficacy and motivation did not significantly predict SPE and ambition combined variables in this study.

Table 5.18: SPE and Ambition Combined Regression Predictions and Model Summary – University 1

Instrument	R	R Square	Adjusted R	Standard Error of Estimate	df	Mean Square	F	Sig
SPE & Ambition	.489[a]	.240	.204	.41561	4	1.156	6.693	.000***

a. Predictors (Constant): Initiative, Control, Self-efficacy, Motivation
b. Dependent Variable: SPE and Ambition Combined
*p = < .05; ** p = <.01; ***p = <.001
N: 90

Model	Unstandardized Coefficients		Standard Coefficients	t	Sig	Collinearity Statistics	
	B	Std.	Beta			Tolerance	VIF
SPE and Ambition combined (Constant)	1.980	.404		4.906	.000		
Initiative	.307	.095	.373	3.233	.002**	.671	1.489
Control	.175	.111	.185	1.578	.118	.652	1.533
Self-Efficacy	.018	.092	.025	.198	.844	.553	1.808
Motivation	-.079	.099	-.097	-.797	.428	.607	1.646

a. Dependent Variable: SPE and Ambition Combined

As a conclusion, based on the seven multiple regression models generated earlier, PRO-SDLS variables were statistically significant predictors of SPESUS variables. Model's effect size found in all the regression models were between small and large. The lowest R^2 value obtained was 0.11 where the highest R^2 value was 0.32. In other words, PRO-SDLS variables were able to predict variability of 11% to 32% in SPESUS variables using University 1 data. These regression results also revealed that subscale initiative contributed the most in explaining SPESUS variable with the highest significant beta weight values recorded at $\beta = 0.392$; p = < 0.01. The results of these multiple regression models provided supportive evidence for research objective 8 and hypothesis Ha5 which will be discussed in chapter 7.

5.5 Summary

This chapter investigates the correlations and inferential statistics of PRO-SDLS and SPESUS based on data collected from University 1. Pearson's correlation analyses showed that there were positive, and statistically significant relationships between SDL (measured by PRO-SDLS Scale) and SPE (measured by SPESUS) were in the anticipated direction of this study. Correlations results also showed that there was a positive and statistically significant relationship between SDL with age and CGPA. Similar relationships were also found between SPESUS variables with age, working experience and CGPA. Further examination using non-parametric tests also showed that two out of five demographic variables (age and CGPA) demonstrated significant differences in SDL and SPE. Besides, multiple regression models obtained from University 1 data indicated that PRO-SDLS variables were statistically significant predictors of SPESUS variables. In chapter 7, these outcomes are analysed and discussed in relation to previous studies and literature.

Chapter 6: Result and Analysis – Exploring Research Model and Findings with Additional Data for PRO-SDLS, SPESUS, SPEF and Demographic Variables

6.1 Introduction

The following section presents the data analysis results to address **Research Objective 9.** The primary objective of this chapter is to explore and validate the research model and findings from the University 1 (Dubai, UAE based University; N: 90) by comparing the data collected from University 2 (Leicester, UK based University; N: 48) using the same PRO-SDLS, SPESUS and SPEF questionnaires. The statistical results for university 1 and 2 were reported as per the sequence provided in table 6.1 based on research objectives 1, 2, 3, 4, 5, 6 and 7 as outlined in chapter 1.

Table 6.1: Summary of Quantitative Analysis for Objective 9

Objectives	Comparative Quantitative Analysis for University 1 and University 2
Reliability of PRO-SDLS	Cronbach's alpha coefficients (internal consistency reliability)
Reliability of SPESUS	Cronbach's alpha coefficients (internal consistency reliability)
Reliability of SPEF	Cronbach's alpha coefficients (internal consistency reliability)
Objective 1	Descriptive statistics (means, standard deviations, skewness and kurtosis)
Objective 2	Descriptive statistics (means, standard deviations, skewness and kurtosis)
Objective 3	Descriptive statistics (means, standard deviations, skewness and kurtosis)
Objective 4	Bivariate correlations analysis (Person product-moment correlations) between SPESUS and PRO-SDLS.
Objective 5	Bivariate correlations analysis (Person product-moment correlations) between demographic variables (age, CGPA, working experience and education attainment) and PRO-SDLS variables.
Objective 6	Bivariate correlations analysis (Person product-moment correlations) between demographic variables (age, CGPA, working experience and education attainment) and SPESUS variables
Objective 7	Non-parametric tests (Mann-Whitney U and Kruskal-Wallis) for mean differences results between demographic variables (gender, age, CGPA, working experience and education attainment) and SPESUS variables and; PRO-SDLS variables.

Objective 8 is excluded for comparisons in this chapter as the researcher is not able to generate multiple regression models as per the statistical principles due to a low number of participation from university 2. Similar to chapter 4 and 5, the results of statistical analysis in this chapter will also be integrated with literature reviews in chapter 7 for discussions and conclusions.

6.2 Reliability Analysis – PRO-SDLS, SPESUS and SPEF

Similar to the analyses conducted for university 1 students, internal consistency reliability analyses were performed on the research instruments, namely, PRO-SDLS, SPESUS and SPEF using data collected from university 2. The primary focus of reliability analysis is to assess the consistency of these three measurement instruments when used on University 2 students. The Cronbach's alpha coefficients and the inter-items mean correlations values will be used as an indicator of consistency of the research instruments and also as the comparisons to findings from university 1.

Table 6.2: Internal Consistency Reliability Coefficients of the PRO-SDLS – Split By University

PRO-SDLS & Subscales	University 1 (N:90)		University 2 (N:48)		Number of Items
	Cronbach's Alpha (α)	Inter-Item Mean Correlation Values	Cronbach's Alpha (α)	Inter-Item Mean Correlation Values	
Initiative	0.754	0.333	0.797	0.388	6
Control	0.640	0.231	0.810	0.425	6
Self-Efficacy	0.722	0.287	0.786	0.390	6
Motivation	0.607	0.168	0.712	0.261	7
PRO Teaching Learning Component (Initiative & Control)	0.800	0.246	0.767	0.228	12
PRO Learner Characteristic Component (Self-Efficacy & Motivation)	0.789	0.209	0.793	0.234	13
PRO-SDLS Total	0.836	0.180	0.871	0.220	25

Table 6.2 shows the overall internal consistency reliability coefficients values for PRO-SDLS and its subscales obtained from University 1 and University 2. The overall PRO-SDLS reliability scores obtained from University 2 (α = 0.87) compare favourably to the study conducted for university 1 students (α = 0.83). Similar to the findings from University 1, Inter-item correlation obtained for all PRO-SDLS sub-components from University 2's study fall within the prescribed range of directives from Clark and Watson (1995)(0.15 – 0.50) and Briggs and Check (1986)(0.20 to 0.40). Therefore, based on the Cronbach's alpha values obtained for PRO-SDLS from both university 1 and 2 were considered to be acceptable and have adequate reliability for this study and also recommended to be used in future research. In summary, the PRO-SDLS's reliability and results for this stud are consistent with previous studies as mentioned in chapter 4.

Table 6.3: Internal Consistency Reliability Coefficients of the SPESUS - – Split By University

SPESUS & Subscales	University 1 (N:90)		University 2 (N:48)		Number of Items
	Cronbach's Alpha (α)	Inter-Item Mean Correlation Values	Cronbach's Alpha (α)	Inter-Item Mean Correlation Values	
Self-Perceived Employability (SPE)	0.836	0.243	0.825	0.231	16
Ambition	0.641	0.280	0.730	0.297	6
University Commitment	0.890	0.507	0.903	0.543	8
Internal Employability	0.692	0.275	0.680	0.258	6
External Employability	0.792	0.278	0.782	0.272	10
Self-perceived employability & Ambition	0.857	0.228	0.845	0.201	22
SPESUS Total	0.895	0.225	0.896	0.227	30

As indicated in table 6.3, that the overall SPESUS reliability scores yielded from University 2 (α = 0.89) compare favourably to the reliability scores obtained from University 1 (α = 0.89). The results obtained from both universities indicated that SPESUS as a measuring instrument for self-perceived employability is highly reliable. From the subscales perspective, Cronbach's Alpha received for subscale ambition (α = 0.73) from University 2 has increased significantly compared to the score obtained from University 1 (α = 0.64). The rest of the

subscales from University 2 obtained similar scores compare to the results from University 1. Additionally, the inter-item correlation obtained from University 2 also compare favourably to University 1 and fall within the prescribed range of directives. Hence, SPESUS and its subscales were considered to be acceptable and have adequate reliability compare to previous studies.

Table 6.4: Internal Consistency Reliability Coefficients of the SPEF – Split By University

SPEF Subscales	University 1 (N:90)		University 2 (N:48)		Number of Items
	Cronbach's Alpha (α)	Inter-Item Mean Correlation Values	Cronbach's Alpha (α)	Inter-Item Mean Correlation Values	
Intellectual Skills	0.835	0.505	0.428	0.158	5
Soft Skills	0.883	0.520	0.844	0.453	7
Functional Skills	0.737	0.414	0.713	0.385	4
Academic and University Reputation	0.855	0.597	0.776	0.472	4
Pre-graduate Experience, Career and Job Seeking Skills	0.739	0.334	0.513	0.154	6
External Factors	0.633	0.306	0.650	0.319	4
SPEF Total	0.940	0.350	0.851	0.163	30

Table 6.4 shows that acceptable internal consistency reliability was obtained for the overall SPEF scale from University 2 (α = 0.85). Compared to University 1 (α = 0.94), the Cronbach's Alpha score obtained from University 2 was lower, however, still favourable for the study. This may be due to two outlier scores obtained for two subscales, namely, intellectual skills and pre-graduate experience, career and job seeking skills which show a significant drop in reliability score in University 2 (α = 0.42; α = 0.51) compare to University 1 (α = 0.83; α = 0.73) respectively. However, the inter-items mean correlation values obtained for these two subscales of SPEF fall within the prescribed range of directives from Clark and Watson (1995) (0.15 – 0.50). Therefore, the scores obtained from University 2 are considered to be desirable for the study. Since SPEF is a newly developed measurement scale for this study, the Cronbach's Alpha scores

obtained were deemed acceptable and will require further research to achieve optimum reliabilities scores in the future.

As a conclusion, based on the internal consistency reliability analyses results and comparisons outcomes for both universities (1 and 2) discussed above, PRO-SDLS, SPESUS and SPEF are considered to be highly reliable measuring instruments for this study and suitable to be used in the future study.

6.3 Descriptive Statistics – PRO-SDLS, SPESUS and SPEF

The following section presents the comparisons of descriptive statistics computed for PRO-SDLS, SPESUS and SPEF scales used at university 1 and 2. Table 6.5 summarises the means, standard deviations, skewness, kurtosis and number of items for PRO-SDLS scale and subscales for University 1 and 2. As previously noted, the total possible PRO-SDLS scores fall between 25 and 125. The total sum score mean of PRO-SDLS scale obtained from University 2 (M = 84.500, SD = 12.973, N = 48) were slightly lower compare to university 1 (M = 90.725, SD = 10.591, N = 90). However, the sum score mean of PRO-SDLS subscales (initiate, control, self-efficacy and motivation) obtained from university 2 were within similar range compare to university 1.

According to Brockett and Hiemstra (1991), the PRO model explains the distinction between external (self-directed learning) and internal (learner self-direction) forces. The strong connection between these two forces through the learner (student) taking primary responsibilities determine the success of self-direction in learning in a given learning context. Therefore, the optimal conditions for learning results is when there is a balance or congruence between the learner's level of self-direction (measured by PRO Learner Characteristic (LC) Component) and the extent to which opportunity for self-directed learning (measured by PRO Teaching Learning (TL) Component) is possible in a given situation. Table 6.5 indicated that both universities 1 (TL = 45.963; LC = 44.762) and 2 (TL = 40.875; LC = 43.625) students perceived themselves to have near to balance and congruence learning expectations and conditions of learning situations based on sum score mean obtained from the study. In other words, the chances for success of self-direction in learning are relatively high for students from both universities.

Table 6.5: Descriptive Statistics of PRO-SDLS Scale and Subscales – Split By University

PRO-SDLS Scale, Subscales & Combined Subscales	University 1 (N:90)			University 2 (N:48)			Number of Items
	Mean (M)	SD	Skewness /Kurtosis	Mean (M)	SD	Skewness /Kurtosis	
Initiative	22.876	3.398	-0.271/ 0.263	20.208	4.608	-0.060/ -0.025	6
Control	23.086	2.956	-0.006/ 0.403	20.667	4.387	-0.203/ -0.207	6
Self-Efficacy	21.222	3.879	0.174/ -0.935	21.813	4.180	-0.871/ 1.114	6
Motivation	23.540	4.016	-0.009/ 0.132	21.813	4.602	0.551/ -0.288	7
PRO Teaching Learning Component (Initiative & Control)	45.963	5.606	-0.103/ 0.217	40.875	6.693	-0.245/ -0.152	12
PRO Learner Characteristic Component (Self-Efficacy & Motivation)	44.762	7.117	0.247/ -0.603	43.625	7.298	-0.050/ -0.054	13
Total PRO-SDLS	90.725	10.591	0.260/ 0.212	84.500	12.973	-0.212/ -0.351	25

Based on the statistical results obtained from the study, students from university 2 perceived themselves to have higher predisposed learner self-direction than teaching-learning situation (TL = 40.875; LC = 43.625). Therefore, it is assumed that students in university 2 will be more engaged and fruitful in a learning experience where self-direction is actively facilitated and provide freedom to pursue learning according to their directions. On the other hand, students from university 1 perceived themselves to have slightly higher external characteristics of teaching-learning transactions (TL = 45.963; LC = 44.762). Therefore, it is assumed that students may have a greater chance of success in self-direction when learning situation have instructor or facilitator assumes a more directive role.

Table 6.6 summarises the means, standard deviations, skewness, kurtosis and number of items for SPESUS scale and subscales for university 1 and 2. The composite mean score of the overall SPESUS scale obtained from University 2 (M = 3.372, SD = 0.490, N = 48) compare favourably to university 1 (M = 3.398, SD = 0.492, N = 90). The mean scores obtained from this study suggested that students from both universities have a similar level of expectations of their

employability. Besides, the composite mean scores of SPESUS subscales (SPE, Ambition and University Commitment) obtained from university 2 were also within similar range compare to university 1. Specifically, university commitment (UC) and external employability received lowest scores of all the subscales while ambition and internal employability received the highest in both sample groups. The results infer that students from university 1 and 2 perceived that internal factors are more influential to their employability compare to external factors. In comparison, mean scores obtained in this study were higher than the study on undergraduate students by Rothwell *et al.* (2008) and compared favourably with the study on postgraduate students by Rothwell *et al.* (2009).

Table 6.6: Descriptive Statistics of SPESUS – Split By University

SPESUS Scale, Subscales & Combined Subscales	University 1 (N:90)			University 2 (N:48)			Number of Items
	Mean (M)	SD	Skewness /Kurtosis	Mean (M)	SD	Skewness /Kurtosis	
Self-Perceived Employability (SPE)	3.449	0.500	-.0685/ 0.686	3.275	0.503	0.239/ -0.590	16
Ambition	4.082	0.560	-1.051/ 1.826	3.833	0.660	-0.229/ -0.518	6
University Commitment	2.784	0.853	-0.118/ -0.673	3.219	0.773	0.016/ -0.660	8
Internal Employability	3.681	0.525	-0.094/ -0.306	3.486	0.596	0.115/ -0.525	6
External Employability	3.310	0.579	-0.578/ 1.136	3.148	0.556	0.077/ -0.730	10
Self-Perceived Employability & Ambition	3.622	0.465	-0.752/ 0.373	3.427	0.471	0.083/ -0.725	22
Total SPESUS	3.398[a] 101.965[b]	0.492 14.764	-0.620/ 0.170	3.372[a] 101.146[b]	0.490 14.707	0.057/ -0.325	30

a. Mean – Composite Score from Likert Scale (1 to 5)
b. Mean – Total Sum Score

SPEF scale aimed to identify students' subjective perceptions regarding the factors that are critical to their employability. Table 6.7 summarises the means, standard deviations, skewness, kurtosis and number of items for SPEF scale and subscales for university 1 and 2. The composite mean score of the overall SPEF scale obtained from University 2 (M = 3.749, SD = 0.349, N = 48) were lower than university 1 (M = 3.873, SD = 0.576, N = 90). The small differences in mean scores obtained from this study suggested that students from both universities have a

similar level of perceptions and do believe that various factors impact their employability. Besides, the composite mean scores of SPEF subscales obtained from University 2 were also within a similar range, and ranking sequence compares to University 1. As shown in table 6.7, intellectual skills and soft skills received the highest scores among all the subscales while academic and university reputation; and external factors received the lowest scores in both sample groups. The above findings illustrate that students from both universities place high importance on internal factors and skills in securing future employability. Similar to SPESUS, the SPEF results infer that students from university 1 and 2 perceived that internal factors to be more influential to their employability compare to external factors.

Table 6.7: Descriptive Statistics of SPEF – Split By University

SPEF Scale & Subscales	University 1 (N:90)			University 2 (N:48)			Number of Items
	Mean (M)	SD	Skewness /Kurtosis	Mean (M)	SD	Skewness /Kurtosis	
Intellectual Skills	4.068	0.690	-1.566/ 4.010	4.092	0.412	0.183/ -0.568	5
Soft Skills	4.008	0.700	-1.629/ 4.441	4.018	0.604	-0.284/ -0.402	7
Functional Skills	3.863	0.686	-0.558/ 0.363	3.682	0.678	-0.316/ -0.319	4
Academic and University Reputation	3.597	0.857	-0.922/ 1.243	3.318	0.815	0.451/ -0.491	4
Pre-graduate Experience, Career and Job Seeking Skills	3.988	0.635	-0.937/ 1.400	3.840	0.473	-0.126/ -0.613	6
External Factors	3.596	0.711	-0.274/ 0.281	3.214	0.751	0.082/ 1.022	4
SPEF Total	3.873	0.576	-1.086/ 2.568	3.749	0.394	0.251/ 0.046	30

Further examination on the subscales of SPEF in table 6.8 revealed students from University 1 and 2 perceived similarly regarding the factors that influence their employability. For example, when comes to the highest scored factor in each category, both University 1 and 2 students perceived that critical thinking skills, interpersonal skills, job-specific competencies, academic credentials, attitude towards work, and labour market conditions to have the highest influence on their employability.

Table 6.8: Descriptive Statistics of SPEF Subscales – Split by University

Factors	**Sub-Factors/Skills**	**University 1 (N:90)**		**University 2 (N:48)**	
		Mean	SD	Mean	SD
Intellectual Skills	Problem Solving Skills	3.966	0.929	4.311	0.657
	Critical Thinking Skills	4.111	0.866	4.312	0.624
	Creative Thinking Skills	4.033	0.892	3.958	0.713
	Leadership Skills	4.277	0.861	4.021	0.911
	Adaptability	3.955	0.898	3.854	0.799
Soft Skills	Emotional Intelligence	3.911	0.967	3.750	0.957
	Cultural Awareness Skills	3.711	0.996	3.563	0.943
	Written Communication Skills	3.933	0.896	4.042	0.824
	Verbal Communication Skills	4.100	0.887	4.417	0.647
	Listening Skills	3.977	0.923	4.104	0.778
	Interpersonal Skills	4.266	0.818	4.208	0.742
	Professionalism	4.155	0.898	4.042	0.944
Functional Skills	Job Specific Competencies	3.966	0.905	3.937	0.954
	Job Specific Technical Skills	3.911	0.919	3.812	0.891
	Knowledge of computer software	3.666	0.936	3.042	1.091
	Project Management Skills	3.908	0.910	3.937	0.727
Academic and University Reputation	Academic Performance	3.522	1.030	3.583	0.986
	Institution/University Reputation	3.611	1.077	3.167	1.098
	Programme Reputation	3.577	0.971	2.937	1.210
	Academic Credentials	3.677	1.025	3.583	0.895
Pre-graduate Experience, Career and Job Seeking Skills	Interviewing Skills	3.877	0.897	4.028	0.887
	Attitude towards work	4.297	0.842	4.354	0.699
	Job Seeking Skills	3.800	1.00	3.500	0.945
	Self-Confidence	4.277	0.948	4.125	0.703
	Pre-graduate work experience (Internship)	3.888	1.126	3.854	0.875
	Extra-Curricular Activities	3.787	0.941	3.187	1.084
External Factors	Labour Market Awareness	3.466	0.996	3.354	1.081
	Labour Market Conditions	3.720	0.971	3.562	0.897
	Government Policy	3.666	1.016	3.125	1.123
	Personal and Family Circumstances	3.533	1.133	2.812	1.179

The results indicated the importance of these employability factors in determine graduates employability regardless the location of their programmes (i.e. University 1 in Dubai, UAE or University 2 in Leicester, UK). Besides, the findings above also indicated literature presented in Chapter 2 on employability factors are applicable to students in Dubai and the UK.

6.4 Construct Validity of PRO-SDLS and SPESUS

As mentioned in chapter 5, prior addressing objective 4,5 and 6, construct validity analyses were conducted to measure the convergent validity of PRO-SDLS and SPESUS. Table 6.9 shows the comparisons of PRO-SDLS scale inter-correlations statistics for both universities. As per the survey results of University 1, all four PRO-SDLS subscales (Initiative, Control, self-efficacy and motivation) were correlated positively and significantly with scores between r = 0.246 (small effect) and r = 0.625 (large effect); N = 90.

The above results indicated that PRO-SDLS has adequate validity in the sample from University 1 and in the context of this study. As for University 2, table 6.9 also shows positive and significant correlations between PRO-SDLS subscales (between r = 0.298 and r = 0.676; N = 48). However, there was an outlier finding that subscales initiative and control were not correlated directly. Besides, when combined subscales PRO Teaching Learning Component (Initiative & Control) and PRO Learner Characteristic Component (Self-Efficacy & Motivation) were tested, a positive and significant correlation score was obtained (r = 0.719). Similar to University 1, the findings from University 2 indicated evident construct validity for PRO-SDLS as a valid instrument in the context of this study.

Similar to PRO-SDLS, table 6.10 shows the comparisons of construct validity analyses of SPESUS scale for University 1 and University 2. As mentioned in chapter 5, SPESUS subscales (SPE, ambition, individual employability, external employability, and university commitment) correlated positively and significantly in University 1 study. The study also highlighted an outlier where subscales ambition and UC were not correlated directly. However, when combined subscales of SPE and Ambition were tested with subscale university commitment, a positive and significant correlation score was obtained (r = 0.474, N = 90).

As per the survey results of University 2, all SPESUS subscales (SPE, ambition, individual employability, external employability, and university commitment) were correlated positively

and significantly with scores between *r* = 0.320 (medium effect) and *r* = 0.926 (large effect); N = 48. The above results indicated that SPESUS has adequate validity in the sample from University 2 and in the context of this study. In conclusion, findings from both universities showed evident construct validity of the SPESUS as a valid instrument for SPE, ambition and university commitment.

Table 6.9: Scale Inter-Correlations Statistics of PRO-SDLS – Split By University

	PRO-SDLS Sub-scales & Combined Scales University 1 / N:90	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	Initiative	0.754						
2	Control	.555**	0.640					
3	Self-Efficacy	.333**	.373**	0.722				
4	Motivation	.252*	.246*	.625**	0.607			
5	PRO Teaching Learning Component (Initiative & Control)	.899**	.863**	.399**	.283**	0.800		
6	PRO Learner Characteristic Component (Self-Efficacy & Motivation)	.324**	.342**	.898**	.905**	.377**	0.789	
7	Total PRO-SDLS	.694**	.687**	.814**	.758**	783**	.872**	0.836
	PRO-SDLS Sub-scales & Combined Scales University 2 / N:48	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	Initiative	0.797						
2	Control	.107	0.810					
3	Self-Efficacy	.311*	.676**	0.786				
4	Motivation	.514**	.298*	.380**	0.712			
5	PRO Teaching Learning Component (Initiative & Control)	.758**	.729**	.658**	.543**	0.767		
6	PRO Learner Characteristic Component (Self-Efficacy & Motivation)	.502**	.569**	.812**	.848**	.719**	0.793	
7	Total PRO-SDLS	.674**	.696**	.796**	.757**	.920**	.934**	0.871

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)
Cronbach alpha reliability coefficients (α) are on the diagonal

Table 6.10: Scale Inter-Correlations Statistics of SPESUS – Split By University

	SPESUS's Sub-scales & Combined Scales University 1 / N:90	1	2	3	4	5	6	7
1	Self-Perceived Employability (SPE)	0.836						
2	Ambition	.550**	0.641					
3	University Commitment	.550**	.135	0.890				
4	Internal Employability	.802**	.596**	.264*	0.692			
5	External Employability	.946**	.435**	.617**	.564**	0.792		
6	Self-Perceived Employability & Ambition	.962**	.757**	474**	.822**	.557**	0.857	
7	Self-Perceived Employability, Ambition & University Commitment (SPESUS Total)	.922**	.588**	.792**	.693**	.897**	.913**	0.895
	SPESUS's Sub-scales & Combined Scales University 2 / N:48	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	Self-Perceived Employability (SPE)	0.825						
2	Ambition	.426**	0.730					
3	University Commitment	.527**	.366**	0.903				
4	Internal Employability	.810**	.462**	.364*	0.680			
5	External Employability	.926**	.320*	.529**	.530**	0.782		
6	Self-Perceived Employability & Ambition	.938**	.713**	549**	.805**	.840**	0.845	
7	Self-Perceived Employability, Ambition & University Commitment (SPESUS Total)	.884**	.657**	.808**	.721**	.815**	.936**	0.896

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)
Cronbach alpha reliability coefficients (α) are on the diagonal

6.5 Correlations Statistics – PRO-SDLS and SPESUS

In line with the discussions of objective 4 at chapter 5, table 6.12 and 6.13 shows that there were positive and significant relationships between PRO-SDLS and SPESUS variables from the sample of University 1 and 2. The relationship strength between PRO-SDLS and SPESUS variables found in both studies were small to medium effect (r = 0.219 and r = 0.494). In other words, if SDL level among students rises, so does their employability.

Table 6.11: Comparisons of Correlations Analyses for Main Variables between the PRO-SDLS and the SPESUS for University 1 and University 2.

SPESUS & PRO-SDLS Scale and Subscales	University 1 (N:90)		University 2 (N:48)	
	r	Effect Size	*r*	Effect Size
SPESUS and PRO-SDLS	NIL	NIL	0.350*	Medium
SPE and PRO-SDLS	0.219*	Small	NIL	NIL
SPE/Ambition Combined and PRO-SDLS	0.333*	Medium	0.382**	Medium
Ambition and PRO-SDLS	0.494**	Medium	0.483**	Medium
University Commitment and PRO-SDLS	NIL	NIL	NIL	NIL
Internal Employability and PRO-SDLS	0.414**	Medium	0.364*	Medium
External Employability and PRO-SDLS	NIL	NIL	NIL	NIL
SPESUS and PRO-SDLS TL Component	0.340**	Medium	0.327*	Medium
SPESUS and PRO-SDLS LC Component	NIL	NIL	0.321*	Medium

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)

Table 6.11 shows the comparisons of correlations analyses for primary variables between PRO-SDLS and SPESUS for University 1 and University 2. The highlights of both studies were significant relationships found between SDL and employability. These findings answered one of the problem statements of this study whether or not there is a positive and significant relationship between the SDL and SPE, ambition and UC of university students. Besides, findings from both universities also indicated the dominance of TL component (initiative and control) on the perceived employability of students. In other words, students with high level of initiatives and control over their learning perceived themselves to be more employable. Besides, with no significant relationship found between SDL and UC and external employability indicated that students from both universities recognized that their SDL was not influenced by external factors such as the strengths of the university and external labour market factors. Therefore, the results obtained from both universities provided supportive evidence on the consistency of the measuring instruments and also the needs to expand the study of the contribution of the SDL and SPE body of knowledge.

Table 6.12: Scale Inter-Correlations Statistics of PRO-SDLS Scale, SPESUS Scale, Subscales and Combined Scales – University 1

University 1 / N:90														
SPESUS & PRO-SDLS Sub-scales & Combined Scales		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1	Self-Perceived Employability (SPE)	0.836													
2	Ambition	.550 **	0.641												
3	University Commitment	.550 **	.135	0.890											
4	Internal Employability	.802 **	.596 **	.264 *	0.692										
5	External Employability	.946 **	.435 **	.617 **	.564 **	0.792									
6	SPE & Ambition	.962 **	.757 **	.474 **	.822 **	.557 **	0.857								
7	Initiative	.402 **	.442 **	.077	.494 **	.287 **	.460 **	0.754							
8	Control	.269 *	.510 **	-.053	.408 **	.150	.377 **	.555 **	0.640						
9	Self-Efficacy	.058	.345 **	-.273 **	.235 *	-.048	.158	.333 **	.373 **	0.722					
10	Motivation	-.017	.220 *	-.215 *	.147	-.104	.059	.252 *	.246 *	.625 * *	0.607				
11	PRO-SDLS TL (Initiative/ Control)	.386 **	.537 **	.019	.515 **	.253 *	.487 **	.899 **	.863 **	.399 **	.283 **	0.800			
12	PRO-SDLS LC (Self-Efficacy /Motivation)	.022	.312 **	-.270 *	.211 *	-.085	.119	.324 **	.342 **	.898 **	.905 **	.377 **	0.789		
13	Total PRO-SDLS	.219 *	.494 **	-.171	.414 **	.077	.333 **	.694 **	.687 **	.814 **	.758 **	.783 **	.872 **	0.836	
14	TOTAL SPESUS	.922 **	.588 **	.792 **	.693 **	.897 **	.913 **	.355 **	.237 *	-.017	-0.59	.340 **	-.042	.152	0.895

**Correlation is significant at the 0.01 (2 tailed)

*Correlation is significant at the 0.05 (2 tailed)

Cronbach alpha reliability coefficients (α) are on the diagonal

Table 6.13: Scale Inter-Correlations Statistics of PRO-SDLS Scale, SPESUS Scale, Subscales and Combined Scales – University 2

University 2 / N:48														
SPESUS & PRO-SDLS Sub-scales & Combined Scales		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1	Self-Perceived Employability (SPE)	0.825													
2	Ambition	.426 **	0.730												
3	University Commitment	.527 **	.366 **	0.903											
4	Internal Employability	.810 **	.462 **	.364 *	0.680										
5	External Employability	.926 **	.320 *	.529 **	.530 **	0.782									
6	SPE & Ambition	.938 **	.713 **	549 **	.805 **	.840 **	0.845								
7	Initiative	.201	.214	.318 *	.257	.126	.238	0.797							
8	Control	.153	.406 **	-.026	.355 *	-.006	.274	.107	0.810						
9	Self-Efficacy	.241	.430 **	.117	.339 *	.130	.351 *	.311 *	.676 **	0.786					
10	Motivation	.154	.368 *	.136	.124	.143	.260	.514 **	.298 *	.380 **	0.712				
11	PRO-SDLS TL (Initiative/ Control)	.239	.414 **	.202	.409 **	.083	.344 *	.758 **	.729 **	.658 **	.543 **	0.767			
12	PRO-SDLS LC (Self-Efficacy /Motivation)	.235	.478 **	.153	.273	.165	.365 *	.502 **	.569 **	.812 **	.848 **	.719 **	0.793		
13	Total PRO-SDLS	.255	.483 **	.190	.364 *	.135	.382 **	.674 **	.696 **	.796 **	.757 **	.920 **	.934 **	0.871	
14	TOTAL SPESUS	.884 **	.657 **	.808 **	.721 **	.815 **	.936 **	.302 *	.182	.297 *	.240	.327 *	.321 *	.350 *	0.896

**Correlation is significant at the 0.01 (2 tailed)

*Correlation is significant at the 0.05 (2 tailed)

Cronbach alpha reliability coefficients (α) are on the diagonal

6.6 Correlations Statistics – PRO-SDLS, SPESUS and Demographic Variables

In line with research objective 5, table 6.14 and 6.15 highlighted that findings of correlations analyses between PRO-SDLS, SPESUS and demographics variables for University 1 and 2. Further comparisons revealed that the only similarity shared by both universities is that there is a positive and statistically significant relationship between age and PRO-SDLS subscales. This finding indicated that as ages of student rises, so to their SDL.

Table 6.14: Correlations of the PRO-SDLS and Demographic Variables - Age, Education Attainment, Working Experience and CGPA – Split By University

PRO-SDLS, Sub-Scales and Sub-Scales (University 1)		Age	Working Experience	Education Attainment	CGPA
Pearson's Correlation	PRO-SDLS	.232*	.133	.009	.267*
	Initiative	.250*	.136	.025	.281**
	Control	-.012	-.062	.019	.228*
	Self-Efficacy	.217*	.134	-.027	.121
	Motivation	.199	.150	.014	.181
	N	90	90	90	90

PRO-SDLS, Sub-Scales and Sub-Scales (University 2)		Age	Working Experience	Education Attainment	CGPA
Pearson's Correlation	PRO-SDLS	.280	.356*	-.183	N/A
	Initiative	.203	.329*	-.272	N/A
	Control	-.018	.072	.131	N/A
	Self-Efficacy	.256	.301*	-.065	N/A
	Motivation	.377**	.331*	-.309*	N/A
	N	48	48	48	N/A

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)

From SPESUS perspectives, study findings from both universities indicated that there is a positive and statistically significant relationship between working experience and SPE. Students from both universities perceived that as the rise of working experience will also increase the employability expectations of students. The mix results obtained from both universities on the relationships between PRO-SDLS, SPESUS and demographic variables indicated the needs of further research on different populations in the future to provide a broader understanding of how students' demographics can influence their SDL and employability.

Table 6.15: Correlations of the SPESUS and Demographic Variables – Age, Education Attainment, Working Experience and CGPA – Split By University

SPESUS, Sub-Scales and Sub-Scales (University 1)		**Age**	**Working Experience**	**Education Attainment**	**CGPA**
Pearson's Correlation	SPESUS	.215*	.190	-.029	.224*
	Self-Perceived Employability (SPE)	.261*	.247*	.054	.256*
	Ambition	.165	.120	.046	.214*
	University Commitment	.077	.062	-.149	.078
	N	90	90	90	90
SPESUS, Sub-Scales and Sub-Scales (University 2)		**Age**	**Working Experience**	**Education Attainment**	**CGPA**
Pearson's Correlation	SPESUS	.016	.301*	-.211	N/A
	Self-Perceived Employability (SPE)	-.004	.350*	-.186	N/A
	Ambition	-.005	.088	-.086	N/A
	University Commitment	.048	.204	-.204	N/A
	N	48	48	48	N/A

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)

6.7 Test for Mean Differences – PRO-SDLS, SPESUS and Demographic Variables.

The following sections are further examinations of the relationship between PRO-SDLS, SPESUS and demographic variables using non-parametric tests for University 1 and 2. In addition to data analysed for university 1 at chapter 4, non-parametric tests (Mann-Whitney U test and Kruskal-Wallis Test) were also used for samples from university 2 to investigate whether age, working experience and education attainment groups differ significantly regarding their SDL, SPE, ambition, university commitment. Data for CGPA from University 2 were not sufficient to conduct the comparisons analyses with University 1 as many students did not answer the question.

As mentioned in chapter 3 and 5, based on the results of Kolmogorov-Smirnov tests computed by SPSS, demographic variables data collected in this study were not normally distributed. Therefore, non-parametric tests were used to perform the required analyses in this section. The Mann-Whitney U Test was used for the gender group while Kruskal-Wallis Test was used for age, education attainment, working experience and CGPA.

6.7.1 Non-Parametric Test – Mann-Whitney U Test on PRO-SDLS and SPESUS with Gender

Whitney U tests were conducted to compare the PRO-SDLS, SPESUS and its subscales scores for males and females in both university 1 and 2. In summary, table 6.16 indicates that there was no significant difference in scores for male and female students from both universities for overall PRO-SDLS and SPESUS. In other words, the perception of male and female students did not differ significantly regarding their overall SDL and SPE, ambition and university commitment. However, the test revealed a statistically significant difference in the subscale control of PRO-SDLS in university 2. An inspection of the mean ranks for the groups suggests that male students from University 2 perceived themselves to have significantly higher control over their learning compared to their female students. The results indicated that male students in University 2 have greater ability and willingness to take control of their learning that determines their potential for self-direction.

Table 6.16: Results of Mann-Whitney U Test – Gender – Split by University

Non-Parametric Test (Gender)	Mann-Whitney U	Z	Asymp. Sig (2 tailed)	Mean Rank - Gender	
SPESUS & PRO-SDLS				**Male**	**Female**
University 1 / N:90					
PRO-SDLS	779.500	-468	.640	44.68	47.52
Initiative	645.500	-1.320	.187	47.80	39.83
Control	803.000	-260	.795	45.95	44.38
Self-Efficacy	810.500	-.192	.848	45.16	46.33
Motivation	651.500	-1.611	.107	42.68	52.44
SPESUS	687.000	-1.291	.197	47.77	39.92
SPE	640.000	-1.712	.087	48.50	38.12
Ambition	816.000	-.143	.886	45.25	46.12
University Commitment	712.500	-1.065	.287	47.37	40.90
N	90			64	26
University 2 / N: 48					
PRO-SDLS	228.500	-1.191	.234	27.11	22.29
Initiative	258.000	-.581	.561	25.77	23.42
Control	183.500	-2.128	.033*	29.16	20.56
Self-Efficacy	228.000	-1.208	.227	27.14	22.27
Motivation	277.000	-.187	.852	24.09	24.85
SPESUS	237.000	-1.015	.310	22.27	26.38
SPE	245.500	-.839	.401	22.66	26.06
Ambition	257.000	-.602	.547	25.82	23.38
University Commitment	232.000	-1.120	.263	22.05	26.58
N	48			22	26

a. Grouping Variable: Gender
*p = <.05

6.7.2 Non-Parametric Test – Kruskal-Wallis Test on PRO-SDLS and SPESUS with Age, Work Experience and Education Attainment

The following section presents further examination whether age, work experience and education attainment group from university 1 and 2 differ statistically significant regarding their SDL and SPE, ambition and university commitment. In addition to the analyses and results for University 1 presented in chapter 5, Kruskal-Wallis tests were also conducted for data collected from University 2 to compare PRO-SDLS and SPESUS scales/subscales scores for age, work

experience and education attainment groups in this study. Table 6.17 shows that the non-parametric test revealed a statistically significant difference in SDL and SPE across three age groups at University 1. However, there is no significant difference found in SDL and SPE across 4 age groups at University 2. An inspection of the mean ranks for the age groups suggests that older students perceived themselves to have higher SDL compare to younger students at University 1. However, this is not the case for University 2 students where no significant difference was found for all age groups.

Table 6.17: Results of Kruskal-Wallis Test: Age – Split By University

Non-Parametric Test: Age	**Chi-Square**	**df**	**Asymp. Sig**	**Mean Rank - Age**			
SPESUS & PRO-SDLS Variables				**21-24**	**25-28**	**29-32**	
University 1 / N:90							
PRO-SDLS	7.266	2	.026*	40.23	56.19	46.00	
Initiative	6.305	2	.043*	40.70	53.79	66.75	
Control	.691	2	.708	44.75	47.83	33.75	
Self-Efficacy	5.467	2	.065	40.95	54.76	45.50	
Motivation	4.844	2	.089	41.18	54.17	47.25	
SPESUS	3.563	2	.168	41.95	51.48	63.50	
SPE	6.139	2	.046*	40.73	53.79	66.00	
Ambition	2.189	2	.335	42.58	51.28	47.75	
University Commitment	1.066	2	.587	43.94	47.64	60.50	
N	90			59	29	2	
University 2 / N:48							
				<21	**21-24**	**25-28**	**33+**
PRO-SDLS	6.711	3	.082	16.60	26.23	15.50	34.88
Initiative	7.393	3	.060	16.80	26.45	11.75	34.50
Control	2.181	3	.536	20.00	26.59	21.50	20.50
Self-Efficacy	3.178	3	.365	19.55	25.02	22.25	33.88
Motivation	7.565	3	.056	18.85	24.77	16.50	40.50
SPESUS	2.149	3	.542	20.95	26.34	15.00	23.38
SPE	2.294	3	.514	24.35	25.27	10.00	26.00
Ambition	4.451	3	.217	17.80	27.30	15.50	23.38
University Commitment	1.723	3	.632	19.95	25.94	29.00	22.13
N	48			10	32	2	4

a. Grouping Variable: Age
*p = <.05

As indicated in table 6.18, further examination of Kruskal-Wallis tests was conducted to compare the PRO-SDL and SPESUS for the different working experience groups at University 1 and 2. As presented in chapter 5, no statistical difference in PRO-SDLS and SPESUS scores across four working experience groups at University 1.

Table 6.18: Results of Kruskal-Wallis Test: Working Experience – Split By University

Non-Parametric Test: Working Experience	Chi-Square	df	Asymp. Sig	Mean Rank – Working Experience			
SPESUS & PRO-SDLS Variables				**No Working Exp.**	**Less than a year**	**1 to 3 years**	**4 to 6 years**
University 1 / N:90							
PRO-SDLS	3.004	3	.391	40.12	49.31	50.47	45.43
Initiative	3.191	3	.363	39.97	49.28	48.67	53.71
Control	2.300	3	.513	44.28	53.38	41.81	49.43
Self-Efficacy	3.311	3	.346	39.93	52.50	48.52	47.21
Motivation	6.191	3	.103	40.00	45.47	54.83	36.79
SPESUS	3.305	3	.347	40.14	48.09	48.52	56.14
SPE	5.492	3	.139	38.22	48.31	51.07	55.50
Ambition	2.850	3	.415	40.28	51.38	47.93	50.36
University Commitment	1.416	3	.702	43.59	45.53	45.36	56.36
N	90			38	16	29	7

University 2 / N:48				**No Working Exp.**	**Less than a year**	**1 to 3 years**	**4 to 6 years**	**7 to 9 years**	**10 years +**
PRO-SDLS	8.853	5	.115	17.08	22.77	32.69	23.86	34.25	33.13
Initiative	16.001	5	.007*	13.17	27.13	32.88	19.36	37.25	34.5
Control	4.945	5	.423	25.63	19.63	25.13	33.57	23.00	23.00
Self-Efficacy	6.234	5	.284	21.54	20.33	28.00	25.50	40.00	32.50
Motivation	13.442	5	.020*	15.96	25.80	33.94	17.07	37.50	32.88
SPESUS	12.133	5	.033*	14.54	28.97	21.31	31.29	40.00	24.38
SPE	12.943	5	.024*	14.50	28.10	20.25	32.79	40.00	27.25
Ambition	4.801	5	.441	17.96	26.73	28.00	26.00	34.25	21.25
University Commitment	9.608	5	.087	16.17	29.50	20.13	31.64	33.00	22.75
N	48			12	15	8	7	2	4

a. Grouping Variable: Working Experience
*p = <.05

Contrary, the test revealed a statistically significant difference in subscale initiative of PRO-SDLS across the 6 working experience group among University 2 students. An inspection of mean ranks for the working experience groups suggested that students with higher working experience in University 2 perceived themselves to be more proactive in taking steps towards their actions or decisions in learning. Regarding employability, table 6.18 also revealed a statistically significant difference in SPESUS and subscale SPE across six groups working experience of University 2 students. In summary, students with higher working experience in University 2 appeared to perceive themselves to have greater employability compare to students with lower working experience.

Further analyses were performed to assess significant differences in PRO-SDLS, SPESUS and its subscales scores for three different education attainment groups a University 1 and 2. Table 6.19 indicates that there was no statistically significant difference in PRO-SDLS and SPESUS scores across three student education attainment groups in both University 1 and 2. Similar results were found for PRO-SDLS subscales (initiative, control, self-efficacy and motivation) and SPESUS subscales (SPE, ambition and university commitment), where there is no statistically significant difference found between the three different student groups.

Table 6.19: Results of Kruskal-Wallis Test: Education Attainment – Split By University

Non-Parametric Test: Education	Chi-Square	df	Asymp. Sig	Mean Rank – Education Attainment		
SPESUS & PRO-SDLS Variables				Bachelor Degree	Post. Grad Cert/Dip	Master Degree
University 1 / N:90						
PRO-SDLS	.376	2	.829	45.78	37.75	46.56
Initiative	.865	2	.649	45.06	39.00	52.17
Control	.174	2	.917	45.70	48.38	42.50
Self-Efficacy	.314	2	.855	45.93	38.50	44.94
Motivation	.082	2	.960	45.45	42.75	47.17
SPESUS	.678	2	.712	45.95	35.00	46.33
SPE	.758	2	.685	45.01	40.25	52.06
Ambition	1.229	2	.541	45.55	33.25	50.56
University Commitment	2.781	2	.249	47.35	31.13	36.06
N	90			77	4	9

University 2 / N:48							
				Bachelor Degree	Post. Grad Cert/ Dip	Master Degree	Others
PRO-SDLS	5.188	3	.159	28.71	32.88	12.33	22.86
Initiative	7.006	3	.072	29.67	37.13	22.83	20.79
Control	1.823	3	.610	22.38	22.88	16.67	26.41
Self-Efficacy	2.660	3	.447	24.92	32.25	15.00	24.24
Motivation	6.939	3	.074	30.50	32.50	11.33	22.28
SPESUS	2.959	3	.398	27.25	32.63	27.67	21.91
SPE	3.521	3	.318	27.00	34.38	27.00	21.84
Ambition	1.060	3	.787	27.83	25.38	21.33	23.33
University Commitment	3.319	3	.345	27.33	31.25	31.33	21.69
N	48			12	4	3	29

a. Grouping Variable: Education Attainment
*p = <.05

Table 6.20 provided a comparative summary of non-parametric tests results for University 1 and 2. The tests results revealed that there is no similarity from both University 1 and 2 students when comes to significant statistical differences. Significant differences were found on gender and age for University 1 students study whereas major differences were found

on work experience for University 2 students. As a conclusion, the mix results obtained from the parametric tests for both universities on the relationships between PRO-SDLS, SPESUS and demographic variables indicated the needs of further research on different populations in the future to provide a broader understanding of how students' demographics can influence their SDL and employability.

Table 6.20: Comparisons of Non-Parametric Tests Results for University 1 and University 2.

SPESUS & PRO-SDLS Variables and Demographic Variables	University 1 (N:90)	University 2 (N:48)
	Asymp. Sig	Asymp. Sig
PRO-SDLS and Gender	NIL	NIL
PRO-SDLS (Subscale Control) and Gender	**YES**	NIL
SPESUS and Gender	NIL	NIL
PRO-SDLS and Age	**YES**	NIL
PRO-SDLS (Subscale Initiative) and Age	**YES**	NIL
SPESUS and Age	NIL	NIL
SPESUS (Subscale SPE) and Age	**YES**	NIL
PRO-SDLS and CGPA	NIL	N/A – Insufficient data
SPESUS and CGPA	NIL	N/A – Insufficient data
PRO-SDLS and Work Experience	NIL	NIL
PRO-SDLS (Subscale Initiative) and Work Experience	NIL	**YES**
PRO-SDLS (Subscale Motivation) and Work Experience	NIL	**YES**
SPESUS and Work Experience	NIL	**YES**
SPESUS (Subscale SPE) and Work Experience	NIL	**YES**
PRO-SDLS and Education	NIL	NIL
SPESUS and Education	NIL	NIL

6.8 Summary

This chapter aimed to explore and validate the research model and findings obtained from University 1 (N: 90) by comparing the data obtained from University 2 using the same methodologies outlined in chapter 3. Cronbach's Alpha Coefficients analyses conducted on the data gathered from both university 1 and 2 indicated that all three measuring instruments, namely, PRO-SDLS, SPESUS and SPEF were found to have acceptable and adequate reliability

values. Besides, statistical analyses also revealed that students from university 1 and 2 have a similar level of perceptions towards their SDL and SPE. The PRO-SDLS and SPESUS scores obtained from both universities were within the same ranges and compared favourably with previous studies discussed in chapter 4. Regarding SPEF, students from University 1 and 2 believed that various factors impact their employability. Additional students from both universities ranked intellectual skills and soft skills as factors with the highest influence towards their employability. Besides, Pearson's correlation analyses for data collected from both universities showed that there were positive and statistically significant relationships between SDL (measured by PRO-SDLS) and SPE (Measured by SPESUS). The results indicated that the research model is valid and suitable to be replicated for future study. However, mixture results were obtained from both universities when comes to the relationship between SDL, SPE and demographic variables. Further discussion will be included in chapter 7.

Chapter 7: Conclusion and Recommendations

7.1 Overview

This chapter offers a summary of the relationship between SDL; SPE, ambition, and university commitment (UC); and the interactions between demographic variables as outlined by the objectives of this study. The purpose of this chapter is to discuss the results , significant findings, limitations, implications, recommendations and final conclusion of this study.

7.2 Research Purpose, Summary of findings and Relationship with Previous Research

This study was a response to multiple motivation and research gaps related to employability and SDL of university graduates as discussed in chapter 1. Specifically, motivation and research gaps of employability and higher education in the context Dubai, UAE and globally were also discussed and identified. Built on quantitative research approach involving university students from University 1 (based in Dubai, UAE) and University 2 (based in Leicester, UK), this research started with an evaluation of studies related to SDL and SPE (Chapter 1 and Chapter 2). Following an extensive review of available literature, the primary intent of this study was to address the gap in the literature concerning the link between SDL and SPE in a formal higher education setting. During these reviews, the author captured a number of limitations in previous research studies primarily on the absence of literature in the Middle East higher education context.

Based on the research gaps and problem statements, the central argument put forward in this study is that SDL is significantly related to SPE, ambition and UC. It is assumed that the higher level of SDL would correspond with a higher chance to get hired in the job market. In the context of this study, the author assumes that university students with high level of SDL will have higher SPE, ambition and UC, hence get a higher chance to get employed in the job market. In the same time, it is assumed that specific skills and knowledge can be linked to the development of an educational programme that will enhance students' employability and increase their chance in getting a job in the labour market.

Following the problem statements, three primary research aims of this empirical study were formed. Firstly, this thesis had the aim of investigating whether or not there is a statistically

significant relationship between SDL and SPE, ambition and UC among university students in a private university in Dubai, UAE. Secondly, to investigate whether or not SDL of university students significantly predict their SPE ambition and UC. Thirdly, to identified employability factors or skills that are perceived important to students today and relationships of research constructs with demographic variables. In the attempt to achieve the objectives of this study, theoretical frameworks were adopted from two existing models or theories, namely, the Personal Responsibility Orientation (PRO) Model for Self-directed learning developed by Brockett and Hiemstra (1991), and Students Self-perceived employability (SSPE) Model by Rothwell *et al.* (2008). Both models come with valid and reliable measuring instruments namely, PRO-SDLS by Stockdale (2003) and SPESUS (Rothwell *et al.* (2008). Further to the three primary research aims, nine objectives and five hypotheses have been developed to direct a detailed empirical methodology and to answer the research questions or problem statements of this study. Specifically, objective 9 was formed with the aim to explore and validate the research findings from University 1 (based in Dubai, UAE) with additional data gathered from University 2 (based in Leicester, UK) using the same measuring instruments (PRO-SDLS, SPESUS and SPEF) and similar research methodologies.

The next section includes the discussions of the significant findings obtained in this study, relationship with previous research and followed by the overview of the findings.

7.2.1 Reliability and Validity of Measuring Instruments PRO-SDLS, SPESUS and SPEF

This study utilised three measuring scales namely, PRO-SDLS, SPESUS and SPEF which made up a combined 85 items questionnaire. As discussed earlier, PRO-SDLS and SPESUS were propriety questionnaires, and no amendment was made in these two instruments in this study to allow further validation of reliability and validity of the instruments compared to previous studies. Based on the results of internal consistency statistical analysis of data collected from University 1 and University 2, both PRO-SDLS and SPESUS obtained high-reliability scores in this study and compared favourably with other past studies as discussed in chapter 4 and 6. On the other hand, SPEF is a newly developed measuring scales based on a study by Finch *et al.* (2013) also obtained a high overall Cronbach's Alpha score of $\alpha = 0.94$ (University 1) and $\alpha = 0.85$ (University 2).

Besides, internal consistency reliability testing, both PRO-SDLS and SPESUS also obtained high construct validity through the correlation matrix of variables and subscales using

data collected from University 1 and 2 as discussed in chapter 5 and 6 (Table 5.2, 5.3, 6.9). The above results are significant findings of this study and indicated that PRO-SDLS, SPESUS and SPEF are reliable and valid measuring instruments to be used in future studies. Specifically, all three measuring scales are suitable to be used for university students based in Dubai, UAE and in the context of higher education in the Middle East.

7.2.2 Research Objective 1

Research objective 1 aimed to investigate the perceptions of students regarding their SDL preferences using 25-items PRO-SDLS questionnaires developed by Stockdale (2003). The identification of university students' SDL from University 1 and University 2 was addressed in both chapter 4 and 6.

First significant finding in this study was that the total sum score of PRO-SDLS obtained from both University 1 and University 2 was within similar range compared to previous studies conducted using PRO-SDLS as discussed in chapter 4 and 6. In summary, the PRO-SDLS's sum score has been consistent across studies in line with the reliability testing results.

Second significant findings of this study was both University 1 (TL = 45.963; LC = 44.762) and University 2 (TL = 40.875; LC = 43.625) students perceived themselves to have near to balance and congruence learning expectations (Learner Characteristic – LC) and conditions of learning situations (Teaching Learning – TL) based on sum score mean obtained from the study. In other words, according to the PRO Model, the balance scores between the 2 components indicated relatively high chances for success of self-direction in learning for students from both universities.

Thirdly, although the level of perceptions of students from both universities is generally compatible, the statistical results indicated there are areas in which they differ. University 2 students perceived themselves to have higher predisposed learner self-direction than teaching-learning situation (TL = 40.875; LC = 43.625). Therefore, the results indicated that students in university 2 would be more engaged in a learning experience where self-direction is actively facilitated and provide freedom to pursue learning according to their directions. On the other hand, University 1 students perceived themselves to have slightly higher external characteristics of teaching-learning transactions (TL = 45.963; LC = 44.762). Therefore, the results indicated that

students might have a higher chance of success in self-direction when learning situation have instructor or facilitator assumes a more directive role.

7.2.3 Research Objective 2

Research objective 2 aimed to investigate the perceptions of students regarding their SPE, ambition and UC using the 30-items SPESUS questionnaires developed by Rothwell *et al.* (2008). The identification of university students' SPE, ambition and UC from University 1 and University 2 were addressed in both chapter 4 and 6. Objective 2 plays an essential role in evaluating university students' perceptions whether or not they believe they have the ability to attain employment appropriate to their qualification based on their own evaluation.

The first significant finding from objective 2 was that the composite mean score of the overall SPESUS scale and subscales from University 1 and University 2 were within the similar range compared to previous studies using SPESUS as mentioned in Chapter 4 and 6. In summary, the SPESUS's composite score in this study is broadly in harmony with previous studies in line with the reliability testing results.

The findings for objective 2 also suggested that both University 1 and University 2 students who participated in this study perceived themselves to have the ability to attain employment on par with their qualification level they are going to obtain. One of the themes to emerge from the statistical were students from both universities perceived internal factors (ambition and internal employability) to have more influence than external factors (UC and external employability) in determining their future employability. Table 6.6 in Chapter 6 clearly shown a clear preference of students through the mean scores ranking of subscales of SPESUS for both universities which indicated that students have higher personal confidence level to secure employment of choice than the influence of external market, reputation of university or demand of their subject areas.

This study also found that ambition was perceived as a significant influence on employability for students from both universities. This indicates that students have high expectation towards future career success. Based on the support of existing literature discussed in Chapter 2 and 3, the higher the perceptions of students towards their ambition, it is assumed the higher the changes to secure employment in the labour market.

Besides, another significant finding from this study is related to a higher UC score obtained from University 2 (M = 3.83) compared to University 1 (M = 2.784). The results suggested that University 2 students perceived higher affective commitment towards their university might have caused by the reputation of the university 2 being ranked among the world's top 1% of universities compared to University 1.

7.2.4 Research Objective 3

Research objective 3 aimed to investigate students' subjective perceptions towards the factors that are important to and influence their employability using the newly developed SPEF 30 factors questionnaire (combination of skills, attributes, personal qualities, competencies and external aspects) adapted from Finch *et al.* (2013).

The findings suggest that students from both University 1 and 2 do believe that their employability is impacted by various factors. The results indicated the importance of these employability factors in determine graduates employability regardless the location of their programmes (i.e. University 1 in Dubai, UAE or University 2 in Leicester, UK).

Another significant finding from this study is that the students from both universities showed a clear preference for intellectual skills and soft skills to be the top 2 most influential and important factors influencing their employability. Conversely, academic and university reputation category; and external factors subscales obtained the least mean score and perceived by students to be least influential and essential towards their employability. The above findings also inferred that students from both universities might have perceived internal factors to have a higher influence towards their employability because these factors are within their control for them to acquire during their educational programme in the university compared to external factors such as labour market and university reputation. Similar to SPESUS in objective 2, external employability (university reputation and labour market) and UC obtained lower perceived mean score compared to internal employability and ambition. Findings from this study also compared favourably with the previous research by Finch *et al.* (2013), wherein their study employers highlighted soft skills and problem-solving skills (part of intellectual skills in this study) as the top two categories that are important for new graduates who are seeking employment. Similarly, academic reputation was viewed by employers to be least important to graduates employability (Finch *et al.* 2013).

Further examination of the findings also revealed that students from University 1 and 2 perceived similarly regarding the factors that influence their employability. For example, when comes to the highest scored factors in each category, both University 1 and 2 students perceived critical thinking skills, job-specific competencies, academic credentials, attitude towards work, and labour market conditions to have the highest influence on their employability. Although the findings are in line in both universities, however, students' perceptions differ in soft skills where University 1 students perceived interpersonal skills to be the most influential whereas University 2 students perceived verbal communication skills to be the most influential.

7.2.5 Research Objective 4

Research objective 4 aimed to investigate the empirical relationship between SDL and SPE, ambition and UC of university students using PRO-SDLS and SPESUS. The identification of the empirical relationships between these constructs using data collected from University 1 and University 2 was addressed in both chapter 5 and 6. The following are significant findings obtained from objective 4.

Correlation analyses in chapter 5 and 6 indicated that University 1 and 2 students' SDL related positively to their SPE and ambition but not with UC (see Chapter 6, table 6.11). In other words, the findings of this study suggest that as SDL behaviour increased so did SPE (chances of getting or attaining employment appropriate to one's qualification) and ambition (future career success). These findings are consistent with past relates studies where employability were found to be positively correlated with SDL (Botha *et al.* 2015; Raemdonck *et al.* 2011); voluntary learning behaviour (Kim *et al.* 2015); willingness to learn (Wittekind *et al.* 2010); and work-related learning behaviour (Gijbels *et al.* 2010). On the other hand, literature also supported that ambition is closely related to employability. According to Fugate *et al.* (2004), career motivation is related to employability. Therefore, in this study, it makes sense that the ambition construct (as a component of employability) obtained a positive and significant relationship with SDL (e.g. Rothwell *et al.* 2008; Rothwell *et al.* 2009; Rothwell and Arnold, 2007; De Vos *et al.* 2011; Ashby and Schoon, 2010). As self-directedness of students rise, so does the perception that the goal of career success will be achieved.

Further examination of SPE subscales data collected from University 1 and 2 has shown positive and significant relationship was found between SDL and internal employability (See Chapter 6, Table 6.11). The result suggested that the increase of SDL will increase the internal

employability of students (personal confidence of an individual's ability to secure employment of choice). Similar to UC, external employability which refers to individual perceptions related to the external labour market, the strength and reputation of the university, and demand of subject areas were found not significantly related with SDL. Despite having the support from the literature that employability is a multidimensional construct (e.g. Hillage and Pollard, 1998; Rothwell and Arnold, 2007; Forrier and Sels, 2003), it was anticipated that external employability would relate to SDL. Therefore, these relationships might be worth re-examine in future studies.

Under the PRO Model of SDL by Brockett and Hiemstra (1991), the results of the investigation also viewed through the lens of the teaching-learning component (TL) (Initiative and Control) and learner characteristics component (LC) (self-efficacy and motivation). The results revealed the strongest association between SPE and SDL was the TL component for both students from University 1 and 2. The evidence from this research suggests that the TL component which refers to the proactive behaviour of students assuming control and initiative for planning, implementing and evaluating learning process was stronger than LC component that has led to an overall positive relationship of SDL with SPE. The results of this study support the idea that more focus should be given instructional methodology that will develop students' SDL. In other words, students' predisposed personality characteristics and beliefs have less influence towards their employability. In fact, the author was anticipating that LC component of self-directedness learning would have a significant relationship with SPE. Therefore, these relationships might be worth re-examine in future studies. Surprisingly, the study results indicated significant relationship between SPE and LC component in University 2.

Surprisingly, a significant positive relationship was found between PRO-SDLS' TL component with external employability from University 1 students. Although it is just a smaller effect relationship found, this result support the idea that the increase of TL component (proactive behaviour of students in planning, implementing and evaluating their learning process) will lead to the increase of external employability (the future-oriented perspective of individuals and their ability to proactively address the challenges of the labour market). In other words, this result also suggested that students with high external labour market awareness would also proactively planning, implementing and evaluating what they need to learn in university in order to meet the needs of the labour market.

Overall, the findings of objective 4 suggest that educators and university management may want to consider utilised PRO Model of SDL as a framework for nurturing and cultivating

SDL among university students which will subsequently lead to better employability. As per the empirical results suggested, the development SDL among students will positively influence their SPE and ambition.

7.2.6 Research Objective 5

Research objective 5 highlighted the findings of correlations analyses between PRO-SDLS and demographic variables. The identification of the empirical relationships between these constructs using data collected from University 1 and University 2 was addressed in both chapter 5 and 6. The following are significant findings obtained from objective 5.

Significant findings which emerge from this study were positive and significant relationships found between SDL/subscales of students with their age and CGPA from University 1 and age and work experience from University 2. In other words, the evidence from this study suggests that as students' age, CGPA and work experience increased, their SDL increased. In term of student's age and work experience, the author was anticipating a positive relationship exists with SDL as supported by the theory of Andragogy by Knowles (1975). As adults, their learning needs and readiness are closely associated with changing social roles and various developmental life stages maturing into adulthood in order to efficiently cope with their real-life situation. Furthermore, adults students prefer to take responsibility for determining and meeting their learnings and achieve their learning goals (Knowles, 1975). Besides, the above results were supported by many past studies as mentioned in chapter 2.

Further examination on University 1 students also revealed that subscale initiative from TL component of PRO-SDLS (measuring proactivity towards their action of learning) and subscale self-efficacy from LC component of PRO-SDLS (measuring belief of one's capacities to organize and take action to learn) was positively and significantly related to students' age. This result indicated that as age increased, students' proactiveness towards learning and self-belief of their capacities towards learning increased.

The results from University 1 also suggested that as CGPA increased, students' actions in proactively assuming control and initiative for planning, implementing and evaluation of their learning process increased. In other words, this may also infer that students who have excellent academic results (CGPA) may be more willing to take actions towards learning to upgrade their

skills and knowledge in order to maintain their performance or to stay ahead to gain a better chance for future employment opportunities.

Additionally, the results from University 2 also indicated as work experience increased, students proactivity towards their action of learning (measured by PRO-SDLS's TL Component) and belief of one's capacities to organize and take action to learn (measured by PRO-SDLS's LC Component) will also increase. In order words, students with higher working experience are more willing to take steps towards learning to upgrade their skills and knowledge in order to maintain their performance or to stay ahead to gain a better chance for future employment opportunities.

In summary, the results obtained in this study partially support hypothesis Ha2 due to the fact that significant and positive relationships were only found between SDL with age, CGPA (University 1) and with work experience (University 2). Therefore, the results of this study support the idea that various learning supports and strategies may be considered by lecturers especially for students from different age and CGPA groups.

7.2.7 Research Objective 6

Research objective 6 highlighted the findings of correlations analyses between SPESUS and demographic variables. The results of the investigation in chapter 5 and 6 addressed this objective. The following are significant findings obtained from objective 6.

Correlation analyses showed that students' age, working experience and CGPA from University 1 positively and significantly related to SPE. Contrary, only students' work experience from University 2 positively and significantly related to SPE. In other words, as age, working experience and CGPA increased, so did SPE. Besides, a positive and significant relationship was also found between ambition and CGPA from University 1 students. These results were supported by past studies and literature mentioned in chapter 2 where demographics variables are related to employability. However, there is no significant relationship found between UC with students' age, working experience, education attainment and CGPA in both University 1 and 2.

In term of the relationship between age and SPE (in University 1), the positive relationship may infer that older students may be perceived to have higher chances of

employment due to the assumptions that they may have more education and learning experience which may have prepared them to be employment ready or better job mobility. However, there were multiple debates in the literature that age may impact positively or negatively on employability. For instance, there were claims that younger graduates secure full-time employment faster than that mature graduates because mature graduates may have experienced 'difficulty' in accessing 'graduate-level' jobs. Therefore they may need to undertake further courses before competing equally with younger graduates and be less well paid (Woodfield, 2011, p411). Furthermore, many past studies found negative relationship between age and employability due to various factors such as motivation level, willingness to change, physical and mental changes and job opportunities (e.g. Van der Heijden, 2002; Wittekind *et al.* 2010; Raemdonck *et al.* 2012; Froehlich *et al.* 2015; Sok *et al.* 2013).

From work experience point of view (positive relationship found in both University 1 and 2 students), it was anticipated that positive and significant relationship exists due to the support from literature that graduates with working experience are more likely to secure employment that graduates without such experience (e,g. Blackwell *et al.* 2001; Knight and Yorke, 2004; Pool and Sewell, 2007; Karli, 2016).

In terms of CGPA (University 1), positive relationship with SPE and ambition were anticipated because CGPA is one of the most popular criteria used by prospective employers for graduate selection and hiring (e.g. Brown, 1990; Ng *et al.* 2010). Past studies found that students with higher CGPA had greater confidence in their employability and perceived themselves to have better achievement from the skills, knowledge and experience they gained during their educational programme (e.g. Qenani *et al.* 2014). Therefore, higher CGPA may increase the chance of securing employment in the labour market and increase future career success.

In summary, the results obtained in this study partially support hypothesis Ha3 due to the fact that significant and positive relationships were only found between SPE with age, working experience and CGPA but not education attainment. Therefore, the results of this study support the idea that various employability development supports and strategies may be considered by university management especially for students from a different age, working experience and CGPA groups.

7.2.8 Research Objective 7

Research objective 7 highlighted the findings of non-parametric tests conducted between PRO-SDLS, SPESUS and demographic variables. The results of the investigation in chapter 5 and 6 addressed this objective. The following are significant findings obtained from objective 7.

Kruskal-Wallis tests revealed a statistically significant difference across age group in the overall PRO-SDLS scores of University 1 students. Further inspection concluded that students with older age scored significantly higher in PRO-SDLS and perceived themselves to have greater self-directedness than younger students. Similarly, Kruskal-Wallis tests also revealed statistically significant difference across age groups in the SPE scale from University 1 students where older students perceived themselves to be more employable than the younger students. Furthermore, Kruskal-Wallis results also shown a statistically significant difference in PRO-SDLS scores across six different CGPA groups in University 1. This indicated that students with higher CGPA perceived themselves to have significantly higher SDL than students with lower CGPA.

From University 2 students, the statistically significant difference between work experience groups was also found in both PRO-SDLS and SPESUS scales. This result supports the idea that students with higher working experience perceived themselves to have higher self-directedness in learning and more employable in the labour market.

In summary, the results obtained in this study partially support hypothesis Ha4 due to the fact that statistically significant differences were only found in University 1 (age and CGPA groups) and University 2 (work experience groups) in the PRO-SDLS scale. Additionally, significant differences were only found in University 1 (Age groups) and University 2 (work experience groups) in the SPESUS scale. Therefore, the results of this study support the idea that different learning and employability development supports and strategies may be considered by lecturers especially for students from different age, CGPA and work experience groups to enhance their SDL and employability.

7.2.9 Research Objective 8

Research objective 8 highlighted the findings of regression models of PRO-SDLS variables as predictors of SPESUS variables for data obtained from University 1 only. This is due

to the fact of insufficient samples received from University 2 to generate regression model. The results of the investigation in chapter 5 addressed this objective. The following are significant findings obtained from objective 8.

The main findings from research objective 8 are that SDL to be a significant and positive predictor of University 1 students' SPE, ambition and UC. Furthermore, all seven regression models indicated PRO-SDLS variables as statistically significant and positive predictors of SPESUS variables. PRO-SDLS variables were able to predict a range of variability from small to large effect (11.3% to 31.6%) of SPESUS variables. The regression analysis produced a model where PRO-SDLS variables explained 18% (R^2 = 0.183; p = <0.01; medium effect size) of the variance in employability (SPE). This indicated that the higher levels of self-directedness of University 1 students would help to strengthen the internal and external factors which students require to develop in order manage their employability. The results also supported past studies findings which reported SDL behaviour strengthen individuals' employability (e.g. Botha *et al.* 2015; Kim *et al.* 2015; Raemdonck *et al.* 2011). Furthermore, the findings also supported by CareerEDGE employability model proposed by Pool and Sewell (2007) where they highlighted the importance of SDL attributes in contributing to student's employability. Further regression analysis also revealed PRO-SDLS variables as significant predictors for subscales of SPE (internal employability; R^2 = 0.272; p =<0.001; large effect size) and (external employability; R^2 = 0.120; p =<0.05; small effect size).

Another significant finding which emerges from this study is the regression model computed between PRO-SDLS variables and ambition which obtained the highest variability score 32% (R^2 = 0.316; p = <0.001; large effect size). As discussed earlier, ambition scale measures the students' perception of their future career success. Besides, regression model computed between SDL and combined scales (SPE and ambition) yielded medium variability score 27% (R^2 = 0.240; p = <0.001; large effect size). The results were anticipated as literature suggested a strong relationship between SPE and ambition (Rothwell *et al.* 2008; 2009). Therefore, the results suggested that the higher levels of SDL will help to strengthen the attributes or behaviour which University 1 students required to manage their employability and future career success. On the other hand, surprisingly, despite no significant relationship reported between SDL and UC in earlier correlation analysis, regression model showed PRO-SDLS able to predict a small 11% variability (R^2 = 0.113; p = <0.05; small effect size) in UC. This suggested that higher level of SDL will help to strengthen student's affective commitment towards university which may lead to

better future employability. Therefore, the findings of this study suggest that in general, as the self-directedness level of students increased, so did SPE, ambition and UC.

Another prominent finding that emerges from this study is subscale initiative (refers to the behaviour of proactively taking steps towards actions or decisions in learning) as the strongest contributor in explaining the SPESUS constructs in this study, thus dominating five out of seven regression models. Subscale initiative was found to be the strongest contributor in predicting SPE, internal employability, external employability, UC, SPESUS combined scale, SPE and ambition combined scale. Interestingly, subscale control from the TL component of PRO Model (refers to the ability and willingness of an individual to take control of their own learning) was found as the strongest predictor for the construct of ambition. The results of this study support the idea that TL component of PRO Model that reflect proactively assuming control and initiative for planning, implementing and evaluating learning process were more powerful predictors than predisposed characteristics of students (LC component) for students' employability and future career success. In other words, external factor or extrinsic characteristic of the teaching-learning transaction (instructional methods) contribute the most to PRO-SDLS in predicting employability of students.

Overall, the findings of the study suggest the important role of lecturers and educators in helping students to become more self-directed in the process of learning. Other implications of this study include the role academics and university management in planning, developing and providing university curriculum that can promote SDL and in the same time meeting the demands and expectations of employers and labour markets. In summary, the results obtained in objective 8 support hypothesis Ha5 due to the fact that all seven regression models showed SDL (PRO-SDLS) as statistically significant and positive predictors of SPE, ambition and UC (SPESUS). PRO-SDLS prediction of SPESUS was in the range of weak model to strong model. However, the internal trends were that only TL component variables were found to be significant contributors to the model provide implications for practice and further research.

7.2.10 Research Objective 9

Research objective 9 aimed to explore and validate the research findings from University 1 (Dubai based University) compared to University 2 (UK Based University) using the same measuring instruments and research methodologies. The validation of data and findings from University 1 and University 2 were addressed in chapter 6 and 7 by comparing data for objectives

1 to 7 only. In fact, University 2 findings have been presented together with University 1 findings in an earlier section of this chapter.

The overall results from University 1 and 2 suggest that future employability is attributed to students' level of SDL. Some variables were more important to predict self-perceived employability (SPE). Besides, the overall findings also indicated that the research model of this study is valid and suitable to be replicated for future study based on the fact that statistical tests and results obtained from students of both universities in two different countries shown high reliabilities, high construct validity, similarities in scores, consistencies with past studies and positive significant relationships on similar constructs/variables. Although there were differences of findings obtained in some areas from students from both universities, the overall findings play an important contribution to the study of SDL and SPE in Dubai, UAE and also UK higher education context. Table 7.1 presents an overview of the results addressing objective 9.

Table 7.1: Overview of Study Findings From University 1 and University 2

Statistical Analyses/University	**University 1 – Dubai, UAE**	**University 2 - UK**
Sample/Participation	90 / 123	48 / Approx. 500
Reliability Test (Alpha Cronbach / α) - **PRO-SDLS** - **SPESUS** - **SPEF**	Highly Alpha Cronbach Scores - α = 0.863 - α = 0.895 - α = 0.940	Highly Alpha Cronbach Scores - α = 0.871 - α = 0.896 - α = 0.851
Objective 1, 2 & 3 Descriptive Statistics - **PRO-SDLS** - **SPESUS** - **SPEF**	Mean Composite / Sum Scores - 90.725 - 3.398 / 101.965 - 3.873 (Intellectual and Soft Skills as the highest and External Factors the lowest)	Mean Composite / Sum Scores - 84.500 - 3.372 / 101.146 - 3.749 (Intellectual and Soft Skills as the highest and External Factors the lowest)
Validity Test – Scale Inter-Correlations - **PRO-SDLS** - **SPESUS**	PRO-SDLS : Subscales and Combined Scales correlated SPESUS: Subscales and Combined Scales correlated (1 Outlier: University Commitment)	PRO-SDLS : Subscales and Combined Scales correlated (1 outlier: Control subscale not correlated) SPESUS : Subscales and Combined Scales correlated

Statistical Analyses/University	University 1 – Dubai, UAE	University 2 - UK
Objective 4 Correlations Analysis – Between PRO-SDLS and SPESUS	Correlation (Small to Medium) SPESUS and PRO-SDLS = Nil SPE and PRO-SDLS = .219* SPE/Ambition and PRO-SDLS = .333** Ambition and PRO-SDLS =.494** Internal Employability and PRO-SDLS = .414**	Correlation (Small to Medium) SPESUS and PRO-SDLS = .350* SPE and PRO-SDLS = Nil SPE/Ambition and PRO-SDLS = .382** Ambition and PRO-SDLS =.483** Internal Employability and PRO-SDLS = .364*
Objective 5 Correlations Analysis – PRO-SDLS and Demographic Variables	PRO-SDLS & Age = .232* Initiate & Age = .250* Self-Efficacy & Age = .217* PRO-SDLS & CGPA = .267* Initiative & CGPA = .281** Control & CGPA =.228*	Motivation & Age = .377** PRO-SDLS & Work Exp = .356* Self-efficacy & Work Exp = .301* Motivation & Work Exp = .331* Motivation & Education = -.309* Data for CGPA not Available
Objective 6 Correlations Analysis – SPESUS and Demographic Variables	SPESUS & Age = .215* SPE & Age = .261* SPE & Work Exp = .247* SPESUS & CGPA = .224* SPE & CGPA = .256* Ambition & CGPA =.214*	SPESUS & Work Exp = .301* SPE & Work Exp = -.350* Data for CGPA not Available
Objective 7 Non-Parametric Test	PRO-SDLS & Gender = No SPESUS & Gender = No PRO-SDLS & Age = Yes SPESUS & Age = Yes PRO-SDLS & CGPA = Yes SPESUS & CGPA = No PRO-SDLS & Work Exp = No SPESUS & Work Exp = No PRO-SDLS & Education = No SPESUS & Education = No	PRO-SDLS & Gender = No SPESUS & Gender = No PRO-SDLS & Age = No SPESUS & Age = No PRO-SDLS & CGPA = N/A SPESUS & CGPA = N/A PRO-SDLS & Work Exp = Yes SPESUS & Work Exp = Yes PRO-SDLS & Education = No SPESUS & Education = No
Objective 8 Multiple Regression	7 Models generated and all 7 are significant models - SPESUS - SPE - Ambition - Univ Commitment - Internal Employability - External Employability - SPE & Ambition	Not sufficient cases/sample to generate Multiple Regression (need at least 82)

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)
Note: only significant results are presented in this table
Legend: Work Exp = Working experience

7.2.11 Summary of Hypotheses Testing and Significant Findings

The following section presents an overview of the research hypotheses testing in this study. All research objectives of this study were achieved although there were some surprising findings as discussed earlier sections. Table 7.2 shows that from the results of 5 hypotheses (with comparisons of University 1 and 2), only hypotheses Ha5 was fully supported with the remainder partially supported.

Table 7.2: Summary Results of Hypothesis Testing

Hypotheses Statements / Objectives	Measurement	Supported / Rejected	University 1 (Dubai based University)	University 2 (UK based University
Objective 4 - Ha1: There is a significant and positive relationship between the SDL and SPE, ambition, and university commitment of university students	Pearson's Correlation Coefficient	Partially Supported	Significant and positive relationship found between PRO-SDLS and SPE and Ambition but not with University Commitment	Significant and positive relationship found between PRO-SDLS and SPE and Ambition but not with University Commitment
Objective 5 – Ha2: There is a significant and positive relationship between the SDL (PRO-SDLS) and selected demographic variables age, CGPA, working experience and education attainment	Pearson's Correlation Coefficient	Partially Supported	No correlation found between PRO-SDLS and working experience & education attainment	No correlation found between PRO-SDLS and education attainment. Data on GGPA not available
Objective 6 – Ha3: There is a significant and positive relationship between the SPE, ambition, and university commitment (SPESUS) of university students; and selected demographic variables age, CGPA, working experience and education attainment	Pearson's Correlation Coefficient	Partially Supported	No correlation between SPESUS and education attainment	No correlation between SPESUS and Age & education attainment. Data on GGPA not available

Hypotheses Statements / Objectives	Measurement	Supported / Rejected	University 1 (Dubai based University)	University 2 (UK based University
Objective 7 – Ha4 : There are significant differences between SDL, SPE, ambition, university commitment and selected demographic variables (gender, age, CGPA, working experience and education attainment) among MBA students	Mann-Whitney U & Kruskal – Wallis Test	Partially Supported	Statistically, Significant differences found in Age and CGPA for PRO-SDLS; Age for SPESUS	Statistically, Significant differences found in Work Experience for PRO-SDLS & SPESUS
Objective 8 – Ha5: SDL of MBA students significantly and positively predicts their SPE, ambition and university commitment	Multiple Regression	Fully Supported	PRO-SDLS variables predict significantly and positively with SPESUS variables	Not sufficient cases/sample to generate Multiple Regression (need at least 82)

7.3 Limitations of Research

The limitations of literature review, empirical study and measuring instrument are discussed in this section. Firstly, from the perspective of literature review, this empirical study on SDL and SPE, ambition and UC were limited to the current literature available. Although there are many resources available that deal with both SDL and SPE constructs, there is very limited published research on the relationship of both constructs and in the education setting. Further limitations also include no prior study on the two constructs were found in the context of Dubai, UAE and Middle East. This proved to be a limiting factor in choosing and developing appropriate research frameworks and measuring instruments. Besides, the author also experienced limitations on literature related to the influence of biographical variables such as gender, age, work experience, CGPA and education attainment for both research constructs. As discussed in earlier chapters, the variables used in this study are defined by two different models from different areas. SDL is defined based on the PRO Model by Brockett and Hiemstra (1991) whereas SPE, ambition and UC described by Rothwell's *et al.* (2008) Students SPE model. Therefore, the author has made it clear that the interpretations of the research findings are limited to these two models and related literature.

Secondly, from the perspectives of empirical study, this study adopted the survey questionnaire approach to collect primary data through a self-reporting or self-perceived strategy. Self-reporting could generally perceive to have challenges such as generalization of results are limited to the population of interest, uniqueness and characteristics of the institution (university) selected, effects on questionnaire design, quality of answers, and response rates. Although results of this study have made significant contributions to the knowledge of SDL and SPE in Dubai, UAE (University 1) and the UK (University 2) higher education environment, the limitation lies in the fact that it is not possible to generalise the result to a wider population because of the institution's uniqueness and demographic confines of the study. In other words, the sample of the study was limited to University 1 and 2 students only represented a small percentage of students in the country. Even though the issue of generalisation exists in this study, the author has suggested that by conducting research at a single institution may provide the opportunity to obtain a better understanding of specific issues related to the students in the university. On the other hand, the current study has only examined a group of University 1 students from the same race (since all final year students who enrolled the programme were from Asian – Indian origin) and majority students are male. Thus, the findings cannot be generalised to other race or gender contexts. Besides, only a small percentage of students from University 2 participated in the study due to the challenges using the online survey as discussed in chapter 3. Hopefully, the results of this study can be confirmed and supported by further research with other institutions in Dubai, UAE and also involved more diverse population. Nevertheless, justifications of using survey questionnaire approach and scope of the study were presented in chapter 1 and 3 of this study.

Thirdly, the present study was also limited by measuring instruments used in this study. As mentioned earlier, PRO-SDLS, SPESUS and SPEF scales have been utilised in this study and also in the Middle East educational settings context for the first time. Therefore, the associations between the variables have been interpreted in an exploratory manner rather than being established. The author has also taken into considerations of potential risk of common methodology challenges and bias using a self-report survey questionnaire approach as mentioned in chapter 3. Although acceptable, internal consistency reliabilities were reported for the two instruments, certain subscales of the instruments shown lower reliability scores compare to previous studies using the same instruments. For instance, previous studies using the PRO-SDLS indicated that all four subscales obtained Cronbach alpha scores of $\alpha = 0.70$ and above (e.g. Fogerson, 2005; Gaspar *et al.* 2009; Holt, 2011; Conner, 2012). However, the Cronbach's alpha scores obtained for subscale control ($\alpha = 0.64$) and subscale motivation (0.60)

from University 1 were slightly lower in this study compare to the previous study. This may be explained by the cultural limitation that may exist because PRO-SDLS were developed according to data collected in the western society. On the other hand, the overall Cronbach's alpha obtained for the overall PRO-SDLS scale from University 1 in this study was $\alpha = 0.83$, which was considered as good and adequate for the purpose of this study. Besides, although the SPEF scale yielded high reliabilities scores, there are no previous studies to compare. Hence, this scale warrants further research and validation.

Fourthly, in the absence of objective employability data in Dubai, subjective employability survey scale like SPESUS was selected. In term of SPESUS scale, Cronbach's alpha scale obtained in this study compare favourably with previous studies using SPESUS (see Chapter 2 and 4). Similar to previous studies, subscale ambition from data of University 1 continued scored lower Cronbach's score ($\alpha = 0.64$) by the sample in the Middle East context compare to other subscales. This may possibly cause by the small number of questions used for the subscale or survey design limitation as mentioned in previous studies. The results also in line with the suggestion by Rothwell *et al.* (2009) that the ambition subscale may need further development in coming research.

Finally, another limitation of this study is the relatively small sample sizes of the survey which has been justified and presented in chapter 3 (both from University 1 and 2). In the future, a more advanced statistical techniques such as structural equation modelling could be adopted in order to test the overall model. This technique unfortunately could not be applied due to a low number of samples and also the characteristics of the data (i.e. different indicators used to define SPE; and data collected from two universities). Therefore, the research questions included in this study are narrow, detailed and tightly focused with the aim to produce meaningful findings. Therefore, the author hopes that related areas not included in this study can be investigated by future research.

7.4 Implications of Research Findings

The results of this study have some significant implications. Firstly, the theoretical and methodological implications; and secondly, practical implications for stakeholders such as the lecturers, academics and university management with regards to students' SDL and SPE, ambition and UC.

7.4.1 Theoretical and Methodology Implications

One of the strengths in this study is that two proprietary measuring instruments PRO-SDLS (by Stockdale, 2003) and SPESUS (by Rothwell *et al.* 2008) have been validated by involving different samples from University 1 and 2 based in two different countries. Specifically, this study offers the opportunity for the two measuring instruments to be validated by samples based in UAE where no past study is available till date. In this study, both scales prove to be valid and reliable based on data collected from both University 1 and 2 students (as discussed in Chapter 4, 5 and 6). Additionally, both PRO-SDLS and SPESUS also contributed to the further operationalization and the definition of SDL and SPE in the context of higher education and specifically in the UAE. From the administration perspective, the measuring scales are best to be administered at face to face meeting to increase participation compared to an online survey with no researcher interaction. This issue has been highlighted in chapter 3 where online survey approach conducted for University 2 yielded significantly lower respondents compared to University 1 where face to face administration is conducted. Although face to face administration to distribute questionnaire will take longer time, however, in this study, it has appeared to be necessary to obtain more respondents.

Another strengths and implications of this study are the positive relationships found between SDL and SPE in this study. The results open doors and line of research in the future to be explored in details and to what extent in a specific domain. As mentioned in chapter 1, this study is a first attempt which was made to study SDL, SPE and other related constructs which were studied separately in different knowledge domains such as adult education and higher education. This study provided empirical implications of how SDL and SPE are interrelated in a higher education setting and how both concepts can be studied in the future. A clear empirical link between SDL and SPE also established consistency with past relates studies where employability was found to be positively correlated with SDL associated behaviours or concepts (e.g. Botha *et al.* 2015; Raemdonck *et al.* 2011; Kim *et al.* 2015); Wittekind *et al.* 2010; Gijbels *et al.* 2010). Lastly, this study also provides a reasonable opportunity for SDL and SPE to be generalised to a larger populations other than students such as employees, specific work profile, professional or specific working populations.

7.4.2 Practical Implications for Lecturers, Academics and University Management

This empirical study also resulted in practical implications for stakeholders in the higher education sectors such as lecturers, academics and university management. These implications are presented based on the findings of each objective in this study.

Firstly, objective 1 revealed that University 1 and 2 students perceived themselves to have experienced near to optimal SDL conditions. Therefore, it is recommended that lecturer and academics continue the effort of balancing learning conditions that encourage SDL through active facilitation and at the same time continue nurturing and cultivating self-directed learners' characteristics in students. The results of this study also highlighted the need for educators in formal education to provide learning experiences that foster students self-directed in learning skills by assuming more directive in learning to guide students to be more self-directed in learning or become an active facilitator who provides freedom to pursue learning according to their directions. Therefore, it is recommended that lecturers and academics utilise PRO Model and PRO-SDLS scale as an evaluating tool whenever appropriate to access students' perceptions towards their SDL instructional expectation and predisposed characteristics prior to the commencement of their educational programme. The results can be used as a reference for lecturers to match students' SDL readiness level with appropriate pedagogies or teaching techniques in order to achieve optimal SDL level (Brockett and Hiemstra, 1991). Besides, PRO model has the ability to provide the progress indicator whether educator needs to take a more directive approach in learning or not and at the same time continue to develop self-directed learners characteristics into students over a specific period of time. As suggested by Hall (2011), PRO SDLS is recommended to be used as an evaluation of student's acquisition of SDL skills and also the practice of SDL in the context of learning tasks. Alternative models that can be used concurrently with PRO Model will be the Grow's (1991) Staged Self-directed learning (SSDL) Model, Pilling-McCormick (1997) Self-directed learning Process (SDLP) Model, and Garrison's (1997) Comprehensive Model of Self-directed learning. A detailed discussion of these models is included in Chapter 2 of this study.

Secondly, based on the results of objective 2, Students Self-perceived employability (SSPE) Model can be used as a feedback tool to evaluate the employability expectations, the confidence level of students and influence of external elements towards getting continuous employment and career success after graduation. As mentioned earlier, the SSPE model provides a multidimensional feedback (external and internal) for university management to

enhance the employability of students transiting from education to work. For instance, the SSPE model will be able to provide feedback to lecturers, academics and university management on the areas (internal – personal confidence or external – labour market, university reputation and demand for subject areas) they need to focus on when considering and planning employability development opportunities within the curriculum or throughout the programme. Employability development opportunities as proposed by Harvey *et al.* (2002) should include the development of employability attributes, self-promotional skills, willingness to develop and work experience through an internship, work placement and work-related training. Other employability models that can be used concurrently with SSPE model by Rothwell *et al.* (2008) are USEM Employability Model by Yorke and Knight (2006), CareerEDGE Key to Employability Model by Pool and Sewell (2007), and Graduate Employability Model by Jackson (2013). A detailed discussion of these models is included in Chapter 2 of this study. Further recommendations for the outcome of objective 2 is that SPESUS scale can also be useful to the university's career development services centres in developing a diagnostic tool in career counselling and vocational guide for students to evaluate their SPE prior to their transition from education to work. The score obtained by completing the SPESUS scale can be used to determine specific interventions required by the students.

Thirdly, research objective 3 of this study also provided the implications and opportunities for lecturers, academic and university management to have a better understanding of employability from an individual perspective. The results of the study suggested the intellectual skills and soft skills are perceived by students to be the most important factors influencing their employability. Further analysis also highlighted five specific factors and skills that perceived by University 1 and 2 students to be the most influential to their employability, namely, attitude towards work, critical thinking skills, job-specific competencies, academic credentials and labour market conditions. Therefore, based on the above findings, it is recommended that lecturers, academics and university management include these identified factors or skills sets when considering and planning employability development opportunities within the curriculum or throughout the programme. This is due to the fact that university may be judged by their performance in preparing graduates with competencies that enable them to work effectively in today's complex work environment (Knight and Yorke, 2003; Harvey, 2001). Besides, university management may also place emphasis on current high-interest topics or skills and work together with relevant employers to ensure that university graduates obtained these skills during the programme in order to be successful in their transition to work. According to McQuaid (2006), by achieving the congruence in students' perceived importance of

employability skills will enhance their chance of a match between themselves (as a job seeker) and a job vacancy in the labour market.

As for objective 4, with the survey results indicated a significant positive relationship between SDL, SPE and ambition, the recommendations for practices in this study would be related to pedagogies for SDL, educational curriculum and employability development opportunities. Similar to objective 1 and 2, it is recommended that the PRO Model of SDL by Brockett and Hiemstra (1991) and Students Self-perceived employability (SSPE) Model by Rothwell *et al.* (2008) could be utilized as a learning and development framework for educators and academics of University 1 and 2 in developing programme curriculum and learning environment that could cultivate, nurture and encourage SDL among students that will lead to better future employability and career success. Therefore, the author recommended 4 principles for fostering SDL skills among university students proposed by Francom (2010, p33) to be implemented together with the PRO Model and PRO-SDLS scale as an evaluation tool.

1. Match the level of SDL required in learning activities to student readiness
2. Progress from teacher to student direction of learning over time
3. Support the acquisition of subject matter knowledge and SDL skills together
4. Have students practice SDL in the context of learning tasks.

Despite there is no statistically significant relationship found between SDL and UC, it is recommended that the UC scale is used as student's engagement measurement by the university management. As discussed in chapter 2, past studies and existing literature support the fact that affective commitment towards their relationship and associations with the university is an important determinant of university brand and reputation which can be used as an advantage of gaining employment in a competitive labour market. Therefore, it is recommended that university management should also proactively reviewing university brand and reputation as one of the essential areas to improve student's employability.

Fifthly, objectives 5, 6 and 7 are related as analyses were conducted between PRO-SDLS, SPESUS and selected demographic variables. Therefore, discussion of implications are related and presented together in the following section. Results of objective 5 have shown that there are significant and positive relationships between SDL of University 1 students and two of the selected demographic variables (age and CGPA). As discussed in the earlier section, the findings infer that students with older age and better academic results may be more willing to take

actions towards own learning to upgrade their skills and knowledge in order to stay ahead and gain a better chance for future employment. Based on this, it is recommended that educators and academics to consider different learners' support strategies or curriculum delivery strategies for these specific groups may be useful to cultivate and nurturing higher SDL that will lead to better employability.

On the other hand, the results of objective 6 shown that age, CGPA (University 1 students) and work experience (University 2 students) were positively and significantly related to employability. The results suggested that students with older age and better CGPA may have better chance to obtain a job when they completed their education programme. Therefore, based on this, it is recommended that perhaps university management may want to provide more support to the learners through the career development service centre to younger students and lower academic achievers to increase their chance of employment. This can also be done through employability development opportunities during and after they completed their programme. As for work experience, the university could encourage students without or less working experience to take up internships, work placement, part-time employment and work-related training with partner companies to enhance their work-related skills and knowledge. Literature supported that student with working experience stands higher chance to obtain employment compare to those without or less working experience (Harvey *et al.* 2001; Knight and Yorke, 2003).

As for objective 7, significant statistical differences between PRO-SDLS and age groups; CGPA groups (from University 1 students) and work experience groups (from University 2 students) were found in this study. Based on these results, it is suggested that various learner support strategies such as specific learning approaches, employability development opportunities or any other suitable interventions to be extended to these groups of students may be useful. Furthermore, educators could also use the results as an indicator of which age groups and CGPA groups would be more likely to have higher SDL and match with suitable instructional methods. Similarly, the results may also provide forecast data to the university on which age groups would be more likely to secure employment once graduated which may be useful as one of the consideration when offering employability development opportunities to university students.

As for objective 8, survey results indicated that PRO-SDLS variables are statistically significant predictors of SPESUS variables. With the sufficient variability prediction power that

ranges from small to large effect (11.3% till 31.6%), SDL would help to strengthen the internal and external elements which University 1 students require to develop in order to enhance their employability. Therefore, besides recommending that PRO Model and SSPE Model to be used as main learning framework for the university, it is also highly recommended that the regression model of this study be used to as a statistical prediction model for the university to forecast the employability level of students in the future. Although further research would require enhancing the prediction model, this could be a potential objective prediction model which can be used as comparisons with the actual employability rate. With a linear model, it would be possible for educators to use statistical analysis towards identifying the full range of SDL factors affecting student's likelihood of getting a new job and at the same time provide a framework for richer graduates' job market models.

Finally, the results of objective 9 provide practical implications for the study to be replicated in the future. The consistency of reliability, validity and overall findings scores found between University 1 and 2 open the opportunities for future research to be conducted in different populations, countries and contexts.

7.5 Recommendations for Future Research

On the basis of this study, this section presents several recommendations for future research that would enhance the understanding of SDL, SPE and other constructs presented in this study.

Firstly, the survey instruments of PRO-SDLS and SPESUS used in this study are proprietary questionnaires have been utilised by many past international studies mainly in Europe and Americas. Although both instruments were proven to be reliable statistically, some of its subscales produced lower Cronbach's alpha score in this study compares to past studies. Hence, in order to further establish the instruments, the author suggests that further reliability and validity tests be conducted in other institutions of higher education, particularly in the Middle East contexts and region. Since no other published studies using the same constructs were found in the Middle East context, the author did not use factor analysis in order to validate the instruments and to have full comparisons with previous studies. Therefore, it is suggested that a factor analysis of both instruments in future studies could provide further evidence of the validity of the instruments and also if there is any overlap between the instruments. As for the newly developed SPEF scale, further testing and statistical analysis are required in future

research. The scale can be potentially used to investigate the relationship between other constructs. Furthermore, it is also proposed future research to use objective employability whenever available as the measurement of employability instead of subjective employability (self-perceived).

As mentioned in the limitation section, this study was a conducted in two universities; University 1 (based in Dubai, UAE) and University 2 (based in Leicester, UK). There is a need for more similar research within the UAE and international context. Therefore, future researchers are encouraged to replicate this study at other institutions of higher learning of varying sizes to further extend the validity of the SDL and SPE across the Middle East and international contexts. In addition, future studies could also investigate the differences between institutions of higher education or educational programmes, increase the number of participants, and different demographics variables or groups. This could lead to the greater generalizability of findings and broaden the field of SDL, SPE and other related constructs such as ambition and UC. Another issue requiring further investigation relates to the conflict of the TL component (Initiative and Control) and LC component (Self-efficacy and Motivation) of PRO-SDLS scale. The findings indicated that TL component dominated the relationship and predictions of employability. As per the existing literature and the PRO model, it is anticipated that a balance between TL and LC components are required to create an optimal SDL environment. Therefore, further investigation should be conducted in other groups or institutions of higher education to develop better predictive models further.

From the research methodology perspectives, this study utilised quantitative methods to evaluate the relationships between constructs. This method has limitation to provide more detailed information. Therefore, it is also recommended that future studies include qualitative research methodologies such as interviews and focus group on gathering better insights into the views of SDL and employability through the lens of participants. This could lead to the better formation of recommendations with detailed participants voices integrated into the findings. Besides, the findings of this study were based on the perceptions of students regarding SDL and employability prior entering the workplace. It will be interesting to see the effect of SDL on their employability after they graduated and secured their full-time employment. The study could be extended into a longitudinal study taking into consideration the time and response effect. This could lead to a better predictive model of the empirical relationship between students' SDL and their employability.

7.6 Final Conclusion

This study was intended to advance the understanding of the empirical relationship between SDL of university students and their SPE, ambition and UC in the higher education context. The study results from University 1 and 2 established that SDL of university students (measured by PRO-SDLS) positively related and predicts their SPE, ambition and UC (measured by SPESUS). In other words, when university students have the cultivated the capacity of SDL, they will be able and willing to take responsibility towards their own careers, development and growth that will ultimately enhance their employability. Therefore, the understanding of the relationship of these constructs in the context of higher education provided in this study is a significant contribution to the development of future education programmes that are able to meet the needs of today's job market and also addressing the needs of lifetime employability of graduates.

While examining whether SDL predicts employability of students, this study also designed to identified employability factors or skills that are perceived importance to students today. The results indicated that intellectual skills and soft skills are the core competencies that need to be an integral component of increasing the success of student's transition from education to work. Furthermore, the significant and positive relationship between SDL and demographic variables such as age, CGPA and work experience are essential aspects to be considered in learning designs that are able to cultivate and nurture SDL among students. On the other hand, the significant and positive relationship between SPE and demographic variables such as age, work experience and CGPA suggest that educators should take these aspects into consideration while extending employability development opportunities to students. Overall, the findings of this study also provide practical implications for the educators, academics and university management to increase their student's employability through the enhancement of SDL learning approach interventions.

In the era of knowledge economy, we have moved from the concept of lifetime employment to lifetime employability where career development responsibilities are now sat on the shoulders of individuals instead of employers (Forrier and Sels, 2003). Besides, as highlighted by Van der Heije and Van der Heijden (2006), one of the biggest challenge in the current ever-changing world is continuously maintaining and enhancing one's employability. On the other hand, institutions of higher education are also under increasing pressure to produce graduates who do have not only technical expertise, but also capable, adaptive, and

continuously developing themselves to meet the requirement of changing the working environment (Jackson, 2013; Tomlinson, 2009). Therefore, in order to stay current, graduates today required the skills of SDL and knew how to independently acquire and apply knowledge, skills and competencies effectively (Francom, 2010). Ultimately, the skills of self-direction in learning are essential for students and employees to remain lifelong learners. From the perspective of this study, it is at least to a significant part that educators and academics of institutions of higher education should encourage and develop SDL skills in their students so that they will be equipped for future educational opportunities and challenges beyond their formal education (Dynan *et al.* 2008)

In conclusion, as evidenced by this empirical study, it is possible to improve student's employability through SDL interventions. The findings from two universities suggest that students still need to develop SDL skills further to reap the benefits as a lifelong learner who takes responsibility for their own learning and employability. In fact, the responsibility to enhance student's employability does not lie in the hands of students and institutions of higher learning alone. This study highlighted the roles and responsibilities of many other stakeholders such as employers, professional bodies and the governments in contributing to students' future career success. Finally, with the integration of relevant published literature and empirical evidence presented in this study, the author is hopeful that the findings can be seen as beneficial and a proactive step forward in making contribution to the field of SDL, employability, adult education, lifelong education and higher education in the UAE and Middle East business education context. Besides, the author also hopeful that the outcomes of this study could be considered as guidelines for current and future educators/academics to develop future business education programmes that could nurture a sustainable pool of talented, competent and adaptive business graduates and professional in the UAE and the Middle East.

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Appendix A: Employability Factors Composite Categories and Supporting Literatures

Employability Factors	Sub-Factors/Skills	Supporting Literature for the Employability Factors
Intellectual Skills	Problem-Solving Skills	De Guzman and Choi (2013); Reid and Anderson (2012); Kilgour and Koslow (2009); Smith *et al.* (1989); Donald (1985); Jackson (2013)
	Critical Thinking Skills	Reid and Anderson (2012); Halpern (1998); Rosenberg *et al.* (2012); Donald (1985); Jackson (2013)
	Creative Thinking Skills	Kilgour and Koslow (2009); Halpern (1998); Donald (1985)
	Leadership Skills	Conrad and Newberry (2012); Rosenberg *et al.* (2012); Heimler *et al.* (2012); Jackson (2013)
	Adaptability (Ability to adapt to technology)	Barr *et al.* (2009); Jabr (2011); Goleman (2001)
Soft Skills	Emotional Intelligence	Pool and Sewell (2007); Masole and Van Dyk (2016); Goleman (1998); O'Boyle *et al.* (2011) Cote and Miners (2006); Farh *et al.* (2012)
	Cultural Awareness Skills	Busch (2009); Crossman and Clarke (2009); Del Vitto (2008); Jackson and Chapman (2012b)
	Written Communication Skills	Gardner *et al.* (2005); Ariana (2010); Graham *et al.* (2010), Shah *et al.* (2004); Smith *et al.* (1989); Robles (2012); Roebuck *et al.* (1995)
	Verbal Communication Skills	Gardner *et al.* (2005); Gray (2010); Smith *et al.* (1989); Roebuck *et al.* (1995); Jackson and Chapman (2012b)
	Listening Skills	Cooper (1997); Goby and Lewis (2000)
	Interpersonal Skills	Lievens and Sackett (2012); Rynes *et al.* (1997); Rosenberg *et al.* (2012); Sisson and Adams (2013); Robles (2012)
	Professionalism	Mat and Zabidi (2010); Shafer *et al*. (2002); Cable and Judge (1996)
Functional Skills	Job Specific Competencies	Huang and Lin (2011), Shah *et al.* (2004)
	Job Specific Technical Skills	Laker and Powell (2011), Smith *et al.* (2008), Pang and Ho (2005)
	Knowledge of computer software	Shoemaker (2003), McCorkle *et al.* (2001); Shah *et al.* (2004)
	Project Management Skills	Bentley *et al.* (2012); Fish (2007); Smith *et al.* (2008); Stewart (2007); Van der Heijde and Van der Heijden (2006)

Employability Factors	Sub-Factors/Skills	Supporting Literature for the Employability Factors
Academic and University Reputation	Academic Performance	Ng *et al.* (2010); Qenani *et al.* (2014); Pan and Lee (2011)
	Institution/University Reputation	Alessandri *et al.* (2007); Qenani *et al.* (2014); Smith *et al.* (2000); Chou and Shen (2012); Dale and Krueger (2002)
	Programme Reputation	Brint *et al.* (2011), Helgesen and Nesset (2007), McGuinness (2003)
	Academic Credentials	Tomlinson (2008); Baruch and Peiperl (2000); Mihail and Elefteria (2006); Waters (2009)
Pre-graduate Work Experience, Career and Job Seeking Skills	Interviewing Skills	McQuaid and Lindsay (2005); Parton *et al.* (2002); Harvey *et al.* (2002)
	Attitude towards work	Worth (2002); Seibert *et al.* (1999); Worth (2003); Tomlinson (2007); Cappelli (1995)
	Job Seeking Skills	McQuaid and Lindsay (2005); Worth (2003); Lo Presti and Pluviano (2015); Mcquaid (2006); Onyishi *et al.* (2015); Rothwell and Arnold (2007)
	Self-Confidence	Chowdhury *et al.* (2002), Wiener *et al.* (1999), Knouse *et al.* (1999); Pool and Sewell (2007); Qenani *et al.* (2014); Masole and Van Dyk (2016)
	Pre-graduate work experience - Internship	Callanan and Benzing (2004), Gault *et al.* (2010), Gabris and Mitchell (1989); Stiwne and Jungert (2010), Muldoon (2009); Pool and Sewell (2007); Heyler and Lee (2014); Ehiyazaryan and Barraclough (2009); Jackling and Natoli (2015)
	Extra-Curricular Activities	Thompson *et al.* (2013); Stiwne and Jungert (2010); Vermeulen and Schmidt (2008)
External Factors	Labour Market Awareness	Jackson (2013); Tomlinson (2009); Tomlinson (2007); McQuaid and Lindsay (2005); Chou and Shen (2012); Wittekind *et al.* (2010); De Cuyper *et al.* (2014)
	Labour Market Conditions	Jackson (2013); Boden and Nedeva (2010); Tomlinson (2009); Bernston *et al.* (2006); McQuaid and Lindsay (2005)
	Government Policy	Murphy and Calway (2008); Boden and Nedeva (2010); McQuaid and Lindsay (2005); Sin *et al.* (2016)
	Personal and Family Circumstances	Jackson (2013); Baum *et al.* (2007); Hillage and Pollard (1998); Croll (2008), McQuaid and Lindsay (2005)

SURVEY QUESTIONNAIRE

THE RELATIONSHIP BETWEEN SELF-DIRECTEDNESS IN LEARNING AND EMPLOYABILITY: A STUDY AT A PRIVATE UNIVERSITY IN DUBAI, UNITED ARAB EMIRATES.

CONFIDENTIALITY

The views expressed in the completed questionnaire will be treated in strictest confidence. Any information identifying the respondents will NOT be disclosed

Section 1: Self- Perceived Employability Scale

Instruction: Section 1 of this questionnaire is designed to gather data on **Self-perceived employability**. After reading each statement, please indicate the degree to which you feel that statement is true to you based on the five point scales mentioned below. Please circle the number which best indicates your opinion about each of the following statements. Your first reaction to the statement will usually be the most accurate. **Scoring based on five point scale:**

1. **Strongly disagree (SD)**
2. **Disagree (D)**
3. **Neither agree nor disagree (N)**
4. **Agree (A)**
5. **Strongly agree (SA)**

No.	Statements	SD	D	N	A	SA
1	I achieve high grades in relation to my studies	1	2	3	4	5
2	I regard my academic work as top priority	1	2	3	4	5
3	Employers are eager to employ graduates from my university	1	2	3	4	5
4	The status of this university is a significant asset to me in job seeking	1	2	3	4	5
5	Employers specifically target this university in order to recruit individuals from my subject area(s)	1	2	3	4	5
6	My university has an outstanding reputation in my field(s) of study	1	2	3	4	5
7	A lot more people apply for my degree than there are places available	1	2	3	4	5
8	My chosen subject(s) rank(s) highly in terms of social status	1	2	3	4	5
9	People in the career I am aiming for are in high demand in the external labour market	1	2	3	4	5
10	My degree is seen as leading to a specific career that is generally perceived as highly desirable	1	2	3	4	5
11	There is generally a strong demand for graduates at the present time	1	2	3	4	5
12	There are plenty of job vacancies in the geographical area where I am looking	1	2	3	4	5
13	I can easily find out about opportunities in my chosen field	1	2	3	4	5
14	The skills and abilities that I possess are what employers are looking for	1	2	3	4	5
15	I am generally confident of success in job Interviews and selection events	1	2	3	4	5
16	I feel I could get any job so long as my skills and experience are reasonably relevant	1	2	3	4	5
17	I want to be in a position to do mostly work which I really like	1	2	3	4	5
18	I am satisfied with the progress I have made meeting my goals for the development of new skills	1	2	3	4	5
19	I have clear goals for what I want to achieve in life	1	2	3	4	5
20	I regard myself as highly ambitious	1	2	3	4	5
21	I feel it is urgent that I get on with my career development	1	2	3	4	5

No.	Statements	SD	D	N	A	SA
22..	What I do in the future is not really important	1	2	3	4	5
23	I talk up this university to my friends as a great university to be at	1	2	3	4	5
24	I would have accepted almost any type of course offer in order to come to this university	1	2	3	4	5
25	I find that my values and this university's values are very similar	1	2	3	4	5
26	I am proud to tell others that I am at this university	1	2	3	4	5
27	Being at this university really inspires the best in me in the way of study performance	1	2	3	4	5
28	I am extremely glad I chose this university over others I was considering at the time I joined	1	2	3	4	5
29	I really care about this university and its future	1	2	3	4	5
30	For me this is the best of all universities to be a member of References	1	2	3	4	5

Section 2: Self-Perceived Employability Factors

Instruction: Section 2 of this questionnaire is designed to gather data on **Self-perceived employability** factors. Below is the list of factors which will affect students' employability. We would like you to rate the level of influence of each factor affecting your employability. Please circle the number which best indicates your opinion for each of employability factors. **Scoring based on five point scale:**

1. **Not at all Influential (NI)**
2. **Slightly Influential (SLI)**
3. **Somewhat Influential (SOI)**
4. **Very Influential (VI)**
5. **Extremely Influential (EI)**

No.	Employability Factors	NI	SLI	SOI	VI	EI
1	Problem Solving Skills	1	2	3	4	5
2	Emotional Intelligence	1	2	3	4	5
3	Cultural Awareness Skills	1	2	3	4	5
4	Pre-graduate Work Experience (i.e. Internship)	1	2	3	4	5
5	Written Communication Skills	1	2	3	4	5
6	Verbal Communication Skills	1	2	3	4	5
7	Listening Skills	1	2	3	4	5
8	Professionalism	1	2	3	4	5
9	Interpersonal Skills	1	2	3	4	5
10	Critical thinking Skills	1	2	3	4	5
11	Creative thinking Skills	1	2	3	4	5
12	Leadership Skills	1	2	3	4	5

No.	Employability Factors	NI	SLI EI	SOI	VI	
13	Ability to Adapt to Technology	1	2	3	4	5
14	Job Specific Competencies	1	2	3	4	5
15	Job Specific Technical Skills	1	2	3	4	5
16	Knowledge of Software (Computer Software)	1	2	3	4	5
17	Academic Performance	1	2	3	4	5
18	Institution/University Reputation	1	2	3	4	5
19	Programme Reputation	1	2	3	4	5
20	Labour Market Awareness	1	2	3	4	5
21	Interviewing Skills	1	2	3	4	5
22	Self-Confidence	1	2	3	4	5
23	Project Management Skills	1	2	3	4	5
24	Job Seeking Skills	1	2	3	4	5
25	Attitude Towards Work	1	2	3	4	5
26	Academic Credentials	1	2	3	4	5
27	Labour Market Conditions	1	2	3	4	5
28	Personal & Family Circumstances	1	2	3	4	5
29	Extra-Curricular Activities	1	2	3	4	5
30	Government Policy	1	2	3	4	5

Section 3: Learning Experience Scale

Instruction: Section 3 of this questionnaire is designed to gather data on your learning experience. There are no "right" answers to these statements, which pertain to your recent learning experiences in university - not just those experiences from your current classes or courses. After reading each statement, please indicate the degree to which you feel that statement is true to you based on the five point scales mentioned below. Please circle the number which best indicates your opinion about each of the following statements. Your first reaction to the statement will usually be the most accurate. **Scoring based on five point scale:**

1. **Strongly disagree (SD)**
2. **Disagree (D)**
3. **Sometimes (S)**
4. **Agree (A)**
5. **Strongly agree (SA)**

No.	Statements	SD	D	S	A	SA
1	I am confident in my ability to consistently motivate myself.	1	2	3	4	5
2	I frequently do extra work in a course just because I am interested.	1	2	3	4	5
3..	I don't see any connection between work I do for my courses and my personal goals and interests.	1	2	3	4	5
4	If I am not doing as well as I would like in a course, I always independently make the changes necessary for improvement.	1	2	3	4	5

No.	Statements	SD	D	S	A	SA
5	I always effectively take responsibility for my own learning.	1	2	3	4	5
6..	I often have a problem motivating myself to learn.	1	2	3	4	5
7	I am very confident in my ability to independently prioritise my learning goals.	1	2	3	4	5
8	I complete most of my college activities because I WANT to, not because I HAVE to.	1	2	3	4	5
9	I would rather take the initiative to learn new things in a course rather than wait for the instructor to foster new learning.	1	2	3	4	5
10	I often use materials I've found on my own to help me in a course.	1	2	3	4	5
11..	For most of my classes, I really don't know why I complete the work I do.	1	2	3	4	5
12	I am very convinced I have the ability to take personal control of my learning.	1	2	3	4	5
13..	I usually struggle in classes if the professor allows me to set my own timetable for work completion.	1	2	3	4	5
14	Most of my work I do in my courses is personally enjoyable or seems relevant to my reasons for attending college.	1	2	3	4	5
15	Even after a course is over, I continue to spend time learning about the topic.	1	2	3	4	5
16..	The primary reason I complete course requirements is to obtain the grade that is expected of me.	1	2	3	4	5
17	I often collect additional information about interesting topics even after the course has ended.	1	2	3	4	5
18..	The main reason I do the course activities is to avoid the feeling guilty or getting a bad grade.	1	2	3	4	5
19	I am very successful at prioritizing my learning goals.	1	2	3	4	5
20..	Most of the activities I complete for my college classes are NOT really personally useful or interesting.	1	2	3	4	5
21..	I am really uncertain about my capacity to take primary responsibility for my learning.	1	2	3	4	5
22..	I am unsure about my ability to independently find needed outside materials for my courses	1	2	3	4	5
23	I always effectively organise my study time.	1	2	3	4	5
24..	I don't have much confidence in my ability to independently carry out my student plans.	1	2	3	4	5
25..	I always rely on the instructor to tell me what I need to do in the course to succeed.	1	2	3	4	5

Section 4: About You

Instruction: Finally, we would like to know a little bit about you. Please do not write your name on this survey. All information gathered will be treated as confidential and used only for research purposes. Please answer each question by placing a tick (√) in the relevant space or by briefly stating details

1. Gender

1	Male	
2	Female	

2. Age

1	< 21	
2	21-24	
3	25-28	
4	29-32	
5	33+	

3. Nationality :

_____

4. What is your course title :

_____

5. Current Year of study :

1	Year 1	
2	Year 2	

6. Your Current Cumulative Grade Point Average (CGPA) in this course?

1	< 2.50	
2	2.50 to 2.74	
3	2.75 to 2.99	
4	3.0 to 3.24	
5	3.25 to 3.49	
6	3.50 to 3.74	
7	3.75 to 3.99	
8	4.00	

7. Years of Work Experience (Not counting internship)

1	No working experience	
2	Less than a year	
3	1 to 3 years	
4	4 to 6 years	
5	7 to 9 years	
6	10 years or more	

8. If appropriate, what was your full time occupation before you joined this course?

1	I was at University/College	
2	I was working (Please specify what you were doing / Position): _____	

9. What were your qualifications when you joined this course?

1	Bachelor Degree	
2	Postgraduate certificate or Diploma	
3	Master Degree	
4	Others (please specify) : _____	

Thank you very much for taking the time to complete this survey. Your help in providing this information is greatly appreciated. If there is anything else you would like to tell us about, please do so in the space provided below :

_____

_____

_____

_____

_____

Thank you. All the best!

Appendix C : Online Survey Questionnaires Using Survey Monkey (PRO-SDLS, SPESUS and SPEF) – University 2

Exploring The Relationship Between Self-Directedness in Learning and Employability

Welcome to My Survey

Thank you for agreeing to take part in this research on'Exploring The Relationship between Self-directedness in Learning and Employability'. The research findings hope to be beneficial for institutions of higher learning educators and education policy makers in developing better learning courses/programmes that can improve the employability of students in the labour market.

Participation is voluntary, and participant may withdraw at any time.

The survey consists of answering questions and may take approximately 15 minutes.

Your input is very important to me and will be kept strictly confidential and used only for my research, academic conferences and peer-reviewed journal paper.

Once again, thank you for your participation. Please let me know if you have any question.

Yours sincerely,
Kenny Chong
University of Leicester
Email: skc32@le.ac.uk

* 1. Consent - Please select your choice below.

Clicking on the 'Agree' button indicates that
1) You have read the above information
2) You voluntarily agree to participate in this survey
3) You understand that any information I provide during the survey is confidential/anonymous and will not be used for any purpose other than the research project outlined above

- ◯ **Agree / I will take the survey**
- ◯ **Disagree / I will not take the survey**

1

Exploring The Relationship Between Self-Directedness in Learning and Employability

Section 1: Self- Perceived Employability Scale

Instruction: Section 1 of this questionnaire is designed to gather data on self-perceived employability. After reading each statement, please indicate the degree to which you feel that statement is true to you based on the five point scales mentioned below. Please select the answer which best indicates your opinion about each of the following statements. Your first reaction to the statement will usually be the most accurate. Scoring based on five point scale:

1. **Strongly disagree (SD)**
2. **Disagree (D)**
3. **Neither agree nor disagree (N)**
4. **Agree (A)**
5. **Strongly agree (SA)**

* 1. I achieve high grades in relation to my studies

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Neither agree nor disagree (N) ◯ Agree (A) ◯ Strongly agree (SA)

* 2. I regard my academic work as top priority

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Neither agree nor disagree (N) ◯ Agree (A) ◯ Strongly agree (SA)

* 3. Employers are eager to employ graduates from my university

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Neither agree nor disagree (N) ◯ Agree (A) ◯ Strongly agree (SA)

* 4. The status of this university is a significant asset to me in job seeking

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Neither agree nor disagree (N) ◯ Agree (A) ◯ Strongly agree (SA)

* 5. Employers specifically target this university in order to recruit individuals from my subject area(s)

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Neither agree nor disagree (N) ◯ Agree (A) ◯ Strongly agree (SA)

* 6. My university has an outstanding reputation in my field(s) of study

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Neither agree nor disagree (N) ◯ Agree (A) ◯ Strongly agree (SA)

* 7. A lot more people apply for my degree than there are places available

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Neither agree nor disagree (N) ◯ Agree (A) ◯ Strongly agree (SA)

* 8. My chosen subject(s) rank(s) highly in terms of social status

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Neither agree nor disagree (N) ◯ Agree (A) ◯ Strongly agree (SA)

* 9. People in the career I am aiming for are in high demand in the external labour market

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 10. My degree is seen as leading to a specific career that is generally perceived as highly desirable

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 11. There is generally a strong demand for graduates at the present time

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 12. There are plenty of job vacancies in the geographical area where I am looking

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 13. I can easily find out about opportunities in my chosen field

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 14. The skills and abilities that I possess are what employers are looking for

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 15. I am generally confident of success in job Interviews and selection events

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 16. I feel I could get any job so long as my skills and experience are reasonably relevant

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 17. I want to be in a position to do mostly work which I really like

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 18. I am satisfied with the progress I have made meeting my goals for the development of new skills

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 19. I have clear goals for what I want to achieve in life

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 20. I regard myself as highly ambitious

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

3

* 21. I feel it is urgent that I get on with my career development

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 22. What I do in the future is not really important

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 23. I talk up this university to my friends as a great university to be at

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 24. I would have accepted almost any type of course offer in order to come to this university

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 25. I find that my values and this university's values are very similar

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 26. I am proud to tell others that I am at this university

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 27. Being at this university really inspires the best in me in the way of study performance

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 28. I am extremely glad I chose this university over others I was considering at the time I joined

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 29. I really care about this university and its future

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

* 30. For me this is the best of all universities to be a member of References

Strongly disagree (SD) Disagree (D) Neither agree nor disagree (N) Agree (A) Strongly agree (SA)

Exploring The Relationship Between Self-Directedness in Learning and Employability

Section 2: Self-Perceived Employability Factors

Instruction: Section 2 of this questionnaire is designed to gather data on self-perceived employability factors. Below is the list of factors which will affect students' employability. We would like you to rate the level of influence of each factor affecting your employability. Please select the answer which best indicates your opinion for each of employability factors. Scoring based on five point scale:

1. **Not at all Influential (NI)**
2. **Slightly Influential (SLI)**
3. **Somewhat Influential (SOI)**
4. **Very Influential (VI)**
5. **Extremely Influential (EI)**

* 1. Employability Factors

	Not at all Influential	Slightly Influential (SLI)	Somewhat Influential (SOI)	Very Influential (VI)	Extremely Influential (EI)
Problem Solving Skills	○	○	○	○	○
Emotional Intelligence	○	○	○	○	○
Cultural Awareness Skills	○	○	○	○	○
Pre-graduate Work Experience (i.e. Internship)	○	○	○	○	○
Written Communication Skills	○	○	○	○	○
Verbal Communication Skills	○	○	○	○	○
Listening Skills	○	○	○	○	○
Professionalism	○	○	○	○	○
Interpersonal Skills	○	○	○	○	○
Critical thinking Skills	○	○	○	○	○
Creative thinking Skills	○	○	○	○	○
Leadership Skills	○	○	○	○	○
Ability to Adapt to Technology	○	○	○	○	○
Job Specific Competencies	○	○	○	○	○
Job Specific Technical Skill	○	○	○	○	○

	Not at all Influential	Slightly Influential (SLI)	Somewhat Influential (SOI)	Very Influential (VI)	Extremely Influential (EI)
Knowledge of Software (Computer Software)	○	○	○	○	○
Academic Performance	○	○	○	○	○
Institution/University Reputation	○	○	○	○	○
Programme Reputation	○	○	○	○	○
Labour Market Awareness	○	○	○	○	○
Interviewing Skills	○	○	○	○	○
Self-Confidence	○	○	○	○	○
Project Management Skills	○	○	○	○	○
Job Seeking Skills	○	○	○	○	○
Attitude Towards Work	○	○	○	○	○
Academic Credentials	○	○	○	○	○
Labour Market Conditions	○	○	○	○	○
Personal & Family Circumstances	○	○	○	○	○
Extra-Curricular Activities	○	○	○	○	○
Government Policy	○	○	○	○	○

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Exploring The Relationship Between Self-Directedness in Learning and Employability

Section 3: Learning Experience Scale

Instruction: Section 3 of this questionnaire is designed to gather data on your learning experience. There are no "right" answers to these statements, which pertain to your recent learning experiences in university - not just those experiences from your current classes of the courses/programmes. After reading each statement, please indicate the degree to which you feel that statement is true to you based on the five point scales mentioned below. Please select the answer which best indicates your opinion about each of the following statements. Your first reaction to the statement will usually be the most accurate. Scoring based on five point scale:

1. **Strongly disagree (SD)**
2. **Disagree (D)**
3. **Sometimes (S)**
4. **Agree (A)**
5. **Strongly agree (SA)**

* 1. I am confident in my ability to consistently motivate myself

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Sometimes (S) ◯ Agree (A) ◯ Strongly agree (SA)

* 2. I frequently do extra work in a course just because I am interested

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Sometimes (S) ◯ Agree (A) ◯ Strongly agree (SA)

* 3. I don't see any connection between work I do for my courses and my personal goals and interests

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Sometimes (S) ◯ Agree (A) ◯ Strongly agree (SA)

* 4. If I am not doing as well as I would like in a course, I always independently make the changes necessary for improvement

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Sometimes (S) ◯ Agree (A) ◯ Strongly agree (SA)

* 5. I always effectively take responsibility for my own learning

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Sometimes (S) ◯ Agree (A) ◯ Strongly agree (SA)

* 6. I often have a problem motivating myself to learn

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Sometimes (S) ◯ Agree (A) ◯ Strongly agree (SA)

* 7. I am very confident in my ability to independently prioritise my learning goals

◯ Strongly disagree (SD) ◯ Disagree (D) ◯ Sometimes (S) ◯ Agree (A) ◯ Strongly agree (SA)

* 8. I complete most of my college activities because I WANT to, not because I HAVE to

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 9. I would rather take the initiative to learn new things in a course rather than wait for the instructor to foster new learning

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 10. I often use materials I've found on my own to help me in a course

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 11. For most of my classes, I really don't know why I complete the work I do

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 12. I am very convinced I have the ability to take personal control of my learning

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 13. I usually struggle in classes if the professor allows me to set my own timetable for work completion

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 14. Most of my work I do in my courses is personally enjoyable or seems relevant to my reasons for attending college

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 15. Even after a course is over, I continue to spend time learning about the topic

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 16. The primary reason I complete course requirements is to obtain the grade that is expected of me

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 17. I often collect additional information about interesting topics even after the course has ended

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 18. The main reason I do the course activities is to avoid the feeling guilty or getting a bad grade

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 19. I am very successful at prioritizing my learning goals

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

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* 20. Most of the activities I complete for my college classes are NOT really personally useful or interesting

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 21. I am really uncertain about my capacity to take primary responsibility for my learning

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 22. I am unsure about my ability to independently find needed outside materials for my courses

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 23. I always effectively organise my study time

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 24. I don't have much confidence in my ability to independently carry out my student plans

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

* 25. I always rely on the instructor to tell me what I need to do in the course to succeed

Strongly disagree (SD) Disagree (D) Sometimes (S) Agree (A) Strongly agree (SA)

Exploring The Relationship Between Self-Directedness in Learning and Employability

Section 4: About You

Instruction: Finally, we would like to know a little bit about you. Please do not write your name on this survey. All information gathered will be treated as confidential and used only for research purposes. Please answer each question by choosing the answers provided or in the relevant space or by briefly stating details

* 1. Gender

◯ Male ◯ Female

* 2. Age

◯ < 21 ◯ 21-24 ◯ 25-28 ◯ 29-32 ◯ 33+

3. Nationality (optional)

4. What is your course/programme title (i.e. BA (Mgmt), MBA, MSc etc)

* 5. Current Year of study

◯ 1 ◯ 2 ◯ 3 ◯ 4

* 6. Your Current Cumulative Grade Point Average (CGPA) in this course?

◯ < 2.50
◯ 2.50 to 2.74
◯ 2.75 to 2.99
◯ 3.0 to 3.24
◯ 3.25 to 3.49
◯ 3.50 to 3.74
◯ 3.75 to 3.99
◯ 4.00
◯ Not Available / Unknown

* 7. Years of Work Experience (Not counting internship)

◯ No working experience
◯ Less than a year
◯ 1 to 3 years
◯ 4 to 6 years
◯ 7 to 9 years
◯ 10 years or more

8. If appropriate, what was your full time occupation before you joined this course?

I was at University/College I was working

* 9. What were your highest qualification when you joined this course?

Bachelor Degree Postgraduate certificate or Diploma Master Degree Others

10. Would you consider furthering your study after you graduated from this course?

Yes No

11

Exploring The Relationship Between Self-Directedness in Learning and Employability

Thank You

Thank you very much for taking the time to complete this survey. Your help in providing this information is greatly appreciated.

12

Appendix D : Data Protection/Informed Consent Letter

DATA PROTECTION/INFORMED CONSENT LETTER - SURVEY

Dear Participant

Thank you very much for agreeing to take part in this research on **the relationship between self-directedness in learning and employability: A study at a private university in Dubai, United Arab Emirates**. I greatly appreciate you giving up your time in order to help me. I am undertaking this project as a part of a Doctorate degree which I am studying with the University of Leicester. The project I am working on is to explore the empirical relationship between **self-directedness in learning** and employability of university students using quantitative analysis. The research findings hope to be beneficial for institutions of higher learning educators and education policy makers in developing effective programmes that can improve the employability of students in the labour market. You were selected to take part in this research.

You can withdraw from the study at any time if you feel that is necessary. If you are happy to take part in the research, however, I will ask you to sign a consent form giving your agreement. You can still withdraw from the research after signing the form.

The survey will last for approximately 20 minutes. I will request you to answer a set of questions from a questionnaire survey booklet. I would like to reassure you that the information which you provide in the course of the interview will be treated in the strictest of confidence. All data collected will be treated in accordance with ethical codes set out by the University of Leicester. In addition, your answers will be unattributed to either yourself or to any organization which you work for or have worked for. The data gathered during the questionnaire survey will only be used for my Doctorate thesis, academic conferences and peer-reviewed journal paper. Your own data will be completely anonymous and you will not be identifiable, where relevant, that data will be aggregated, so that no individual data are presented.

Once again, thank you very much for your participation. If you have any questions at any stage of the project please do not hesitate to contact me.

Yours sincerely,

Kenny Chong Sei Khong
Doctorate of Social Science Student.
University of Leicester, UK

INFORMED CONSENT FORM - SURVEY

The relationship between self-directedness in learning and employability: a study at a private university in Dubai, United Arab Emirates

I agree to take part in a questionnaire survey as part of the above named project. The research has been clearly explained to me and I have read and understood the participant informed consent letter. I understand that by signing the consent form I am agree to participate in this research and that I can withdraw from the research at any time. I understand that any information I provide during the survey is confidential and will not be used for any purpose other than the research project outlined above. The data will not be shared with any other organization.

Name: ……

Signature:…… Date: ……

Appendix E : Permission to use PRO-SDLS

Re: Permission to use PRO-SDLS Questionnaire

Susan Stockdale [sstockda@kennesaw.edu]
Sent: 17 June 2013 04:05
To: Sei K. Chong [skc32@leicester.ac.uk]
Attachments: A Learning Experience Scale.pdf (62 KB) ; Scoring A Learning Experie~1.pdf (65 KB)

HI,
Thank you for your interest in the scale. Here is the scale and scoring directions. I would appreciate a copy of your results.

Susan Stockdale, Ph.D.
Associate Dean of Graduate Studies
Associate Professor of Educational Psychology and Middle Grades Education
Kennesaw State University

Email:
sstockda@kennesaw.edu
Phone: 678-797-2060

From: "Sei K. Chong" <skc32@leicester.ac.uk>
To: sstockda@kennesaw.edu
Cc: Kcsk@yahoo.com
Sent: Saturday, June 15, 2013 2:34:06 PM
Subject: Permission to use PRO-SDLS Questionnaire

Hi Dr Susan

I have read your paper published at the Adult Education Quarterly on Development of the PRO SDLS and I got your email from there.

Let me first introduce myself, I am a doctorate of social science student from University of Leicester, UK. Professionally, I am working with Standard Chartered Bank Dubai, United Arab Emirates as Human Resources Manager. I am currently working on my doctorate thesis proposal and the title of my research is **Self-directedness in learning** and predictors of employability: A study at a private institution of higher learning in Dubai, United Arab Emirates.

I have been looking for relevant instruments to measure **Self-directed learning** readiness. I have found one of SDL first instruments – SDLRS development by Dr Guglielmino in 1977. Uunfortunately, the Guglielmino's SDLRS is not readily available and will incur high cost to purchase it to cover my research populations (approx 150 MBA students). After reading your paper, I could potentially use the scale you have developed in my research. Besides, PRO-SDLS is the newest instrument to measure SDL ability.

One of the objectives of my study is to identify the relationship between self-directed readiness of postgraduate business students and employability of these students (mainly students who have graduated between 6 months till 12 months and also final year student who will be graduated in 6 months time). I interested to know if students with high self-directed readiness will have high score in employability scale.

I would like to seek for permission if I could use your research questionnaire on measuring SDL as part of my research. I would really grateful if I could get a copy of the questionnaire.

Thank you and looking forward to hearing from you.

Thanks

Kenny Chong

Appendix F : Permission to use SPESUS

Re: Employability

ANDREW ROTHWELL [andrewrothwell@btinternet.com]
Sent: 11 June 2013 12:04
To: Chong, Sei K. [skc32@leicester.ac.uk]

Kenny,

Happy to help. The scales have been used in various contexts, mostly by Phd students, including Turkey, USA, various European countries, so Dubai is a new one. You are very fortunate to work there - I may well take up your offer if I visit. Keep in touch

Andrew

From: "Chong, Sei K." <skc32@leicester.ac.uk>
To: ANDREW ROTHWELL <andrewrothwell@btinternet.com>; "skc32@leicester.ac.uk" <skc32@leicester.ac.uk>
Cc: "a.t.rothwell@lboro.ac.uk" <a.t.rothwell@lboro.ac.uk>
Sent: Monday, 10 June 2013, 20:58
Subject: RE: Employability

Hi Dr Andrew

First of all thank you very much for taking time to reply my email. I really appreciate this. I am still in the early stage of my research proposal and the journals, website links and information you have shared me will definitely help me in my research. Employability is a new area to me. Hence, I am trying to read as much as I can before I develop my research framework. While I was completing one of my doctorate modules on Youth Transition, I have read some very interesting article on employability skills and learning approach in the Middle East. I am trying to explore if there is any relationship between employability with learning preferences. If you don't mind, I would like to keep in touch with you to further discuss about my research and share with you my research findings.

I live and work in Dubai. If you have plan to visit this part of the world, please do let me know. We can catch up and will show you around Dubai.

Once again, thank you very much for sharing with me your research papers.

Regards

Kenny

From: ANDREW ROTHWELL [andrewrothwell@btinternet.com]
Sent: 10 June 2013 17:39
To: skc32@leicester.ac.uk
Cc: a.t.rothwell@lboro.ac.uk
Subject: Employability

Kenny, apologies for the delay in replying. Thank you once again for your interest in my research. You probably came across it via the Personnel review paper which has over 100 citations but there is a lot of work apart from that. I am attaching a variety of information. Because there is a lot attached to this email please could you confirm receipt - I want to make sure that you've received it.

I attach:

1. Some journal articles of mine - the personnel review one was the original paper I did based on my PhD which I did quite late in life - I was 45 when I graduated! I am still writing on this topic, I just had a rejection on my latest paper, but you just have to accept these things sometimes.

2. Questionnaires - you will be able to match these with the papers - the 'Nottingham' one goes with the personnel review paper which was about professional people, and then there is one about undergrads (Bachelor degree students) and one about postgrads (MBA's and similar). Yes ....these were administered on paper as things like 'surveymonkey' were less common back in 2001-2007. I would not recommend you gather data this old-fashioned way as the data entry takes ages. Use an e-survey, load the results into excel, then into SPSS (now called PASW statistics). I strongly recommend Julie Pallant's 'SPSS survival manual'.

3, Some resources including articles by other people who have cited my work, eg. Lorraine Dacre Pool

4 Now some weblinks:

This first one is a web-based discussion group mostly in the UK. If you are interested in employability I recommend you subscribe to it.

https://www.jiscmail.ac.uk/cgi-bin/webadmin?A1=ind1202&L=EMPLOYABILITY-DEVELOPMENT

This is an EdD (Education Doctorate) from the USA that used my work (quite a lot, in my opinion, but I am ok with that) http://via.library.depaul.edu/soe_etd/27/

This is a link to the UK's Higher Education academy employability page

http://www.heacademy.ac.uk/employability

I work at Loughborough University where I do a small amount of teaching, quite a lot of research, and also PhD supervision. I've attached my work email on the 'cc' line. Finally, the email ends with a reading list on employability and related stuff. This isn't 100% comprehensive but covers quite a lot of the key texts. Enjoy!

Kind Regards

Andrew Rothwell

Appendix G : Comparisons of correlational statistics of PRO-SDLS and SPESUS with question 22 removed (University 1)

Impact on Outcome if Emp 22RS removed (omitted) #

Scale Inter-Correlations Statistics of PRO-SDLS & SPESUS

SPESUS & PRO-SDLS Sub-scales & Combined Scales		1	SPE16 & 5QAmb#	2	Amb 5Q#	3	4	5	6	7	8	9
1	Self-perceived employability (SPE)	1										
2	Ambition (6Q)	.550**	X	1	X							
3	University Commitment	.550**	.497**	.135	.214*	1						
4	Individual Employability	.802**	.822**	.596**	.617**	.264*	1					
5	External Employability	.946**	.888**	.435**	.472**	.617**	.564**	1				
6	SPE & Ambition(6Q)	.962**	X	.757**	.762**	.474**	.822**	.557**	1			
7	Initiative	.402**	.474**	.442**	.504**	.077	.494**	.287**	.460**	1		
8	Control	.269*	.368**	.510**	.496**	-.053	.408**	.150	.377**	.555**	1	
9	Self-Efficacy	.058	.146	.345**	.318**	-.273**	.235*	-.048	.158	.333**	.373**	1
10	Motivation	-.017	.041	.220*	.172	-.215*	.147	-.104	.059	.252*	.246*	.625**
11	PRO-SDLS TL (Initiative/ Control)	.386**	.482**	.537**	.567**	.019	.515**	.253*	.487**	.899**	.863**	.399**
12	PRO-SDLS LC (Self-Efficacy /Motivation)	.022	.103	.312**	.271**	-.270*	.211*	-.085	.119	.324**	.342**	.898**
13	Total PRO-SDLS	.219**	.324**	.494**	.482**	-.171	.414**	.077	.333**	.694**	.687**	.814**
14	TOTAL SPESUS	.922**	.919**	.588**	.628**	.792**	.693**	.897**	.913**	.355**	.237*	-.017

**Correlation is significant at the 0.01 (2 tailed)

*Correlation is significant at the 0.05 (2 tailed)

Impact on Outcome if Emp 22RS removed (omitted) #

Internal Consistency Reliability Coefficients of the SPESUS

SPESUS's Variables	Cronbach's Alpha (α)	Impact if item 22RS removed	Inter-Item Mean Correlation Values	Number of Items
Self-perceived employability	0.836	NIL	0.243	16
Ambition	0.641	0.813#	0.280 / 0.464#	6 / 5 #
University Commitment	0.890	NIL	0.507	8
Individual Employability	0.692	NIL	0.275	6
External Employability	0.792	NIL	0.278	10
Self-perceived employability & Ambition	0.857	0.875#	0.228 / 0.255#	22 / 21#
SPESUS Total	0.895	0.905#	0.225 / 0.246#	30 / 29#

**Correlation is significant at the 0.01 (2 tailed)
*Correlation is significant at the 0.05 (2 tailed)