UNIVERSITI PUTRA MALAYSIA

MEASUREMENT OF ENGAGEMENT OF STUDENT-CENTERED LEARNING PRACTICES IN MALAYSIAN HIGHER LEARNING INSTITUTIONS

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FPP 2014 28

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By

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Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

June 2014

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Abstract ofthesis presented to the Senate ofUniversiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy

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June 2014

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Criticisms escalated among relevant stakeholders in the Malaysian job market and Malaysian educational system as allegations were made towards Malaysian Higher Leaming Institutions for not encouraging rehearsal of soft skills among graduates. This stirred deep concems for the lack of student-centered leaming practices in promoting development and rehearsal of soft skills. Through the implementation of the National Higher Education Strategic Plan *(pelan Strategik Pengajian Tinggi Negara, PSPTN),* the fonner Ministry of Higher Education alIDounced that focus will be channeled towards student-centered leaming practices to cultivate development and rehearsal of student-centered leaming practices.

On these convictions, a growing number of Malaysian Higher Leaming Institutions have begun to channel interest in adopting student-centered leaming practice, though it has surfaced to attention that many instructors and students have a general misconception on proper student-centered learning practices. With the theoretical understanding of the student-centered learning being at odds with its pedagogical practice, it is alarming to discover that most instruments currently available only measures distinct elements of student-centered leaming practices. As it becomes increasingly uncertain to what extent instructors and students are engaged in student-centered learning practices, this study attempts to develop a statistically valid and reliable instrument to measure student-centered leaming practices in Malaysian Higher Leaming Institutions.

This study adopted a mixed methods research design, commencing with the qualitative phase and completing on a quantitative phase. The study commenced with the qualitative phase which involved in-depth interviews with four professors prominent in their field for advocating student-centered learning practice. The quantitative phase involved development of the items, content validity testing via Delphi technique, face validity and reliability testing through the Validation of Items stage, and construct validity testing via exploratory factor analysis. The sample size

for the factor analysis was 1091 students, randomly selected from the four research universities; namely, Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM), and Universiti Sains Malaysia (USM).

Analysis of the in-depth interview findings led to the emergence of five constructs that describe student-centered learning practices in Malaysian Higher Learning Institutions. These five constructs were meaningful learning, effective assessment, development of soft skills, contextual resources and instructors as facilitators. For each construct, approximately 15-23 items were developed leading to a total of 101 items for the entire instrument. The development of these items was substantiated with excerpt evidences from the in-depth interviews, as well as literature governing student-centered leam.i.ng practice. Based on the Delphi analysis, there were 52 items that were recognized to essentially reflect characteristics of student-centered learning practices in Malaysian Higher Learning Institutions. For the exploratory factor analysis, principal component analysis (PCA) with varimax rotation was used to determine the number of components to retain and categorization of items in their respective components.

Based on these findings, six components and 46 items were retained with a total cumulative variance of 59.921 %; Rehearsal of Soft Skills, Rehearsal of Meaningful Leaming, Rehearsal of Instructor Facilitation, Rehearsal of Effective Assessment, Rehearsal of Self-Regulation, and Rehearsal ofInfonnation Searching Skills.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysis sebagai mel11enuhi keperluan untuk ijazah Doktor Falsafah

PENGUKURAN PENGLIBATAN PELAJAR DALAM AMALAN PEMBELAJARAN BERPUSATKAN PELAJAR DI INSTITUSI PENGAJIAN TINGGI MALAYSIA

Oleh

VIGHNARAJAH

Jun 2014

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Kritikan terhadap lnstitusi Pengajian Tinggi Malaysia oleh pihak yang berkepentingan di pasaran kerja Malaysia dan sistem pendidikan Malaysia semakin meningkat berikutan kurangnya galakkan latihan kemahiran insaniah di kalangan graduan. lni menimbulkan kebimbangan yang mendalam terhadap kekurangan kemahiran insaniah yang l11el11ungkinkan penyebab kepada pengangguran siswazah. Melalui peIaksanaan Pelan Strategik Pengajian Tinggi Negara (PSPTN), bekas Mentel; Pengajian Tinggi mengumumkan bahawa tumpuan akan disalurkan ke arah amalan pembelajaran berpusatkan pelajar untuk memupuk pembangunan dan latihan al11alan pembeIajaran berpusatkan pelajar .

Sehubungan dengan itu, sel11akin banyak Institusi Pengajian Tinggi telah mula l11enyalurkan minat dalam menerimapakai amalan pel11belajaran berpusatkan pelajar, walaupun ia telah l11enil11bulkan perhatian bahawa ramai pengajar dan peIajar mempunyai miskonsepsi mengenai amalan pembelajaran berpusatkan pelajar yang betul. Dengan pel11ahaman teori pel11belajaran berpusatkan pelajar yang masih bertentangan dengan amalan pedagogi, ianya amat l11el11bil11bangkan terutal11a sekali apabila kebanyakan instrumen yang sediada adalah hanya sel11ata-mata untuk l11engukur perbezaan elemen-elemen al11alan pembelajaran berpusatkan pelajar. Memandangkan penglibatan pengajar dan pelajar di dalam al11alan pel11belajaran berpusatkan pelajar l11enjadi semakin tidak menentu, kajian ini beliujuan untuk mel11bangunkan sesuatu skala yang sah dan boleh dipercayai secara statistik untuk l11engukur amalan pembeIajaran berpusatkan pelajar di Institusi PengajianTinggi Malaysia.

Kajian 1111 menggunapakai kaedah rekabentuk penyelidikan secara *mixed methodology* yang bennula dengan fasa kualitatif dan dilengkapkan dengan fasa kuantitatif. Kajian ini bennula dengan fasa kualitatif yang melibatkan temubual secara terperinci dengan empat profesor yang terkenal dalam bidang mereka dalal11 l11engamalkan pembelajaran berpusatkan pelajar. Manakala, fasa kuantitatif terlibat dengan pembangunan item, ujian kesahihan kandungan l11elalui teknik Delphi, ujian

kebolehpercayaan melalui kajian perintis dan pembinaan ujian kesahihan melalui kaedah *factor analysis.* Saiz sampel melibatkan 1091 pelajar yang dipilih secara rawak daripada empat universiti penyelidikan; iaitu, Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM), dan Universiti Sains Malaysia (USM).

Analisa ke atas penemuan temubual membawa kepada penemuan lima konstruk yang menerangkan amalan pembelajaran berpusatkan pelajar di Institusi Pengajian Tinggi Malaysia. Lima konstruk tersebut adalah pembelajaran yang bermakna, penilaian yang berkesan, pembangunan kemahiran insaniah, sumber kontekstual dan pengajar sebagai fasilitator. Bagi setiap konstruk, kira-kira 15-23 item telah dibangunkan yang membawa kepada sejumlah 101 item untuk keseluruhan instrumen. Pembangunan item-item ini telah ditunjukkan dengan bukti-bukti petikan dari temubual dan juga literatur mengenai amalan pembelajaran berpusatkan pelajar. Berdasarkan kepada analisis Delphi, terdapat 52 item yang telah diiktiraf sebagai mencerminkan ciri-ciri amalan pembelajaran berpusatkan pelajar di Institusi Pengajian Tinggi Malaysia. Untuk *factor analysis,* analisis komponen utama (PCA) dengan putaran varimax telah digunakan untuk menentukan bilangan komponen untuk mengekalkan dan menyediakan kategori item dalam komponen masing-masing.

Berdasarkan penemuan ini, enam komponen dan 46 item dikekalkan dengan jumlah varians terkumpul 59,921 %; iaitu, Amalan Kemahiran Insaniah, Amalan Pengajian Bermakna, Amalan Pemudahan Pengajar, Amalan Penaksiran Berkesan, Amalan *Self-regulation,* dan Amalan Kemahiran Pencarian Informasi.

ACKNOWLEDGEMENTS

To my Mother Selvarani, I dedicate this thesis to you for your determination in life and for your endless love for me.

I will also like to thank myself for the perseverance in completing the doctoral journey I have started. I most certainly deserve a pat on the back!

Thank you my Lord that I have finally obtained my PhD! Finally! This has certainly been a long, hard struggle and I suppose this makes the achievement all the more fruitful and beautiful. I had initially planned to write a lengthy thank you note, but words will not do justice to those who have guided me through the completion of this thesis.

Nonetheless, I would like to take this opportunity to express my heartfelt gratitude and appreciation to my family and friends for their support and guidance. Thank you!

In this time too, I have had the opportunity to meet many wonderful people who appreciated and upheld the value of knowledge, hardwork and human relationship. Thank you to Dr Nooreen Noordin, Assoc Prof Dr Rohani Ahmad Tarmizi, Assoc Prof Dr Noritah Omar, Assoc Prof Dr Ismi Arif Ismail, Prof Turiman Suandi, Assoc Prof Dr Samsilah Roslan and Prof Khozirah Shaari for your guidance and words of support in times of dire need. Each and everyone of you have helped me in one way or another at important points in my life, and for this, I would be eternally grateful. Without doubt, you are my guiding angels and my Light at the end of the tunnel.

I should also thank the two special people in my life who have catapulted me to this height in my academic life and career. Without you, I would have not matured nor been determined to complete my PhD studies. Without you, I would have not known what it means to be privileged to learn and guide others to learn. Without you, I would not have discovered the strength and perseverance in me. Without you, I would not have learnt the colors of human relationship. And so, I thank you!!

Finally, I would like to extend my appreciation to all those who have inspired me to achieve the finer things in life and made me appreciate learning. Om…

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The chapter begins with highlight on the need to introduce student-centered learning in Malaysian Higher Learning Institutions. Subsequently, the discussion focuses on the current scenario of graduate unemployment in Malaysia, and continues to justify how this scenario relates to poor cultivation of soft skills due to poor rehearsal of student-centered learning practice. The chapter then directs the readers with a general description as to the current student-centered learning practices in Malaysian Higher Leaming Institutions. Having established the relationship between graduate unemployment, development of soft skills and the student-centered learning approach, the chapter then continues to briefly provide findings of research conducted in and out of Malaysia justifying the need for the development of the Student-Centered Learning Scale. Finally, the chapter chalmels attention to aspects imperative to the study, namely, the problem statement, objective of the study, hypotheses of the study, significal1ce of the study, limitations of the study and the definition of ten11S.

1.1 The Need to Introduce Student-Centered Learning in Malaysian Higher Learning Institutions

In recent decades, the Malaysian educational landscape had undergone a revolutionary transfonnation in various aspects, with deliberate magnitude in students and instructors' participation in the teaching and learning process. This change led to several positive repercussions such as development and rehearsal of soft skills and enhancement of graduates' employability skills. While the introduction of student-centered learning in the Malaysian educational system may have been gravely provoked by the alarming rates of graduate unemployment, it is important to recognize that there were several other factors that highlighted the urgent need to further establish effective student-centered learning practices in Malaysian Higher Education Institutes. The ensuing discussion attempts to highlight these factors with hope to better understand its role and importance in the context of study.

The novelty of injecting student-centered learning practices in the teaching and learning process in Malaysian Higher Education Institutes comes from the candid realization that the chalk and talk method of the traditional classroom approach is simply no longer applicable in this educational era. The fonner Minister of Higher Education Malaysia, Y.B. Dato' Seri Mohamed KJ1aled Nordin, asserted that the traditional teaching approach is no longer appropriate to mould graduates for the workplace, and hence called for the implementation of student-centered learning practices (Mohalned KJ1aled, 2009). As addressed in the 7th National Plan (1996-2000), the stakeholders fall back on the fundamental philosophy addressed in Malaysian Vision 2020; a catalyst of cOlmnitment and refonnation that outlines the anticipated future of the educational sector:

> "Malaysia needs to make the critical transItion from an industrial economy to a leader in the information age. In order to make this vision is reality, Malaysian need to make a fundamental shift towards a more technologically literate, thinking workforce, able to perform in a global work environment and use the tools available in the infonnation age. To make this shift, the education system must undergo a radical transformation."
>
> (Ministry of Education Malaysia, 1997, p.l)

At the same time, residual repercussions on the change of economy interaction substantially increased the expectation of employers. Graduates were expected to perfonn as experienced staff, ignoring the fact that they were fresh graduates who still had much to leam from their workplace experience. Unfortunately, it was an obvious fact that universities were chuming students who were not able to cope with expectations of the workplace. Soft skills were seriously lacking and this was particularly a growing concern for graduates, employers and the universities.

Despite numerous assurances given by instructors and universities alike on having the same opinion of implementing student-centered learning in classroom practices, it was regrettable to found that there were misconceptions on rehearsing student-centered learning. Lim (2012, p.25) argues that instructors were claiming to practice student-centered leaming when they were clearly unaware of the philosophy that supports effective student-centered leaming practice: "Academic staff may find the SCL approach very discomforting because it requires giving up their role as authoritative content experts to become facilitators of leaming. Many are reluctant to lay down their collection of teaching slides and releam how to teach in a new **envirorunent."**

This concem was also raised in The National Graduate Employability Blueprint 2012-2017 (MOE, 2012, p.8) in which it was stated that "What is urgently needed is for the learning outcomes of all courses to be clearly defined so that the exit attributes are evident. It is a fact that IHL, leaming outcomes (LOs) are theoretically specified, but the problem lies in the disparity between theory and practice". This only substantiates the fact that the understanding of student-centered leaming and its actual practice are at odds.

Seeing these concems, measures were taken in the form of relevant policies to further establish effective student-centered leaming practices. First, promotion of student-centered leaming practices was mandated in The National Higher Education Strategic Plan Beyond 2020: The National Higher Education Action Plan Phase 2 (2011-2015, p.34): "The implementation of PSPTN Phase 2, among others, emphasized on the strengthening the lecturers' capacity in implementing student-centered leaming in teaching and learning activities" Accordingly, the Key Perfonnance Indicators (KPIs) for the Strategic Objectives under this Critical Agenda Projects (CAPs) focuses on the intemalization of student-centered leaming practices in teaching and learning in Malaysian Higher Leaming Institutions. It was subsequently mandated in The National Graduate Employability Blueprint 2012-2017 (MOHE, 2012, p.23) for instructors to promote effective student-centered

learning practices: "The staff [lecturers] would be required to provide a ground for undergraduates as a platfonn for student-centered learning...”

In addition to these measures, the Malaysian Qualifications Agency (MQA) headed by the Ministry of Education Malaysia is also an impoliant stakeholder that further emphasized and monitored effective implementation of student-centered learning practices in Malaysian Higher Learning Institutions. This measure was translated into the auditing of programme accreditation exercise regulated by the MQA and is prerequisite to recognizing the offering a particular pogralmne. This exercise is guided by The Code of Practice for Programme Accreditation (COPPA) that underlines the nine evaluation areas for quality assurance.

Benchmarked against international best practices, the COPPA has been developed by infusing the good practices addressed by the Quality Assurance Division (QAD) of the Ministry of Higher Education and the National Accreditation Board (Lembaga Akreditasi Negara, LAN), with feedback from experts and stakeholders through series of focused-group discussions (MQA, 2013). In Part C of the COPPA document, it was directed for Malaysian Higher Education Institutes to focus on Outcome-based education (OBE). This was taken as an effective measure to assess the learning outcomes of the teaching and learning process while giving equal significance to the fundamental tenets of student-centered learning (Omar, 2013, p.3). He asserted that

> “... this [focus on the students' studies] is a noteworthy comment, as it highlights in a clear way that the focus is no longer the techniques of teaching, but the outcomes of learning. This puts the student at the center (in other words, SCL) when measuring the outcomes of the education process (in other words, OBE)."

He further argued that there is a pressing need to re-educate many of the staff on the values and approaches of student-centered learning considering what is written on papers do not necessarily manifest what is delivered in the classrooms. In the contexts of these concerns, the ensuing discussion will provide further deliberation on some of the vital factors that reasoned the urgent need to introducing and establishing student-centered learning practices in Malaysian Higher Education Institutions.

1.2 The Current Scenario of Graduate Unemployment in Malaysia

In recent years, Malaysia has progressed significantly towards achieving the status of a developed nation in an attempt to transfonn into a productive participant of the global economy. Gurvinder and Sharan (2008, p. 15) provided a concise assertion of this account, stating that "Malaysia is now said to be at the mid-point in its journey towards Vision 2020 and is transfonning to become a developed nation during the second phase of a fifteen year period."

In this attempt, Malaysia has experienced its fair share of economic encumbrances. During the periods of 1980 to 2002, Malaysia faced a threatening economic

recession; only to be further worsened with the unanticipated addition of the 1997's economic crisis (Nazaria, 2009). This precipitous economic regression jeopardized many relevant areas of the economy, surfacing, among others, pertinent issues of unemployment. Nazaria (2009, p. 27) further pointed out that "Theoretically, industrial economies are cyclically sensitive as such when it expands, factors including employment, sales, prices and profits will rise. However, when it contracts, downtums are inevitable and significant." Clearly, the economy and unemployment shares a fragile relationship; thus the customary views of unemployment which denotes a condition to excess supply of labor.

However, Gurvinder and Sharan (2008) argue this current issue of graduate unemployment stems from graduates failing to meet the needs of the workplace. On this account, they pointed out that "... the demand for these graduates [indicating adequate resource of graduates in the fields of information, conununication and technology, business and engineeling] is still low despite the economic growth in the country." (p. 16). Hence, it becomes apparent that many overlook the fact that unemployment also implies a condition due to dissimilarity of skills of the employee with the expectations of the employer (Nazaria, 2009). In fact, it is this fom1 of unemployment that relates the usual comments of graduates obtaining jobs which are ilTelevant to their qualifications such as cashiers and restaurant workers (The Star Online, 2005b) or how some graduate employees actually face bigger challenges in sustaining employability compared to just getting employed (The Star Online, 2009).

His Majesty, the King, brought to attention on this regrettable issue of graduate unemployment, also suggested for smaller number of high-quality graduates rather than larger number of low-quality graduates (The Star Online, 2005a). In a recent speech on enhancing graduates' employability, the fonner Minister of Higher Education Malaysia, Y.B. Dato' Seri Mohamed Khaled Nordin, indicated that "... the ongoing debate on graduate employability is the lack of certain decisive factors that fail to meet the demand of employers." (Mohamed Khaled, 2009, p. 4).

In addition to these usual comments, data on the rising rate of graduate unemployment are also grim. In 2004, it was estimated that there were approximately 16,000 graduates who were unemployed (New Straits Times, 2004a). During the 2007 Budget Speech, the fonner Prime Minister, Dato' Seri Abdullah bin Hj. Alunad Badawi disclosed that there were about 31,000 unemployed graduates by the end of the first quarter of 2006. This figure almost doubled within two years.

Data on percentage distribution of unemployed by persons' educational attainment from the Department of Statistics, Malaysia (2006) also registered alanning values on graduate unemployment. The statistics registered that 88,201 (25.1%) of unemployed persons are unemployed graduates. These values evinces that graduate unemployment is impartial of the graduates' socio-economic status. These figures still seem to be on the rise when the Prime Minister Datuk Seri Najib Tun Razak, during his time as the Deputy Prime Minister, mentioned in March 2009 that there were about 60,000 graduates who were currently unemployed or faced difficulties in attaining jobs (The Star Online, 2009).

Despite these distressing figures of graduate unemployment, employers remain, commenting on the graduates still to be lacking the necessary generic competencies such as communication skills, critical thinking, problem solving skills, team work, leadership skills, and reasoning skills. Roselina (2009) concurs, arguing that this rise in graduate unemployment precipitates specifically from graduates' lack of generic competencies. High-end employers such as Nestle (M) Berhad and Kelly Services Malaysia, for instance, also attests to these claims; constantly signalling the graduates' lack of knowledge and practice of soft skills (New Straits Times, 2004b)

1.3 Generic Competencies as Cultivation of Employability Skills

In recent years, the term generic competencies have acquired other tenns such as success skills (Quek, 2005), basic skills, on-the-job skills (Woo, 2006), employability skills, generic skills, foundation skills, specialized skills (Gurvinder & Sharan, 2008), transferable skills, personal competencies, core skills, soft skills, key skills (Norshima, 2008), skills of the workforce (Mohamed Khaled, 2009), and people-skills (Roselina, 2009).

These tenns are a clear indication that generic competency is a concept which is rather difficult to describe concisely and comprehensively. Evidently, generic competency is a concept that is applied in wide context with even wider meanings. The ensuing discussion highlights elements of generic competencies and their extent of use.

In the study conducted by Quek (2005), twenty elements of generic competencies were identified for work perfonnance; namely, teamwork ability, oral skills, written skills, leadership skills, reporting skills, knowledge-acquiring skills, value-improving skills, adaptability, dependability, problem-solving skills, ilillovative skills, resourcefulness, computer skills, diligence, numerical skills, evaluation skills, research skills, honesty, global understanding ability, and diversity awareness ability. Quek (2005) emphasizes that these generic competencies are necessary to facilitate Malaysian graduates to relate classroom learning to workplace environment in an attempt to improve work performance.

Gurvinder and Sharan (2008) argue that employers are seeking for graduates who are not only able to master the necessary content knowledge, but also able to be receptive to issues that may arise during their tenure. In their study, seven elements of generic competencies were identified and accounted for 65.59% of total variance. These seven elements of generic competencies, recognized as crucial in today's job market, were problem-solving and adaptability skills, human skills, English language proficiency and literacy skills, leT skills, personal organization and time management skills, leadership skills, and cOlmnunication skills. Findings of this study, among others, also indicated that the employer's expectations of the graduates increase with the job position applied within the organization.

On a study on engineering graduates, Shahrin, Hasanan, Wahid, and Danial (2004) listed five generic competencies that were reasoned to be most sought-after in, particularly, among these graduates. The generic competencies were communication

skills, interpersonal or team working skills, problem solving and decision making skills, analytical or numeracy skills and lifelong learning and technology application skills.

Hoping to bridge Australian education to employers' expectations in Malaysia, Ng, Abdullah, Nee and Tiew (2009) emphasized on generic competencies delineated by Curtin University of Technology Graduates Attributes. These generic competencies were as follows: (i) apply discipline knowledge, (ii) principles and concepts, (iii) think critically, creatively and reflectively, (iv) access, (v) evaluate and synthesise infom1ation, (vi) communicate effectively, (vii) use technologies appropriately, (viii) use lifelong leaming skills, (ix) recognise and apply intemational perspectives, (x) demonstrate cultural awareness and understanding, and (xi) apply professional skills.

According to them, these generic competencies were embedded into the curriculum taught at Curtin University of Teclmology Sarawak Campus in hope to match graduates' skills to the employers' expectations. On this account, they emphasized that,

> "The purpose of this policy is to ensure that graduates produced by Curtin University are able to fulfil the needs of industry. It is hoped that what is been taught in class will have to be at par (if not the same) with what the industry are looking for." (p. 311).

Roselina (2009), on the other hand, refelTed to the Malaysian Institute of Higher Leaming guide on generic competencies which were incorporated into Institutes of Higher Leaming curriculum. These generic competencies consists of non-academic skills, namely, conmmnication skills, critical thinking and problem-solving skills, teamwork skills, lifelong leaming and infonnation management skills, entrepreneurship skills, ethics and professional moral, and leadership skills. While in consensus that generic competencies consists of non-academic skills, Woo (2006) further contended that graduates must charmel equal emphasis to their behaviour and mannerism on account that these are also characteristics imperative for leamed scholars. These discussions clearly suggest that generic competencies are essential to prepare graduates to be work-ready (Norshima, 2008).

1.4 Role of Universities in Developing Generic Competencies

In Malaysia, poor development of generic competencies, or rather elements of generic competencies, were precipitated by over-emphasis of exam-based culture. For instance, Ahmad (1998) argued that poor practice of generic competencies was somewhat precipitated by rote leaming styles stressed by the Malaysian educational system. Likewise, Roselina (2009) pointed out that students fail to engage in inquisitive and analytical skills since they are dictated to the usual facts memorization for examination and tests.

Norshima (2008) provided strong evidence to support these comments. In her study seeking the perception of both computer science students and relevant employers regarding issues of graduate unemployment in Malaysia, it was found that 64% of

the respondents blamed the teaching methodologies in universities for not being able to prepare the students for the job market. In further scrutiny of this unfortunate scenario of the graduates produced by Malaysian universities, she disclosed that "They [Malaysian universities] produce graduates [which] are competent theory-wise but have no sufficient practical exposure." (Norshima, 2008, p. 2)

All these comments on rote learning and tedious memorization only points to the ignorance of engaging students in traditional teaching and learning approaches. Ouch, Groh and Allen (200 I) argued that traditional teaching and learning approaches emphasized only on didactic instruction focusing solely on covering a widespread but superficial content area. This approach to learning clearly fosters only rote memorization, wluch literature on teaching and leanling practices has strongly discouraged. Roselina (2009) agrees to these remarks, briefly illustrating the impact of rote learning on Malaysian educational system:

> "Given the long duration (6 years of Primary School and 7 years of High School) that students are exposed to rote learning styles and examination-oriented educational system in their fonnative years upon which their personal characteristics were fonned, it is not an easy task to undo these traits during their 3 to 4 years of tertiary education." (p. 313)

Years of being entrenched in this system of traditional teaching and learning approaches, Roselina (2009) argues, had led instructors and students alike to disregard the importance of rehearsing generic competencies. It is this realization that encouraged the National Committee of Inquiry into Higher Education (Dearing Committee) to address strong recommendations to all Institutions of Higher Learning in the United Kingdom to embed and emphasize important key skills [generic competencies] in development of programmes (Shahrin et aI., 2004). They further gestured to reports by *Majlis Tindakan Ekollomi Malaysia* (Employability of Malaysian Graduates) on the importance of teaching and learning approaches in Institutions of Higher Education to satiate the provisions of the industry.

These recommendations are comparable to actions undertaken to improve the landscape of the Malaysian educational system. The Minister of Higher Education Malaysia then, Y.B. Dato' Seri Mohamed Khaled Nordin (2009) indicated in a speech that Institutions of Higher Education were in the midst of deliberation on improving delivery of academic programmes in the hope to produce employable graduates. eedless to state, the responsibility now falls on the role of uluversities, as the final attempt, in rectifying tile testing culture of Malaysian educational system to initiate and foster development of generic competencies.

> "Educational institutions have come under intense pressure to equip students with more than just the academic skills. A number of reports issued by employers have urged universities to make more explicit efforts to develop the 'key', 'core', 'transferable', 'soft' 'employable' and/or 'generic skills' needed in many types of employment." (Gurvinder & Sharan, 2008, p. 15)

These aforementioned concerns and measures were conscientiously embedded in the Phase 2 Action Plan of the National Higher Education Strategic Plan *(Pelan Strategik Pengajian Tinggi Negara, PSPTN)* for the period of 2011-2015. Among others, this Action Plan emphasizes on the implementation and realization of stipulated Critical Agenda Projects (CAPs) at Malaysian Higher Learning Institutions. This study was undertaken in the interest of the Critical Agenda Project of Teaching and Learning. The Key Perforn1ance Indicators (KPI) for the Strategic Objectives under this CAP focuses on the internalization of student-centered learning practices in teaching and leaming in Malaysian Higher Learning Institutions. According to the (former) Ministry of Higher Education (2011, p.34), the implementation of PSPTN Phase 2, among others, emphasized on the strengthening the lecturers' capacity in implementing student-centered learning in teaching and learning activities.

In further interests of cultivating student-centered learning practices in Malaysian Higher Learning Institutions, a framework was developed by the fonner Ministry of Higher Education Malaysia to underline the effective assimilation of generic competencies into the syllabus of undergraduate course programmes (Roselina, 2009). In this framework, however, the tem1 generic competencies was labeled as 'soft skills', consisting of seven key skills which were conununication skills, critical thinking and problem-solving skills, teamwork skills, lifelong learning and infonnation management skills, entrepreneurship skills, ethics and professional moral skills, and leadership skills.

Roselina (2009) suggested that adoption of the student-centered learning approach cultivates students' practice of generic competencies through its assimilation in the teaching and learning process. Saravanan (2009) illustrates similar assertion, highlighting how engagement in student-centered leanung approach encourages active students' participation in the learning process. He contends that practice of generic competencies"...become the part of the learning outcomes of the respective courses. It includes activities like questioning, class discussion, brain storn1ing, team work, presentation, role play, project, field work and site visits." (p. 3)

Scrutiny of literature clearly indicates the benefits of adopting the student-centered learning approach. Student-centered learning is to the other orientation of teacher-centered teaching/learning in a teaching and learning process (Hayo, 2007). Student-centered learning focuses on what the student does and aclueves, instead of the instructor, in a teaching and learning process (Harden & Crosby, 2000). Clearly, rehearsal of student-centered learning practice provides students with ample opportunities to actively participate in the teaclung and leanung process, while allowing them to discover, reflect and to think critically on the knowledge they acquire (Richardson, 2003).

Other significance of this approach is the acknowledgement of tl1e learner as a thinker with capability and value (Richetti & Sheerin, 1999). Moreover, student-centered learning practice has been acknowledged to encourage and amplify practices of scaffolding, motivation, learning strategies, task perfonnance, self-regulated learning, communication skills, collaboration, academic achievement and retention of knowledge (Viglmarajah, Wong & Kamariah, 2009; Dogru & Kalender, *2007; Kim*, 2005; Azevedo, Cromley & Seibert, 2004; Hanafi, Dianne & Rozhan,

2003). For instance, Hanafi et al. (2003) investigated the outcome of student-facilitator and student-peer collaboration in a specifically constructed student-centered web-based learning environment for an undergraduate Physics course in Universiti Sains Malaysia. It was found that student-facilitator collaboration resulted in an encouraging practice of scaffolding, task perfonnance, cOimnunication skills and teamwork.

1.5 Instructors' Practices in Student-Centered Learning

Literature clearly indicates that constructivism and student-centered learning are no longer unfamiliar tenns; in fact, the advent of constructivism and student-centered learning in modern education has taken deeper roots than can be adequately expressed. For instance, constructivism and student-centered learning have been inextricably associated to: (i) theory of teaching and learning (Dougiamas, 1998; Phillips, 1995), (ii) learning approaches such as problem-based learning and collaborative learning (Brown & King, 2000; Hanafi, Dialme & Rozhan, 2003; Huang, 2002; McLoughlin & Luca, 2002), and (iii) learning strategies such as self-regulated learning and motivation (Viglmarajah et aI., 2009; Vickneasvari Krishnasamy, 2007); learning avenues such as online learning and blended learning (Vighnarajah, Wong & Kamariah, 2006). Clearly, constructivism and student-centered learning have acquired many manifestations since its advent in teaching and learning practices.

While this extent of practicing constructivism and student-centered learning is indeed admirable, it has, unfortunately, resulted in several predicaments to authentic practice of constructivism and student-centered learning. Moreover, characterizing a constructivist learning approach could prove to be a rather difficult task given the vast characteristics that underline the execution of this practice (Tenenbaum, Naidu, Jegede & Austin, 2001). According to Elen, Clarebout, Leonard and Lowyck (2007), the fundamental reason underlying misconstrued practice of constructivism and student-centered learning is that both instructors and students do not recognize and acquiesce with the essential plinciples of this practice. For instance, they suggested for student-centered learning practice to encourage relevant learning through engagement with authentic tasks, heightened learning responsibilities of the students and context-appropriate assessment. Further discussion on the essential principles of constructivism and student-centered learning is provided in the ensuing discussion of this chapter.

The most common of this predicament, as Uzuntiryaki, Boz, Kirbulut and Bektas (20I0) argue, is to practice constructivism and student-centered learning inconsistent to the essential principles of constructivism and student-centered learning. They further pointed out that practicing constructivism may not particularly be an easy task for instructors: "Practical applications of constructivism have led to some misuses of constructivist principles because lesson plans that teachers identify as being constructivist do not include sufficient characteristics of constructivist theory." (p. 403). An excellent illustration of this account was demonstrated by Unal and Akpinar (2006) in their study to examine if science instructors practice constructivist behaviors and views in the classroom as advocated by a constructivist-based

curriculwn. The role of instructors varies according to category. The 'traditional' category positions the instructor with an authoritarian role, while the 'constructivist' category positions the instructor as a guide/facilitator. The 'transitive' category, on the other hand, allows the instructor to commit decisions on the behalf of the students. Findings of observation and interviews disclosed some alanning results. It was found that although the instructors practiced constructivist views they did not, however, demonstrate constructivist behaviors. These findings were evinced through comparison of the observation and interview results depicted in Table 1.1.

Table 1.1: Comparison of observation and interview resllits

			Experience (years)
Observation	Traditional	100	1-5
		71.5	6-10
		84	11-15
		67	> 16
	Transitional	0	1-5
		28.5	6-10
		16	11-15
		33	> 16
	Constructivist	0	1-5
		0	6-10
		0	11-15
		0	> 16
Interview	**Traditional**	36.1	1-5
		28.6	6-10
		40.5	11-15
		33.3	> 16
	Transitional	28.7	1-5
		54.8	6-10
		41.1	11-15
		45.8	> 16
	Constructivist	35.2	1-5
		16.6	6-10
		18.4	11-15
		17.2	> 16

Adapted from Unal & Akpinar (2006. p.46)

Similar to the comments by Elen et al. (2007) and Uzuntiryaki et al. (2010), Unal and Akpinar (2006) accounted this incoherent practice of constructivism to the lack of understanding on the essential principles of constructivism. For instance, they indicated that the science instructors were under the false impression that perpetrating decisions on behalf of the students still signaled characteristics of student-centered learning. It was also alarming to discover that 45% of the science instructors interviewed misconstrued demonstration of science experiments as student-centered leaming activities. In general, they concluded that instructors who did not attempt to assimilate the theory of constructivism into their instruction would not be able to effectively practice constructivist behaviors and views. An extended illustration on the arguments presented by Unal and Akpinar (2006) was well elucidated by Mayer (2004) who asserted that many instlUctors appear to equate active learning to active teaching; a common misconception that stems from the notion that students must be active during the learning process.

While this notion is accurate to the principles of constructivist practice, it was, unfortunately, attempted inappropliately. In this misconstrued practice which Mayer (2004) labeled as the constructivist teaching fallacy, he pointed out that instructors perceive students engaged in a constructivist leaming approach need to be more behaviorally active rather than cognitively active. In contrast, the proper practice of constructivist approach, Mayer (2004) argued, should encourage instructional activities that promote cognitive processing even when it engages hands-on activities or group discussions. On this note, he further argued that practice of constructivist principles is still possible in passive non-constructivist activities such as books, lecturers and online presentations just as much as in active constructivist activities such as interactive games; provided that the focus of the leaming process is charme1ed towards encouraging effective cognitive processing.

Misconceptions among instructors on espoused and rehearsed student-centered leaming practices have constantly been under scrutiny and even more so with increasing concems on employability among Malaysian graduates. This concem was strongly addressed by the Department of Higher Education (fonnerly, Ministry of Higher Education Malaysia in The National Graduate Employability Blueprint 2012-2017 (MOE, 2012): "What is urgently needed is for the leaming outcomes of all courses to be clearly defined so that the exit attributes are evident. It is a fact that IHL, leaming outcomes (Los) are theoretically specified, but the problem lies in the disparity between theory and practice" (p. 8).

Despite years of practice, the arguments pOlirayed in this section raised concem to some of the misconstrued beliefs of the constructivist approach and student-centered leaming practice. Among others, the preceding discussion brought to attention significant misconceptions that motivated inappropriate and unfocused practice of constructivism and student-centered leaming in the teaching and leaming process. On this note, it becomes apparent on the importance of understanding the principles of constructivism and student-centered leaming, and more impOliantly, how to effectively render these principles with relevance to the teaching and learning process.

1.6 Need for **an** Instrument to Measure Student-Centered **Learning** Practices

In student-centered learning practice, students are motivated to actively construct knowledge, and hence understanding, through active participation in the leaming process (Santrock, 2001; Roblyer & Doering, 2013). This leaming process may entail various fonns of participation, such as, to discover, reflect, to self-regulate and to think critically on the knowledge they acquire (Viglmarajah et aI., 2009; Richardson, 2003). Surely, students will be more involved in the leaming process, while the instructor plans and facilitates the students' learning process.

Review of theoretical literature certainly supports these characteristics of student-centered learning practice; emphasizing on the students, the instlUctors, and everything in-between that is productive to student-centered learning practice. Unfortunately, review of empirical literature suggests otherwise, signaling constant

attention to the dissent of theoretical convlcllon and empirical findings. This dissension basically roots on two grounds of discussion.

First, it is becoming transparent that a number of institutions and instructors are not accurately bridging the theoretical understanding of the student-centered learning approach to its pedagogical practice, in spite of their conviction in doing so. Lea, Stephenson and Troy (2003, p. 322) referred to this gap between theoretical understanding and pedagogical practice as the 'common gulf'. Clearly, there exists "considerable disagreement and confusion about that student-centered learning actually is" (Farrington, 1991, p.16)

In another study by Unal and Akpinar (2006), in assessing science teachers' rehearsal of student-centered learning practice, findings of interview disclosed that none of the teachers were practising student-centered leaming. Most of the teachers behave in traditional manner [teachers dominating the teaching and learning process] in the classroom, with only one out of five seems to moderately practice student-centered learning. Una! and Akpinar (2006) argued that these fmdings may result from the teachers' insufficient understanding of how students' learning occurs. They emphasize on the example that when the science teachers' views about prior knowledge are examined, it seems that more than half of the teachers do not realize the impOliance of prior knowledge.

Even in the Malaysian educational scenario, literature seems to suggest the same. It surfaced to attention that some instructors have poor grasp of what actually constitutes the elements of student-centered learning practice (Toh, 2003). This concern was clearly addressed in The National Graduate Employability Blueprint 2012-2017 (Ministry of Education, 20!2, p.8) highlighting the disagreement between theory and practice: "It is a fact that IHL, learning outcomes (LOs) are theoretically specified, but the problem lies in the disparity between theory and practice." This was substantiated by, among others, Nonnala and Maimunah (2004) who pointed out that most students are still typically spoon-fed with infonnation from textbooks materials, emphasizing only on rote memorization. Vighnarajah et al. (2009) attest to this assertion, emphasizing that a lack of understanding and engagement in student-centered learning practice has led instructors to dominate the learning process, viewing themselves as the sole provider of infornlation. Toh (2003) argues that it is emphasis on examination results, which he refers to as the 'paper-chase culture' that has prompted both students and teachers alike to succumb to teacher-centered teaching. As he pointed out:

> "Despite evidence of the positive effects of the student-centered pedagogy on learning outcomes there is little indication that such pedagogy is widely practised in Malaysian schools. There is a general presumption that a student-centered pedagogy is inferior to a teacher-centered pedagogy in increasing students' cognitive perfonnance." (p. I)

Toh (2003) further argued that students, as well as instructors, in institutions of higher education possess a greater inclination to adhere to teacher-centered teaching since it is this approach that has been rooted in their educational beliefs during their earlier fonnal years of education: "In pre-service teacher education student teachers'

prior educational beliefs that tend to be more teacher-centered as a result of years of schooling in a traditional teacher-centered system need to be challenged and changed towards a student-centered paradigm." (p. 6)

Second, this gap between theoretical understanding and pedagogical practice is even more apparent with literature that focuses on testing and validation of instruments which assess holistically the practices of student-centered leaming practice. More often than not, these instruments were only tested and validated on interest of assessing elements of student-centered leaming, instead of the much needed holistic student-centered leaming practice. For example, development of the Constructivist Learning Environment Survey (CLES) was aimed at assessing the "...development of constructivist approaches to teaching school science and mathematics" (Taylor, Fraser & Fisher, 1997, para 2), and consists of five domains, namely, personal relevance, uncertainty, critical voice, shared control and student-negotiation. Though the CLES instrument does measure student-centered leaming practice, the only limitation to this instrument is that the items were specifically tailored to measure teaching and leaming of science and mathematics. This clearly implied that the CLES instrument was not particularly valid in other areas of teaching and leaming, specifically in higher learning institutions.

Another example would include the instrument developed by Lu, Ma, Tumer and Huang (2007), which attempted to study to what extent wireless Intemet supported practice of student-centered leaming. This instrument consisted of five dimensions, which were, student-centered leaming dimension, pedagogical dimension, technological dimension, cultural dimension, and pragmatic dimension. Despite that this instrument was developed based on attributes of utilizing wireless Intemet in higher education, unfortunately the instrument did not emphasize the role of the instructor in a student-centered leaming practice (Lu et aI., 2007).

On a similar account, Hafizoah and Zuraina (2007) attempted to develop an instrument to measure the influence of integrating ICT into student-centered leaming practice in a Malaysian public university. Though they aclG10wledged that student-centered leaming practice should satiate several grounds of discussion, they, however, only focused on four major aspects derived from literature review, which were, student-teacher interaction and negotiation, collaboration and interactivity through group work, self-directed leaming and deep leaming. These four aspects also transpired as domains in the instrument. Again, this instrument was not particularly critical to the holistic practices of student-centered leaming.

What is certain are that the theoretical understanding of the student-centered leaming approach is presently at odds with its pedagogical practice (Lea et aI., 2003). In this cormection, Tenenbaum, Naidu, Jegede and Austin (2001) eloquently presented this concem:

> "For vanous reasons, integrating constructlvlst principles into teaclung... seems to be a harder task than that of establishing and theorizing these principles. While there is agreement on the desirability of a sluft from conventional models of leaming to constructivist approaches, there is a substantial shortfall in their incorporation into concrete pedagogical practice generally." (p. 108)

All in all, it becomes evident that there were several factors that reasoned this disagreement between theoretical understanding and pedagogical practice. Perhaps, these presented the same factors that reasoned the selective, rather than the comprehensive, development of available measurements of student-centered learning practices.

1.7 Problem Statement

In recent years, a lot of comments were made towards graduates who struggled in securing jobs and those who struggled in sustaining their current jobs. Matters were worsened with the economic crisis disrupting the Malaysian job market and subsequently inciting issues of graduate unemployment. Criticisms were hurled to a number of relevant issues, ranging from instructors' approaches to teaching, incompetency of graduates, to the inappropriate student-centered learning practices in fostering development of soft skills.

Although unemployment problems may have in some ways got the educational community to reanalyze their teaching approaches but there are many other factors that have raised the idea of student-centered leaming. First, the interests in promoting engagement in student-centered learning practices were raised in The National Graduate Employability Blueprint 2012-2017. In this national agenda, the fonner Ministry of Higher Education announced that measures will be taken to effectively incorporate the development of soft skills in undergraduate syllabus primarily through student-centered learning practice. This measure was further advocated through conscientious implementation and realization of student-centered learning practices in Malaysian Higher Learning Institutions as underlined in the National Higher Education Strategic Plan *(pe/an Strategik Pengajian Tinggi Negara, PSPTN).*

Second, the lack of proper rehearsal of soft skills also mooted the idea of student-centered learning. Scrutiny of pedagogical literature also provided strong evidence that student-centered learning practices is able to cultivate development of soft skills, and to simultaneously reflect elements of soft skills during the learning process. The essence of student-centered learning focuses on active construction of knowledge through student's motivation to participate in the learning process, with the instructor facilitating the learning process.

Third, in response to these aforementioned concerns, a growing number of Institutions of Higher Education have begun to channel interest in adopting student-centered learning practices. Unfortunately, it was found that many instructors, students and administrators alike have a general misconception on proper student-centered learning practice. Moreover, to what extent students are exposed to student-centered leaming practices is still questionable. These apprehensions currently taking place in Malaysian Higher Learning Institutions also evinces that the theoretical understanding of the student-centered leaming approach is presently at odds with its pedagogical practice. To further aggravate the situation, literature clearly indicates that there are no available instruments aimed at measuring the holistic student-centered teaming practice. Most instruments cUlTently available only measures distinct, and the more common elements of student-centered leaming practice. What

is absolutely essential is the availability of an instrument to provide a holistic assessment of student-centered leaming practices taking into account the reflections, experiences and students' practices in the teaching and leaming process.

Undoubtedly, while unemployment would have instigated the need for educators to reanalyze their teaching approaches, there exists several other factors that strongly supports the urgent need to promote effective engagement of student-centered leaming practices in Malaysian Higher Leaming Institutions. It is in this context that the study attempts to develop a measure that holistically assesses the rehearsal of student-centered leaming practices in Malaysian Higher Leaming Institutions.

1.8 Research Objectives

The purpose of this study was to develop and validate an instrument to measure student-centered leaming practices in Malaysian Higher Learning Institutions. To initiate the development of this instrument, it was necessary to first construct understanding of student-centered leaming practices in Malaysian institutions in higher education.

Hence, the objectives of the study were three-fold, which were:

(i) To obtain effective characteristics of student-centered leaming practices through the experiences and reflections of professors who have successfully implemented student-centered leaming practices in Malaysian Higher Leaming Institutions;

(ii) To develop a measurement that holistically assesses the implementation of student-centered leaming practices in Malaysian Higher Leaming Institutions;

(iii) To validate and establish reliability of the measurement of student-centered leaming practices in Malaysian Higher Leaming Institutions

1.9 Research Questions

The following research questions were developed based on the aforementioned objectives of the study and relevant literature goveming pedagogical practices and testing of instruments.

The research questions developed based on the first objective was:

RQI: What are the characteristics that describe student-centered leaming practices in Malaysian Higher Leaming Institutions?

The research questions developed based on the second objective was:

RQ2: What are the items of the instrument that holistically measures student-centered learning practices in Malaysian Higher Leaming Institutions?

The research questions developed based on the third objective were:

RQ3 : What are the content validity related evidences that the items developed are a valid measure of student-centered learning practices in Malaysian Higher Learning Institutions?

RQ4: What are the reliability related evidences that the items developed are a valid measure of student-centered learning practices in Malaysian Higher Leaming Institutions?

RQ5: What are the construct validity related evidences that the items developed are a valid measure of student-centered learning practices in Malaysian Higher Learning Institutions?

1.10 Significance of the Study

The process of developing the instrument was based on several imperative aspects, such as, philosophy of student-centered learning practices, types of student-centered learning practices, and MOE and MQA's vision and requirements on implementing effective student-centered leaming practices. In this context, the instrument was developed to holistically measure student-centered learning practices in Malaysian Higher Learning Institutions. In view of this, the findings of this study channeled importance to several participants in the education workforce, namely Ministry of Education Malaysia, instructors, members of the faculty and students. First, findings of this study drew importance to the Ministry of Education Malaysia. Since there is no available instrument in Malaysian literature or international literature that is tailored to measure student-centered leaming practice, hence, the development of this instrument will act as a benclunark to examine the extent to which student-centered learning is actually being practiced in Malaysian Higher Learning Institutions.

Second, findings of this study drew importance to instructors in Malaysian Institutions in Higher Education who adopt interests in encouraging student-centered learning practices. The descriptive nature of the items developed in this study can be used to assist instructors to effectively rehearse and improve their student-centered learning practice. Third, findings of this study drew importance to students in Malaysian Institutions in Higher Education. Again, the descriptive nature of the items developed in this study will enlighten students on the need to shoulder an active role and participative role in the learning process. On the whole, for students who are too contented with teacher-centered learning approaches, findings of this study will again provide clear evidence to the students on the benefits that can be acquired during student-centered learning practice.

I.II Scope of the Study

The following discussion underlines the scope of the study. First, it was important to acknowledge that understanding of student-centered leanung practices in Malaysian Higher Leaming Institutions was based on the holistic approach to the teaching and learning process. Likewise, the development of the items was based on the holistic understanding of student-centered learning practices in Malaysian Higher Learning

Institutions. For instance, though the items may provide some basic infonnation to the utilization oflearning materials during student-centered leaming practice, it is by no means a valid or reliable measure to investigate into the utilization of leaming materials per se.

Second, it is important to acknowledge that despite the many faces to constructivism, such as, trivial constructivism, radical constructivism, social constructivism, cultural constructivism and critical constructivism, and despite each of these faces has its individual attributes that distinguishes it from one another, it was not the purpose of the study to examine each faces of these constructivism in establishing the theoretical scaffolding of this study. In other words, the literature derivation of student-centered leaming practice was based on the understanding of constructivism as a comprehensive theoretical approach to the teaching and leaming process.

1.12 Limitations of the Study

The following discussion acknowledges the several limitations of the study. The first limitation of the study was in tenns of accessible population. Student samples of the study consisted of undergraduate students from four purposefully selected Malaysian public research universities. Thus, the findings of this study are generalizable only to other context of studies with comparable parameters as this study.

Second, another research university which is Universiti Teknologi Malaysia (UTM) was not included in selecting a participant for the in-depth interview sessions. While this decision was taken in consultation with the supervisory committee, the absence of a participant from the said university did not have any implications to the interview findings on two accounts. The selection of the interview participants was based on the maximum variation sampling technique to allow for a variety of education related fields of study. The offering of education related fields of study in UTM did not differ significantly from those offered in the four research universities selected in this study. Moreover, the interview process was ceased only after ensuring that the interview findings achieved a saturation point.

The third limitation of the study was the selection of participants for the in-depth interview sessions. The aim of the in-depth interviews was to elicit rich, comprehensive understanding on the experiences of professors only from the field of education who has successfully rehearsed student-centered leaming practices in Malaysian Higher Leaming Institutions. However, this deliberate selection of the infonnants was necessary to ensure the infonnants were fully aware of the theoretical relationship between SCL and teaching-learning pedagogy. The awareness and knowledge of this relationship is essential providing a more holistic interview feedback on SCL practices, such as misconstrued SCL practices between theoretical understanding and its actual practice.

The fourth limitation of the study was not subjecting the items for further statistical testing. Confinnatory factor analysis was not conducted because the primary aim of this study was not to produce goodness-of-fit models; but rather to explore the relationship between components and the relationship between items, which is more

relevant to exploratory factor analysis (EFA). In addition, confinnatory factor analysis entails different processes, statistical assumptions and conclusions, and hence, it is not advisable conducting exploratory factor analysis and confinnatory factory analysis on the same data set.

The final limitation of the study was in tenns of the participants' motivation in responding to the items of the instrument. That is, there is no assurance that the participants would take the testing process seriously. Moreover, presentation of items in the fonn of a self-rating instrument might cause students only to respond to the more usual and reasonable response (Ng, 2005), which may possibly not represent the participants' true response.

Thus, several measures were taken in an attempt to ml1l11TllZe any unjustified response. Prior to the participants' response to the items, the participants were provided with clear written and oral directions on the purpose of the instrument and the confidentiality of their response to the items. That is, the participants were infonned that the instrument aim was to gauge the students' perception of student-centered leaming practice. The participants were also cautioned that there was no correct or wrong response to the items and that all responses were confidential. Furthennore, the scores of the items were summed and computed on an average value instead of as individual scores.

1.13 Definition of Terms

The following section of the chapter aims to describe the conceptual and operational tenns that were used in this study. According to Tuckman and Harper (2012), conceptual definition is a conceptual or hypothetical description while operational definition is a description based on observable characteristics.

Student-centered learning
To date, the tem1 student-centered learning is customarily perceived to be on the other orientation of teacher-centered teachinglleaming in a teaching and leaming process (Hayo, 2007). In the context of this study, student-centered leaming is referred to as a leaming approach that encourages students to take the center role in the leaming process, with the instructor as the facilitator of the leaming process. The purpose of encouraging student-centered learning practice is to foster rehearsal of soft skills among graduates.

Rehearsal of Soft Skills
This construct describes the role of students in rehearsing and intemalizing soft skills in the student-centered focused teaching and leaming process.

Rehearsal of Meaningful Learning
This construct describes the role of students in rehearsing and intemalizing meaningful learning in the student-centered focused teaching and learning process.

Rehearsal ofInstructor Facilitation
This construct describes role of the instructor as a facilitator in s student-centered focused teaching and leaming process.

Rehearsal ofEffectiFe Assessment
This construct describes the role of students in taking assessments to effectively promote the rehearsal of meaningful leaming in a student-centered focused teaching and leaming process.

Rehearsal ofSelf-Regulation
This construct describes the role of students in rehearsing and intemalizing self-regulation in a student-centered focused teaching and leaming process.

Rehearsal ofInformation Searching Skills
This construct describes the role of students in taking an active role in searching for relevant infonnation pertinent to improving the teaching and leaming process.

1.14 Chapter Conclusion

This chapter provided a perspective into the need to introduce student-centered learning in Malaysian Higher Learning Institutions which subsequently led to current issues of graduate unemployment and criticism towards the leaming process of the current educational system. The chapter also emphasized bliefly of how student-centered leaming practice is able to address the inadequacies of ample practice of soft skills during the leaming process, and thus suggesting the need for an in-depth understanding on the charactelistics of effective student-centered leaming practice. The remaining of the chapter underlined the parameters of this study. The following chapter will put forward a review of literature on the theoretical perspectives underpinning the basis of this study.

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