THE INFLUENCE OF TASK ACCOMPLISHMENT AND ATTITUDE ON ACTIVE TEACHING IN MALAYSIAN UNIVERSITIES

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ABSTRACT

The present study is designed to propose a framework for the implementation of active teaching in the higher education institutions (HEI). Its aim is to develop lecturers' commitment in using the active teaching method in the classroom, which can improve the development of students' soft skills. The proposed motivational factors are faith, sincerity, contemplation, goal obsession, means and attitude towards the university. The commitment to encourage students to share knowledge in the classroom is also included as a mediating variable. The researcher has applied the cross-sectional survey research to validate the framework. The respondents are lecturers in Malaysian public and private HEI. It is found that faith, sincerity, contemplation, goal obsession, means and attitude towards the university factors influenced active teaching commitment amongst lecturers significantly. On the other hand, commitment to encourage students to share knowledge is only influenced by faith, means, contemplation and sincerity factors. However, commitment to encourage students to share knowledge did not function as a mediating variable. The practical implications are the discovery of theoretical, personal, and workplace practical best practices for developing lecturers' commitment to encourage students to share knowledge and in turn implement active teaching activity in the classroom. This study contributes to the limited body of research on the implementation of active teaching in the Malaysian HEI. The factors of faith, sincerity, contemplation, goal obsession and means are the new variables in active teaching research. This extends the boundary of knowledge in active teaching implementation. As data in this study was gathered just once to answer the research questions, a longitudinal study is highly recommended in the future since human views and behaviors are likely to change over time.

Keyword: Faith; Sincerity; Contemplation; Goal Obsession; Active Teaching Commitment

ABSTRAK

Kajian ini dijalankan bagi membina satu rangka kerja yang dapat digunakan bagi melaksanakan pengajaran aktif di institusi penganjian tinggi (IPT). Tujuan rangka kerja ini dibina adalah untuk memotivasikan pensyarah di IPT menggunakan kaedah pengajaran aktif di dalam bilik kuliah agar pembangunan kemahiran insaniah pelajar dapat ditambahbaik. Faktor-faktor motivasi yang dicadangkan ialah keyakinan, kaedah, pertimbangan, keikhlasan, penumpuan pada matlamat dan sikap terhadap universiti. Komitmen dalam menggalakkan pelajar berkongsi ilmu pula dimasukkan sebagai pemboleh ubah perantara. Penyelidik menggunakan kaedah kajian rentas masa bagi menentusahkan rangka kerja yang dibina. Responden terdiri daripada pensyarah-pensyarah di IPT awam dan swasta di Malaysia. Dapatan kajian menunjukkan bahawa faktor-faktor keyakinan, kaedah, pertimbangan, keikhlasan, penumpuan pada matlamat dan sikap terhadap universiti mempengaruhi pengajaran aktif secara signifikan. Komitmen dalam menggalakkan pelajar berkongsi ilmu pula dipengaruhi oleh faktor keyakinan, kaedah, pertimbangan dan keikhlasan. Bagaimanapun, komitmen dalam menggalakkan pelajar berkongsi ilmu tidak berfungsi sebagai pemboleh ubah perantara. Implikasi praktikal kajian ini ialah penemuan amalan terbaik organisasi yang dapat digunakan bagi membangunkan komitmen pensyarah dalam menggalakkan pelajar berkongsi ilmu dan seterusnya menerapkan pengajaran aktif di dalam bilik kuliah. Faktor-faktor keyakinan, kaedah, pertimbangan, keikhlasan dan penumpuan pada matlamat merupakan pembolehubah baru dalam kajian pengajaran aktif. Ini meluaskan lagi sempadan ilmu dalam perlaksanaan pengajaran aktif. Oleh kerana data bagi menjawab persoalan kajian dikutip sekali sahaja maka kajian tempoh panjang dicadangkan pada masa hadapan kerana pandangan dan tingkahlaku manusia berubah sepanjang masa.

Katakunci: Keyakinan; Pertimbangan; Keikhlasan; Penumpuan pada Matlamat; Komitmen dalam Pengajaran Aktif

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CHAPTER 1

INTRODUCTION

1.1 Research Background

The evolution of society from the industrial age to the knowledge age compels educational reform in a direction where students must actively develop knowledge that addresses the demands placed on them by global economy (Barr & Tagg, 1995; O'Banion, 1999). The growing expectation for students to access, interpret, and analyze information to facilitate effective decision making calls for the conceptualization of the teaching process to develop critical thinking in the classroom that translates into future work force development and such challenges require an active role from the lecturers (Wingspread Group on Higher Education, 1993; Baxter, Terenzini, & Hutchings, 2002).

Current educational research is limited in providing insights on the critical factors to promote active teaching among the lecturers and the manner in which lecturers should adjust existing roles to promote instructional processes associated with active learning pedagogy. Nevertheless, existing literatures highlight the need for active commitment of the faculty administrators to incorporate active teaching into faculty educational programs (Weimer, 2002; Wallin, 2003).

Research studies in tertiary education have also concluded that the conventional methods of instruction most commonly used, which is based on retention of facts rather than student engagement, have not maximized student learning (Stage, Muller,

Kinzie, & Simmons, 1998). Barr and Tagg (1995) in refuting the effectiveness of the conventional perspective or instructional paradigm, which ignores the differences in student learning styles proposed instead a paradigm shift in college instruction that allows students to reap complete benefits of the undergraduate experience and name this new perspective of college instruction as active teaching and learning method (Barr & Tagg, 1995; Hallinger & Lu, 2013). This new teaching method focuses on student learning (outputs) through active engaging learning rather than delivery of knowledge (input) that emphasizes passive learning only. Other different labels of active teaching and learning are constructivist, experiential learning, and problem based learning. In short, active teaching and learning involves the engagement and empowerment of the students in the learning process. However, the focus of this study is on the establishment of active teaching amongst lecturers only. This is because the role of lecturers in the classroom is more dominant than the students and thus should be given more attention.
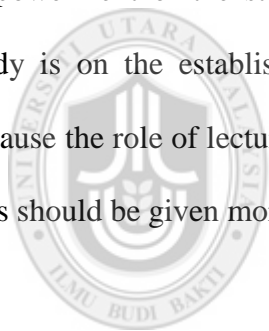
Studies on faculty role behaviour and teaching methods identified personal attributes of instructors, academic discipline, and work environment to significantly influence the use of active teaching methods and teaching motivation (Blackburn & Lawrence, 1995; Fairweather & Rhoads, 1995; Colbeck, Cabrera, & Marine, 2002). Blackburn and Lawrence (1995) reviewed the role of several motivational factors to increase productivity in teaching and research applying a complex causal model linking faculty perceptions of their competence, work environment, and productivity. However, it was acknowledged within the study that several environmental conditions may also influence faculty performance.

Fairweather and Rhoads (1995) studied National Study of Postsecondary Faculty (NSOPF-93) in 1993 and identified the following characteristics that impact student-faculty interaction: (1) early interventions during graduate school; (2) individual fit with the institutional mission and environment; (3) allocation of work and scholarly productivity; and (4) institutional rewards. Einarson's (2001) study of influences on undergraduate teaching methods identified the following socialization variables, personal, disciplinary, and organizational influences that impacted teaching behaviour. Three significant self-motivation variables used to identify instructional and research behaviours pertained to motivation and attitude toward teaching, perceived institutional climate, and scholarly productivity (Blackburn & Lawrence, 1995; Colbeck, Cabrera, & Marine, 2002). Of the variables listed in these studies, three emerge as the most interesting and worthwhile to examine the motivation and attitude toward teaching.

The above characteristics of active teaching highlight the role of lecturers for educational success through the establishment of active teaching in the classroom through their ability to motivate students to participate in discussions that will in turn develop their critical thinking. Implicit in this scenario is that, to ensure the success of active teaching, the lecturers must firstly encourage students to externalize and share ideas and views (tacit knowledge) in the classroom (Selamat, Selladurai & Abdul Halim, 2015). Through active knowledge sharing, the students can gather, interpret and analyze information collectively and ultimately propose solution to every given problematic case. In other words, encouraging students to externalize and share knowledge in the classroom is a prerequisite for successful active teaching implementation. Previous studies on active teaching have not investigated the need

for lecturers to have courage to motivate students to share knowledge in depth and this study intends to fill the gap.

Another evidence for the above scenario is that instructional methods are still seen to be dominant within the higher education institutions. For example, Chen (2002) studied the 1999 National Study of Postsecondary Faculty (NSOPF-99), a nationally representative survey of the USA faculty members, and uncovered that over 80% of the faculty members used lecture as the primary format in at least one of their undergraduate classes, although the use of various other active instructional methods were also evident like the use of lab and clinics (20%), seminars (11%), and fieldwork and service-learning (5%). Faculties also assessed student learning through multiple-choice exams (58%) and peer evaluation (44%). 40% also asked students to submit several revised drafts of their student work and over 60% assigned research papers in the classroom. One of the factors that contribute to such scenario is that the lecturers are not serious in encouraging the students to share knowledge in the classroom (Barr & Tagg, 1995; Hallinger & Lu, 2013; Selamat et al., 2015). Successful implementation of active teaching requires active participation from the students (Hallinger & Lu, 2013). Thus there is a need to motivate lecturers to encourage students to share knowledge in the classroom in order to promote active teaching in the universities. This is considered as a prerequisite because lecturers are important agents for "change" to take place, to facilitate active student learning (Hallinger & Lu, 2013).

For improvement in encouraging students to share knowledge and active teaching to be sustainable, certain conditions must present (Centra, 1997). The lecturers must

value the knowledge that is acquired, understand how to make the change happen, and is motivated to change. Mintz (1999) in proposing that change in teaching, the teachers require more than acquisition of new skills. He stated that: "Faculty active teaching and learning development, in its truest sense, is and must be holistic and integrative of all of the needs and activities of the faculty member and, what is more, must recognize that these needs encompass both the intellect and the emotions" (Mintz, 1999, p. 32). Ewell (1997) in turn, addressed the manner the factors can direct faculty to change with the comment that: "Change requires people to relearn their roles. We cannot hope to transform the teaching or learning process until we transform our own mental models and behaviour. Whatever we assess - evaluate, measure, judge, mark - is what those being assessed will likely pay more attention to and do more of" (p. 6).

To assist the above process this research intends to develop a framework that can motivate lecturers at the higher education institutions to encourage student to share knowledge and in turn implement active teaching in the classroom. This framework is needed for the following reasons; (1) the shift from instructional teaching to active teaching requires lecturers to learn a new role that contains different skills accompanied by a new mind set; (2) as higher education institutions have implemented a series of the pedagogical support to promote the transfer of active learning into the classrooms, it is interesting to identify factors affecting lecturers in implementing active teaching; (3) the concept of active teaching requires a more reflective and holistic approach to teaching and, therefore, to faculty development; (4) lasting pedagogical changes was failed to be promoted among the lecturers in the faculty in spite of the existence of several developmental programs in colleges

(Brawer, 1990; Maxwell & Kazlauskas, 1992; Murray, 1988, 1995, 1999, 2000, 2002; Richardson & Moore, 1987); and (5) to challenge the lecturers to change their basic beliefs and assumptions about the nature of the teaching-learning process, to examine their teaching approach, and to answer questions related to what and how they teach.

The proposed framework consists of three constructs of commitment, namely, affective commitment, continuance commitment and normative commitment (Meyer & Allen, 1991). Affective commitment refers to the emotional or psychological connection of an individual to identify and participate in the organization. This study proposes faith and sincerity values for this construct. Continuance commitment means that when employees enter into an organization they are bound to maintain a bond with the organization or remain with the organization due to the awareness of costs associated with leaving the organization. This study proposes contemplation and goal obsession values for this construct. Lastly, normative commitment is related to employees' sense of responsibility or obligation to remain at the current organization due to employees' various pre-entry and socialization experiences. This study proposes means and attitude towards university values for this construct. Detailed explanation of the theoretical framework is offered in Chapter 2.

The inclusion of the above values is because of the need to continuously develop lecturers' commitment in the implementation of active teaching due to barriers such as discomfort and anxiety associated with changing to active teaching. Thus it could be said that being equipped with positive faith, sincerity, contemplation, goal obsession, means and attitude towards university enables lecturers to be highly

committed to encourage students to share knowledge in the classroom and in turn establish active teaching.

1.2 Problem Statement

As stated above, encouraging students to externalize and share knowledge in the classroom is a prerequisite for successful active teaching implementation. This is the main idea of the active teaching concept where students learn through active engaging learning and not through delivery of knowledge. To ensure the success of this process the lecturers must encourage students to participate in the discussions, which involve the externalization and sharing of tacit knowledge. However if the lecturers have no commitment to encourage the students to involve in the discussion, active teaching cannot be taken place in the classroom. As stated by Hallinger and Lu (2013), lecturers are important agents for "change" to take place, to facilitate active student learning. Hence factors enabling lecturers to be consistent in motivating students to share knowledge in the classroom need to be identified.

Active teaching method is always linked with an innovative way of developing students' cognitive skills and personal drive. This is because the students can participate actively in the case discussion and give comments on the suggested answers provided by the lecturers. In turn, the students are able to improve their soft skills such as communication skills, analyzing and influencing others. However, if the lecturers have no commitment to encourage students to share knowledge in the classroom, such soft skills cannot be embedded in the students' mindsets. This could reduce students' capability to face real working environment which requires a high

level of communication, sharing, analytical and enquiring skills. Thus developing lecturers' commitment to encourage students to share knowledge in the classroom and in turn implement active teaching method is necessary.

Producing passive students is also no good for the national economic growth. In the knowledge economy era, countries that are more innovative and creative are the one that will gain high global competitive advantage. The innovativeness and creativity rely heavily on human capitals that have strong cognitive and analytical skills and brave to involve in the discussion. As these values are always liked to active teaching (Barr & Tagg, 1995; O'Banion, 1999), developing lecturers' commitment to encourage students to share knowledge in the classroom and in turn implement active teaching is paramount. Ignoring this could eventually jeopardize national competitive advantage in the future. This is no good in the midst of the national effort to attain high income developed nation status by year 2020.

The incapability to develop students' ability the share knowledge and communicate could also tarnish the image of the universities eventually. As one of the criteria for determining the rank in the education sector is employers' satisfaction (Boggs, 1998; Dolence & Norris, 1995; Zemsky & Massey, 1995), the universities that fail to fulfil industrial needs will get low rating. This scenario is not good for the higher education institutions in Malaysia as no students are willing to enrol in the low rank universities. Thus developing lecturers' commitment to share knowledge and in turn implement active teaching is becoming critical for any higher education institutions to ensure higher competitive advantage and to achieve an excellent ranking.

The above problematic situation will be investigated by this study. The literature shows, however, that the implementation of active teaching is not at satisfactorily level amongst higher education institutions (Murray, 1988; 1995; 2000; Hallinger & Lu, 2013). Even though instructional theorists and others promote the use of student-centred teaching method, clear evidence exists that faculty still heavily rely on the lecture format (Chen, 2002). Malaysian universities are also not exceptional in this case where the lecturers incline to use instructional approach in the teaching. In short, the purpose of this study is to construct a theoretical framework to develop lecturers' commitment to encourage students to share knowledge in the classroom and in turn facilitate the implementation of active teaching in the universities.

1.3 Research Questions

As stated above, the aim of this research is to investigate factors that can increase lecturers' commitment to encourage students to share knowledge in the classroom and in turn establish active teaching. To achieve this aim, three research questions are developed which are as follows:

- What is the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to undertake active teaching in the classroom?

- What is the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to encourage students to share knowledge in the classroom?

- Is the commitment to encourage students to share knowledge mediates the relationship between faith, sincerity, contemplation, goal obsession, means, attitude towards university and active teaching commitment?

1.4 Research Objectives

To answer the above research questions, three research objectives are developed as stepping stones. The objectives to be achieved in this research are summarized as follows:

- To investigate the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to undertake active teaching in the classroom.
- To investigate the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to encourage students to share knowledge in the classroom.
- To investigate whether the commitment to encourage students to share knowledge mediates the relationship between faith, means, contemplation, sincerity, goal obsession, attitude towards university and active teaching commitment in the classroom.

1.5 Significance of Study

As the success of every higher education institutions depends on its lecturers, embedding lecturers with values to actively contribute towards that is considered necessary. This is also evident from the huge investment by Malaysian government

on human capital. However, there are many factors that can prevent lecturers from encouraging students to share knowledge and in turn implement active teaching in the classroom such as low confidence level, reluctance to implement it, confusion due to negative sentiments and other inhibitors (Butcher et al., 1997; Selamat & Choudrie, 2007). Merely train the lecturers does not guarantee that the acquired skills on active teaching will be used appropriately. This kind of difficulty was also highlighted by Argyris and Schön (1978), Collin (1989), Pye (1991), Butcher et al. (1997), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013) in the process of establishing effective working styles. Thus this research is considered timely to assist Malaysian lecturers in encouraging students to participate in the discussion and in turn establish active teaching in the classroom.

The findings from this research could also be used by relevant government training agencies such as Institut Tadbir Awam Negara (INTAN) and Institut Integriti Malaysia (IIM). In this case, the involved agencies could utilize this research theoretical framework to refine and/or fine tune their training modules and curriculums. Other government agencies could also use the theoretical framework to revise their staff training contents and programs. Being equipped with the proposed intrinsic values enables knowledge sharing culture to be established in the public organizations and in turn assists them to be more innovative in reducing operational costs and ultimately contributes towards strengthening government fiscal position.

The industries could also utilize this research theoretical framework to improve their soft skills development programs. In other words, the companies can fine tune their training contents to ensure that staff members will always have the willingness to

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share knowledge and in turn contribute towards organizational development. Knowledge sharing culture is much more needed in a corporate world as its environment is rapidly changing, which demands a high level of innovativeness to survive. Without active teamwork, collaboration and cooperation amongst staff members, it is hard to fulfill customers' needs at a lower cost. If private sector is booming, government fiscal position could be further strengthened due to possible higher tax revenues – a big chunk (80%) of Malaysian tax revenues contributed by corporate tax.

Last but not least, this research also contributes to the academic world. This is in terms of a new theoretical framework that contains intrinsic values that are relevant for developing lecturers' commitment to encourage students to share knowledge in the classroom and in turn establish active teaching. As far as the researcher is concerned, affective commitment (faith and sincerity), continuance commitment (contemplation and goal obsession) and normative commitment (means and attitude towards university) have never been investigated in the areas of education and knowledge sharing. Most of studies on education and knowledge sharing are from the organizational perspective. This research tries to deviate from this trend by examining educational reform and knowledge sharing from the individual perspective. In turn, academicians will have a new look on teaching approach and knowledge sharing culture.

1.6 Scope of Study

From the above discussion it is clear that this research intends to investigate individual intrinsic values that are capable of enabling lecturers to encourage students to share knowledge in the classroom and in turn establish active teaching. In turn, unit of analysis is individual. The respondents are lecturers in Malaysian higher education institutions. As this research intends to contribute towards Malaysian macroeconomic, obtaining feedback from nationwide universities is considered necessary. Thus all states are covered in this study. But the researcher distributed the questionnaires mostly to the universities around Klang Valley (Kuala Lumpur and Selangor). Klang Valley was chosen due to it hosts most of the prominent public and private universities in Malaysia. The universities include public and private universities.

1.7 Dissertation Outline

To enable the reader understand the overview of the content of this research report, the following structure is offered. This research report consists of seven chapters. Each of the chapters discusses various issues considered to be critical to develop an in-depth understanding on this research. The descriptions of each chapter are provided as follows:

Chapter 1 introduces the main issue that this research intends to investigate and its possible solution. The explanation also includes the aims and objectives of this

research. To justify the need for this research, an explanation on significance of study is required and a section for that aspect is also offered in this chapter.

Chapter 2 offers a description and discussion of theoretical information surrounding the issues to be examined in this study. The discussion provides a focus to be researched upon by this research. These arguments provide a basis for the description and discussion to be offered and provided in Chapters 4, 5 and 6.

Chapter 3 highlights the proposed theoretical framework. This is followed by the research hypotheses on individual intrinsic values that are argued to develop lecturers' commitment to encourage students to share knowledge in the classroom and in turn establish active teaching.

Chapter 4 discusses the methodology adopted to validate this research theoretical framework. The reasons and justification of the adopted methods for data collection and analysis are discussed in detail.

Chapter 5 discusses in depth the survey instrument development process. The findings from content validity, pre-test and pilot test are described and discussed in detail.

Chapter 6 presents the data analyses and results of the study. Particularly, this chapter provides the empirical findings of the influence of individual intrinsic values on the development of lecturers' commitment in encouraging students to share knowledge in the classroom and in turn establishing active teaching.

Chapter 7 presents the discussion and conclusion of the study. Specifically, this chapter includes discussion of the findings in accordance with the objectives of the study, theoretical and practical implications of the study, limitations and suggestions for future research.

1.8 Summary

The purpose of this chapter is to explain the basic of this research by discussing its background (gap), problems occurred if the gap is not reduced, research questions, research objectives, significance of the study, scope of study and discussion structure. In short, the function of this chapter is to provide a brief description of the selected research path. The next chapter will present a literature review on the topic of study.
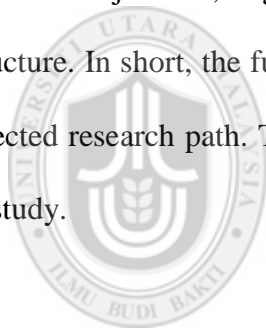
CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

As noted in Chapter 1, this research questions are as follows: "What is the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to undertake active teaching in the classroom? What is the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to encourage students to share knowledge in the classroom? Is the commitment to encourage students to share knowledge mediates the relationship between faith, sincerity, contemplation, goal obsession, means and attitude towards university and active teaching commitment? In other words, this dissertation explores the relationship between faith, sincerity, contemplation, goal obsession, means, attitude towards university, commitment to encourage students to share knowledge and active teaching commitment. This chapter will provide the theoretical reasoning for this question.

2.2 Evolution of Learning Paradigm

The range of learning paradigms provides different views on whether it is the lecturer or the student who serves as the centre in the teaching-learning process. The empiricist model, labelled as behaviourism, has dominated education in the United States (Bloom, 1976; Skinner, 1968; Thorndike, 1949; Watson, 1913). Where the use of such a teacher-centred model is seen as both convenient and economical and fits

well with the authoritarian/autocratic view of the role of the classroom instructor. The lecturer becomes the purveyor of knowledge who disseminates the information which is given to the students in a package (stimulus), the role of the student is therefore to make a response to this stimulus by performing well on tests, for which they are extrinsically reinforced when they get good grades (Bijou & Sturges, 1959).

With the lecturer makes most decisions about teaching and evaluation, application of the behaviourist theory is seen to be clearly in evidence throughout college campuses, as professors deliver lecture after lecture over a period of time (transmission or direct instruction) (Cuban, 1993; Good & Brophy, 2003). Large amounts of material are delivered and updated easily. One behaviourist subtype model, defined as mastery learning (Bloom, 1971, 1984; Guskey, 1998), with its attendant behavioural objectives, has resurfaced as outcome based learning or outcome based education and is being used in higher education (Stiehl & Lewchuk, 2002). It has found useful application in higher education as competency-based education composed of cognitive, psychomotor, and affective domains of learning.

These domains then create behavioural outcomes (outcome-based learning) that are then used for evaluation purposes. As originally conceived, "Benjamin Bloom…outlined a specific instructional strategy…labelling it learning for mastery (Bloom, 1968; Guskey, 2005) and later mastery learning" (Bloom, 1971). As an outgrowth of behaviourism, mastery learning is characterized by defined instructional units with objectives including feedback, correctives, enrichment, and alignment elements (Guskey, 2005). The development of behavioural objectives, that are fundamental in mastery learning, as an approach to education, is more student-

centred because it supports the view that all students have the potential to learn. Using this technique, Levine (1985) concluded that a student's failure to learn effectively is associated with the manner and content of the teaching instruction. Using this type of instructional approach, failures can be attributed to the instruction (or the instructor) rather than the student. Thus, the approach of mastery learning can represent another form of stressor for the teaching professional with its emphasis on accountability, responsibility, and satisfactory performance in teaching.

In outcome-based education, the desired outcome is selected first before the instruction that allows the achievement of such defined outcomes is outlined (Spady, 1994). In essence, outcome-based education is not so much student-centred as it is outcome-centred (Towers & Towers, 1996). Increasingly, outcome-based education is finding a place in vocational and professional education (Henson, Dews, Lotto, Tetzlaff, & Dannefer, 2005; Wayne, Butter, Siddall, Fudala, Wade, Feinglass, & McGaghie, 2006; Webster, 1994). Medical schools especially are adopting the strategies found in outcome-based education and using its evaluation tools to determine students' ability to continue in the designated course of study. Contents in these curricula are not subject to negotiation.

Many of these professional courses of study are conducted according to a masterly learning or outcome-based learning paradigm. In mastery learning, course content is defined by the instructor. Most excellent lecturers probably use aspects of mastery learning already (Guskey, 2005). Its multidimensional impact has been referred to as the multiplier effect of mastery learning, and makes it an especially powerful tool in school improvement efforts (Guskey, 2005).

In contrast to behaviourism there are the other learning theories, each of which to a certain extent, points to the need of the student to take on a more active role in the learning process. These theories belong to an overall grouping categorized as cognitive learning theories. In the 1960s, the traditional approach to education using behaviourism, transitioned to cognitive educational psychology, thus changing and advancing the investigation of thought, instruction, and teacher directed learning. This shift changed how motivation for teaching and learning is studied. This new way to look at motivation shifted the thinking about teaching and learning away from reward and punishments to self-efficacy, achievement, and the importance of school incentives and climates. This approach to educational psychology dramatically differed from the theories that supported teaching and learning in the 1950s and early 1960s (Berliner & Calfee, 1996).

One of these cognitive theories which emphasize the humanity of the learner, thereby named as humanistic, was developed by advocates of this theory who recognize that a student is intrinsically motivated by a set of factors that enhance motivation to learn (Combs, 1965; Dewey, 1997; Dweck, 1986; Goldstein & Fernald, 2009; Maslow, 1970; Rogers, 1969). Another set of sub-theories in the same line of inquiry and related to social learning (Bandura 1969, 1977; Bandura & Walters, 1963). Social learning takes place in a social or transactional environment whether this occurs in a primitive village or a college classroom. Gagne (1985) offered the information processing model for learning, which postulates that conceptual knowledge is hierarchically arranged in the brain; much of this terminology can there

be seen to be aligned and associated with Bloom's (1956) taxonomy of conceptual learning, which is an outgrowth of behaviourism.

Gagne (1985) offered the idea of task analysis in order to break down any operation into its component prerequisite skills to be mastered before achieving the top of the conceptual hierarchy, mastery being an aspect of behaviourism. To a certain extent, Dewey (1997) also advocated this idea in his transactional analysis (cited in Vanderstraeten & Biesta, 1998) where learning builds on prior learning. Bruner (1966) also indicated support for this type of learning through a process he called "successive approximations." Radical constructivism (von Glasersfeld, 1995), a branch of constructivism, later emerged and contended to some degree that there is no commonly agreed view on the concept of reality outside each individual human brain.

Nevertheless is seen that educational theorists are currently searching for more common ground among the various postulated models. One of the most influential learning theories, named as social historical or cultural historical theory (Gallimore, Goldenberg & Weisner, 1993; Griffin & Cole, 1984; Newman, Griffin & Cole, 1989), uses independently derived pieces from behaviourism, mastery learning, and radical constructivism. Established by Vygotsky (1987) in the mid-1930s, the work from this theory also contends that the development of the human brain is gradual in the child seen as the student or (novice). This in turn is supported or scaffolded by the parent (teacher) (expert) in what is called a "zone of proximal development" (ZPD) (Vygotsky, 1987). In this zone, the expert holds portions of a task in store while at the same time facilitate the learning processes of the novice student who has

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to master conceptual principals of a lower order before he or she is allowed to continue with successful attempts of climbing the conceptual hierarchy. Eventually the expert allows the novice to solve the entire task on his own and encourages the novice to go on and to create his own additions to the task. Here, the social interaction goes beyond providing a humanizing and nurturing environment; to one where the students' development of the concept is required. In an effort to incorporate even more of the workable features of the various learning theories, Tharp and Gallimore (1988) proposed the cultural historical activity setting. There are five variables in any activity setting, e.g., the classroom, which apply to both the lecturer and the student. These are: (1) task demands such as the ability to read at higher levels; (2) scripts such as the ability to take notes and follow a lecture; (3) personnel available to help in scaffolding; (4) motives such as willingness to apply one's self to achieve the goal; and (5) beliefs/values such as the lecturer's belief that students can succeed and students' trust that the lecturer respects them and their abilities.

Cultural historical learning theory and constructivism advocates address some of the same issues and that are merged together into social constructivist theory (Fogarty, 1999; Hatano, 1993; Hoagland, 2000; Howe, 1996; Ramos, 1999; Zady, Portes & Ochs, 2003). Social constructivism is a learning theory that encourages active student participation for the construction of knowledge. Involvement of the student and the ability to link old experiences with new knowledge is the challenge of constructivism (Fox, 2001; Hein, 1991; Knowles, Holton, & Swanson, 1998; Oxford, 1997; Piaget, 1954; Prawat, 1992; Weimer, 2002).

Although constructivist theory has achieved high popularity more recently, the idea of constructivism is not new with many a aspects of constructivism being found among the works of Socrates, Plato, and Aristotle (470-320 BC) as well as St. Augustine (300s AD). These early philosophers spoke of the formation and crystallization of knowledge. Locke (17th and 18th C) and Kant (18th and 19th C) taught that man's knowledge is related to his experiences and that these experiences in turn generate new knowledge. However, constructivism is credited to Piaget (1896-1980), the Father of Constructivism, who views intelligence as two interrelated processes: organization and adaptation. Piaget addresses ways of thinking about information that then creates new ideas or experiences. Adaptation occurs through assimilation and accommodation. New information can be added to one's cognitive framework or cause change to adjust to a new idea (Crowther, 1997).

Constructivist theory in education actually is rooted in personal constructivism (Cobern, 1993; Millar, 1989; Novak, 1977; Solomon, 1997; von Glasersfeld, 1987). Integrating the personal domain into constructivist theory led to the development of contextual constructivism. Contextual constructivism is defined by how the student construes facts and events and further internalizes these constructs in terms of previous experiences and culture (Cobern, 1991).

Fox (2001) summarized the claims, which define constructivist views of learning. The tenants of such views are that learning is an active process and knowledge is socially constructed rather than being discovered, and where each learner has a personal domain that is idiosyncratic. Learning is a process of making sense of the

world and to be effective requires the learner to develop meaningful, challenging problems to solve.

The degree to which lecturers conduct lectures, a student-centred strategy or knowingly apply constructivist-learning theories in their instructional approaches is a matter of debate to many educational researchers (Zevenbergen, 1996; Hutchings & Shulman, 1999; Austin & McDaniels, 2006; Kreber, 2013). In fact, the literature on effective teaching or excellence in teaching reinforces the need for more study of such applications (Bain, 2004; Gosling, 2006; Muijs, Campbell, Kyriakides & Robinson, 2005; Oxford, 1997; Sherman, Armistead, Fowler, Barksdale, & Reif, 1987). While many of these studies centre on lecturer characteristics, others examine the atmosphere or the environment of the teaching-learning event and the engagement. Table 2.1 summarizes the above evolution of learning theories.

Table 2.1

Evolution of Learning Theories

Theory	Proposition	Proponent
Behaviorism	The lecturer becomes the purveyor of knowledge	Bloom (1976), Skinner (1968), Thorndike (1949), Watson (1913)
Mastery learning (behaviorist subtype model)	Proposes outcome based learning or outcome based education. It has found useful application in higher education as competency-based education composed of cognitive, psychomotor, and affective domains of learning	Bloom (1971, 1984), Towers & Towers (1996), Guskey (1998), Stiehl & Lewchuk (2002)
Humanistic theory*	This theory recognizes that a learner is intrinsically motivated	Combs (1965), Dewey (1997), Dweck (1986), Goldstein & Fernald (2009), Maslow (1970), Rogers (1969)
Social learning*	It takes place in a social or transactional environment whether	Bandura (1969, 1977), Bandura & Walters (1963)

	this occurs in a primitive village or a college classroom	
Information processing model*	Prerequisite skills to be mastered before achieving the top of the conceptual hierarchy	Gagne (1985)
Transactional analysis*	Learning builds on prior learning	Dewey (1997)
Successive approximations*	Learning builds on prior learning	Bruner (1966)
Radical constructivism	There is no commonly agreed upon reality outside each individual human brain	von Glasersfeld (1995)
Social historical or cultural historical theory	The development of the human brain is gradual in the child (student) (novice), however, supported or scaffolded by the parent (teacher) (expert) in what is called a "zone of proximal development". Social interaction is required in the learner's development	Vygotsky (1987)
Social constructivist theory**	A learning theory that encourages active student participation for the construction of knowledge	Fogarty (1999), Hatano (1993), Hoagland (2000), Howe (1996), Pass (2003), Ramos (1999), Zady, Portes & Ochs (2003)
Personal constructivism	Constructivist theory in education actually is rooted in personal constructivism	Cobern (1993), Millar (1989), Novak (1977), Solomon (1997), von Glasersfeld (1987)
Contextual constructivism***	It is defined by how the learner construes facts ad events and internalizes these constructs in terms of previous experiences and culture	Cobern (1991)

Grouped under cognitive learning theories
*** Cultural historical theory and radical constructivism advocates address some of the same issues and merged together into social constructivist theory*
**** Integrating the personal domain into constructivist theory led to the development of contextual constructivism*

However, many of the studies in constructive learning center on lecturer characteristics, the atmosphere or the environment of the teaching-learning event and the engagement. The main concern of this study is lecturer characteristics. This is

because, as stated above, their role in ensuring the success of active teaching and learning is critical. Additionally, most of the elements proposed by previous studies are from business setting and therefore not suitable for education. To reduce this gap, this research will determine the elements that must be practiced by the lecturers to enable active teaching in the classroom.

2.3 Lecturer-Centred and Student Centred Teaching Approach

From the above discussion it is clear that there are two types of teaching approach that are being practiced by the higher education institutions which are lecturer-centred teaching approach and student-centred teaching approach (Barr & Tagg, 1995; Gardiner, 1994). Lecturer-centred teaching approach is commonly known as passive teaching whereas student-centred teaching approach is commonly known as active teaching.

Within lecturer-centred teaching approach, the lecturers hold centre stage for the purposes of the transfer of course content to the students, who are passive recipients for this information. The role of the faculty is to be the expert in the classroom, with the privilege of avoiding the anxiety and risk that comes with more interactive teaching style where students are equally involved and empowered to direct the flow of learning (Bonwell & Eison, 1991). Lecturer-centred teaching approach uses demonstration, discussion, and lectures with learning content, structured mainly around the textbook. The students in these classrooms are rarely allowed to engage in reflection about their learning (Gardiner, 1994), and hold attitudes that are competitive and individualistic. Their learning progress becomes dependent on the

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actions of the lecturers, who control the manner and type of information dispensed, the development of learning objectives, the design of learning activities, and the choice of learning evaluation tools (Weimar & Associates, 1996).

On the other hand student-centred teaching approach is more inclined towards active teaching, where the focus moves from the lecturers to the students, and the goal of teaching is to improve the quality of learning for the students (Gardiner, 1994; Stage et al., 1998; Hallinger & Lu, 2013). Instead of being concerned with transferring information, the lecturer is concerned with how students learn and whether they are making sense of the information they have received. The role of the lecturer in this aspect is therefore to facilitate understanding and promote the development of higher order thinking skills, rather than the memorization of facts, and with more importance given to student-generated solutions and problems (Gardiner, 1994; Prawat, 1992; Stage et al., 1998; Weimer & Associates, 1996; Hallinger & Lu, 2013). The focus on the lecture is minimized to give more emphasis to varied teaching methods like problem solving and problem-based learning, experiential, field-based learning, role- playing, case studies, service learning, simulations, cooperative learning and collaborative learning (Bonwell & Eison, 1991; Gardiner, 1994; Guskey, 1994; Meyers & Jones, 1993; Stage et al., 1998; Travis, 1995). The selection choices among these methods depends on students' needs, abilities, and skills (Stage et al., 1998; Travis, 1995; Weimer, 1996; Hallinger & Lu, 2013).

The focus of this research is active teaching or student-centred learning. This is because it is argued that the dependency on the lecturer undermines the development of higher order thinking, and instead only encourages superficial learning of low-

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level, factual material (Hallinger & Lu, 2013). As contemporary society becomes increasingly diverse and complex, developing students' critical thinking through active teaching becomes a necessity for every higher education institutions.

2.4 Active Teaching and the Role of Lecturers

From the above definition it can be seen that active teaching moves beyond isolated set of activities, discussions or seminars that encourage social interaction and support among students and their lecturers. It also involves repetition and integration of meaningful experiences that allow students to generalize their knowledge to different situations and problems (Korthagen & Kessels, 1999; Loucks-Horsely, Hewson, Love, & Style, 1998; Mintz, 1999). The learning activities used are concrete, involving input from several sensory systems, to stimulate multiple regions of the brain to perform. The interactions with other individuals and materials that occur in this type of classroom increase effectiveness and efficiency in the learning process (Davis, 1993; 1995).

The transition to active teaching requires the lecturers to change their views of teaching from "covering the content" to "helping students to learn" (Svinicki, 1990), and to alter their teaching methods to incorporate activities that challenge students to become actively engaged in learning. Within this approach, lecturers take on the role of coaches, facilitators, negotiators, and guides who mediate between the students' current knowledge base and the demands of the learning objectives expected from them. This requires the need for lecturers to be sensitive to students' goals and

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motivation in order to identify and utilize activities that facilitate the development of solutions and insights.

In short, it could be said that within active teaching the success of a course is determined by the level to which students are involved in the learning process and the quality of the learning that takes place in the classroom (Fox, 1997; Fox-Cardamone & Rue, 2003). The move toward more student-centred teaching has been growing since the 1990s (Bonwell & Eison, 1991; Davis, 1993; Gardiner, 1994; Grasha, 1996; Grubb et al., 1999; Weimer, 1990; Weimer & Associates, 1996). In view of the limitations of traditional lecturer-centred methods which cannot meet the needs of the students in as these methods do not provide the necessary critical thinking, problem-solving, and interpersonal and intercultural skills needed in the knowledge age and the rapidly changing business environment (Drucker 1992; Grubb et al., 1999). This transition from a focus on teaching to student learning requires a shift in the role of the lecturer in order to accommodate this change successfully.

2.5 Resistance to Change

Gardiner (1994) stated that: "Today, newer, empirically based methods of instruction await widespread use in higher education" (p.114). Despite the vast body of knowledge about active teaching that has grown in leaps and bound during the past 20 years, most faculties in institutions of higher learning have not applied such knowledge to develop their teaching skills (Lazerson, Wagener, & Shumanis, 2000; Stage et al., 1998; Wingspread Group on Higher Education, 1993). It was seen that

most faculties resist changing their instructional style or methods (Guskey, 1994; Hallinger & Lu, 2013).

The factors that become barriers to change can be divided into two which are faculty barriers and lecturer barriers. The faculty barriers are such as the influence of educational culture, faculty self-perceptions and self-definition of roles, and few incentives for change. The lecturer barriers are such as discomfort and anxiety associated with change, a possible increase in preparation time, and a lack of needed materials, equipment, and resources.

The culture of higher education embraces traditions that create barriers to altering instructional methods to allow for active teaching in the classroom, such as semester schedules, bureaucratic institutional procedures for curricular change, and the use of tenure as a reward for publishing as opposed to teaching (Ekroth, 1990). This has led vast majority of faculty practice lecturer-centred teaching and use the lecture as the primary method of instruction in all types of classes (Bonwell & Eison, 1991; Gardiner, 1994; Grubb et al., 1999; Terenzini & Pascarella, 1994). As Ewell (1997) suggested, it is easier for a professor: "... to be guided in the techniques and practices of least resistance: to shun any adjuncts to instruction, to reduce teaching chiefly to class and delivery on as few hours a week as possible and at the most convenient times (p. 5)".

The reason could arise from the fact that faculties find themselves responsible not only for content in their discipline but, at the same time, feel responsible for ensuring that students gain the necessary learning skills to meet the program

objectives. Such a sense of responsibility is further exacerbated by the increasing numbers of under-prepared and non-traditional students entering colleges who may therefore be handicapped in their capacity to participate in active learning processes. As a result, the faculties may lack the confidence to respond to the needs of these students, and recognize that they must become more flexible, creative and adaptable in their teaching (Reutter, 2001; Stark & Lattuca, 1997). Studies show that despite the potential for achieving better learning outcomes and a plethora of books on instructional techniques to introduce critical thinking into the classroom, relatively few faculty members are engaging in change and innovation in teaching styles (Palmer, 1998; Weimer, 1996, 2002).

Another significant reason to explain why most faculties are not motivated to take on the risks associated with changes in teaching may stem from the absence of incentives (Bonwell & Eison, 1991; Haas & Keley, 1998; Halpern & Associates, 1994; Seldin & Associates, 1995; Travis, 1995; Weimer, 1990, 1996, 2002; Weimer & Associates, 1996; Selamat et al., 2015). Apart from that many studies also concluded that real change in teaching styles may take years to unfold and would often occur in an incremental fashion, where ironically the faculty that has the most in need of change are the last to participate (Grasha, 1996). Despite the fact that many lecturers report that the lack of recognition and rewards for improvements in teaching as the greatest roadblock to change (Seldin & Associates, 1995), and research consistently has found that faculty desire such rewards (Weimer & Associates, 1996), yet institutional award systems for faculty development have evolved little over the years (Bonwell & Eison, 1991; Weimer, 2002). Failure to provide clear and visible rewards may implicitly endorse the

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status quo where lecturer-centred teaching approach prevail (Bonwell & Eison, 1991).

On the other hand, as stated above, lecturer barriers are such as discomfort and anxiety associated with change, a possible increase in preparation time, and a lack of needed materials, equipment, and resources. Implicit in these barriers is that the use of active teaching requires a different skill set that goes beyond teaching by lecturer, and is accompanied by a different mental model (Bonwell & Eison, 1991; Chickering & Gamson, 1987). Senge (1990) defined a mental model as "deeply ingrained assumptions, generalizations, or even pictures or images that influence how we change the world and how we take action" (p. 8).

Although many recommendations have been issued on approaches to develop teaching skills and on suggested activities that can be used as alternatives to the lecture, these are often provided in recipe-like formats (Brookfield, 1995; McKeachie, 1999; Race, 2002). Research conducted by Reinsmith (1992) suggested that lecturers hold a mental model of teaching, in the sense of standing in front of the classroom presenting a lecture to his/her students. And this view is the one that prohibits the incorporation of alternative teaching methods into the classroom. Stark et al. (1988) found similar results in their study, where faculty rarely mentioned any instructional strategies other than the lecture.

However, the focus of this research is to determine the factors that can develop lecturers' commitment to encourage students to share knowledge and in turn commitment to implement active teaching in the classroom. This perspective was

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selected because teaching and learning are main duties of lecturers and they deal with students almost every day. Thus they must be guided and facilitated towards improvement of active teaching and in turn active learning for all students (Cook & Fine, 1996).

2.6 Active Teaching and Tacit Knowledge

From the above discussion it can also be seen that the success of active teaching relies on the commitment of the lecturers to encourage students to externalize and share their tacit knowledge in the classroom. Tacit knowledge can be defined as something that is being understood but is not being openly expressed (Random House Dictionary of the English Language, 1971). It is knowledge that people do not have words. It is representing people's intuition, beliefs, assumptions and values that are developed through a series of experiences (Saint-Onge, 1996). Thus it could be said that tacit knowledge is highly personal, subjective form of knowledge is usually informal and can be inferred from the statements of others (Sternberg, 1997). Tacit knowledge is critical in the process of decision making and influencing others in the workplace (Liebowitz & Beckman, 1998).

Implicit in the above definition is that tacit knowledge is so embedded in an individual's mind. Thus it is highly personal, hard to externalize and hard to share (Nonaka & Takeuchi, 1995; Tsoukas, 2002; Selamat & Choudrie, 2007; Amayah, 2013). In turn, there is a need for the lecturers to encourage students to externalize and share their tacit knowledge in the classroom. By practising this, every student in the classroom can be trained to analyze others' ideas critically and examine the

feasibility of their ideas in the practical setting. Eventually, the students will make a consensus. The consensus represents a synergy that is created through knowledge sharing activity in the classroom. Ignoring the critical role of externalizing and sharing tacit knowledge amongst students in the classroom, as argued by Saint-Onge (1996) and Selamat et al. (2015), could lead to the creation of passive students and the inefficiencies in developing holistic human capital.

In short it could be argued that the enabler of tacit knowledge externalization and tacit knowledge sharing is the encouragement and confidence to undertake them. This is because tacit knowledge is subjective in nature and therefore hard to be externalized and shared. In this case, understanding intrinsic values that can develop lecturers' commitment to encourage students to externalize and share tacit knowledge is critical to ensure the success of active teaching implementation in the classroom.

2.7 The Difficulty in Knowledge Sharing Activities

As stated above, the process of externalizing and sharing tacit knowledge is not an easy task because tacit knowledge is subjective in nature. To illustrate this in detail, this subsection will discuss several factors that inhibit lecturers and students from externalizing and sharing their tacit knowledge. These factors in turn rationalize the need to develop lecturers' commitment to encourage students to externalize and share their tacit knowledge in the classroom and ultimately establish active teaching.

Tsoukas (2002) and Selamat and Choudrie (2007) state that it is hard to sustain the process of transforming tacit knowledge to tangible knowledge. This is because subjective nature of tacit knowledge decreases the ability of an individual to articulate his or her views. This difficulty, however, does not mean that the ways of interaction, new styles of communication and new ways of differentiating and connecting cannot be developed (Tsoukas, 2002). This research intends to fill the gap in this aspect in the context of active teaching by introducing the values of faith, sincerity, contemplation, goal obsession, means and attitude towards university.

To explain the difficulty in externalizing and sharing of tacit knowledge, this study uses the factors that inhibit employees from participating in the process of developing an organization. The use of an organization's developmental process is considered suitable because its success relies heavily on the willingness of staff members to externalize and share tacit knowledge in the workplace.

As argued by previous researchers in the area of organizational development, such as Burgoyne (1988), Schroder (1989), Pedler et al. (1994), Goleman (1995) and Butcher et al. (1997), there are two major inhibitors in engaging employees in the process of developing an organization: (1) the difficulty of employees to externalize and share their tacit knowledge (Harvey & Butcher, 1998); and (2) the difficulty of employees to obtain information from their colleagues (Butcher et al., 1997; Harvey & Butcher, 1998). As a result, it is argued that getting feedback from other colleagues for a continuous improvement in the organizational operation is not an easy task (Malhotra, 1997). This phenomenon could also be applied to educational process in the higher education institutions. This is because tacit knowledge externalization and

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sharing is generic in nature and therefore can be applied to all categories of human beings including learning process (Fogarty, 1999; Hatano, 1993; Hoagland, 2000; Howe, 1996; Ramos, 1999; Zady, Portes & Ochs, 2003). The discussion of those difficulties is dealt with in the following two subsections.

2.7.1 Difficulties in the Externalization and Sharing of Tacit Knowledge

The creation of new knowledge always occurs in tacit form. This is because learning process occurs in an individual's mindset (Churchman, 1971; Beveren, 2002). As it resides in an individual's brain, tacit knowledge inherit the characteristics of highly personal, difficult to externalize and difficult to share (Tsoukas, 2002).

There are four factors that lead to the difficulty in expressing and sharing tacit knowledge, namely, perception, language, time, value and distance (Haldin-Herrgard, 2000). The existence of these factors is propelled by the characteristics of tacit knowledge, namely, transparency and subjectiveness (Augier & Vendelo, 1999). In the case of perception, the characteristics of unconsciousness result in the people become unaware of the full range of their knowledge and potential (Polanyi, 1958; 1967). This is because tacit knowledge is so ingrained in an individual's mindset and in turn it has become a natural part of their behaviour or way of thinking (Haldin-Herrgard, 2000). The difficulty with language is related to the characteristic of tacit knowledge, which exists in a non-verbal form (Haldin-Herrgard, 2000). This implies that tacit knowledge is not tangible and thus difficult to be seen and quantified. Articulating something that seems natural and obvious is not easy for most people; thus, poses a big challenge to them (Haldin-Herrgard, 2000).

Time also becomes a hurdle in the process of externalizing and sharing of tacit knowledge. This is because, during the formation of knowledge in the mindset, tacit knowledge internalization needs a longer period of time. This applies to both an individual and an organization (Augier & Vendelo, 1999; Bennett & Gabriel, 1999). On the other hand, rapidly changing business environment requires a short cycle of tacit knowledge externalization and sharing (Haldin-Herrgard, 2000). The difference in cycling time between tacit knowledge and business environment in turn creates difficulty when an individual intends to externalize and share his or her tacit knowledge (Haldin-Herrgard, 2000). The difficulty in value results from the nature of tacit knowledge whereby not all knowledge that resides in an individual's mindset have value that give them merit to be externalized and shared (Haldin-Herrgard, 2000). This is because majority of tacit knowledge are in the form of intuition and rule-of-thumb (Zack, 1999). Distance factor also contributes towards the difficulty in tacit knowledge externalization and sharing. This is because tacit knowledge can be externalized and shared actively if the involved individuals meet each other and then having face-to-face interaction (Holtshouse, 1998; Leonard & Sensiper, 1998).

The above difficulties pose a great challenge to the individuals in the workplace to externalize and share their tacit knowledge (Haldin-Herrgard, 2000). This scenario is also applicable to active teaching activity (Selamat et al., 2015). The implementation of active teaching activity can become ineffective and inefficient if the lecturers are not committed to help students overcome the aforementioned difficulties and in turn establish active teaching. If not handled appropriately, the development of soft skills amongst graduates could be jeopardized and in turn reduces their capability to face

challenging working environment in the future. To face such difficulties, this research argues that lecturers need to have positive faith, sincerity, contemplation, goal obsession, means and attitude towards university so as to encourage students to participate actively in the classroom (Selamat & Choudrie, 2007; Selamat et al., 2015). If not the students will become so passive in terms of their motivation and contribution towards soft skills development.

From the above discussion it is clear that lecturers need to be equipped with positive faith, sincerity, contemplation, goal obsession, means and attitude towards university to enable tacit knowledge externalization and sharing amongst students in the classroom. This is because of the existence of four factors that lead to the difficulty of externalizing and sharing tacit knowledge, namely, perception, language, time, value and distance (Haldin-Herrgard, 2000). In practice, these inhibitors may not be considered or handled appropriately (Harvey & Butcher, 1998). The following sections will discuss the difficulties in obtaining information from colleagues.

2.7.2 Difficulties in Obtaining Information from Colleagues

There are several inhibitors that stop individuals from seeking information from other staffs within an organization such as fear, low confidence level, reluctance to do it, confusion due to negative sentiments and other inhibitors (Harvey & Butcher, 1998). This phenomenon occurs in an organization due to the difference in superiority and seniority. Usually, it is difficult for a student to informally express ideas or opinions in a meeting with his or her lecturer and seniors. This is because of

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inferiority complex that exists in student's heart and mind (Weimer, 2002; Zady, Portes & Ochs, 2003; Selamat et al., 2015).

Another factor that separate students in the classroom is academic performance (usually in terms of CGPA). Usually the students will befriend with someone that has similar academic performance level. This is due to the nature of human beings being attracted to a group that has similar backgrounds such as performance level, age, race, gender and others (Ali, 1998). If this scenario is not handled appropriately, it will demotivate students from having a good friendship with others in the classroom and eventually stop them from interacting with each other (Bennett, 1998). As a result, the students do not want to participate in the discussion undertaking in the classroom, and would eventually lead to ineffective and sluggish daily learning activities.

Another possible factor that could discourage active learning and communication between students is the acceptance of others towards their ideas (Weimer, 2002; Zady, Portes & Ochs, 2003). Some students feel that their views would be rejected because of their low academic achievement or CGPA within the cohort or that they have inadequate influence to contribute significantly in the assignment group (Bennett, 1998). This understanding leads them to keep knowledge or skills in the mindset and ultimately the students become passive in the assignment group meetings and just mind their own business. The failure to overcome this problem will further discourage students from externalizing and sharing their tacit knowledge in the classroom. In turn, the learning process between the students becomes passive

and eventually self-interest becomes so pervasive in the classroom (Weimer, 2002; Zady, Portes & Ochs, 2003; Selamat et al., 2015).

In short, the above paragraphs discuss, in general, the main factors that need to be considered and handled appropriately by the lecturers when trying to encourage students to externalize and share tacit knowledge in the classroom. These factors have been studied by Haldin-Herrgard (2000), Harvey and Butcher (1998), Bennett (1998), Weimer (2002) and Zady, Portes and Ochs (2003). In the previous subsection, each of those aspects has been briefly discussed and critiqued.

2.7.3   Difficulties in the Documentation of Tacit Knowledge

Subsections 2.7.1 and 2.7.2 discuss the importance of the students to express and share their tacit knowledge and also ask others in order to establish active teaching activity in the classroom. In addition to this, this subsection intends to highlight one more challenge that students need to face in relation to tacit knowledge which is documenting the externalized and shared tacit knowledge (Selamat & Choudrie, 2007).

For example, when considering a structure for an organization, it is normal for one organization to have more than one department. Under each department there will be several operational units and every unit usually run by several employees. Every employee has knowledge and skills that can be exploited to develop the organization (Manogran & Liang, 1998). However, those knowledge and skills are often vanished when the employees possessing them resign or quit from the organization (Nonaka &

Takeuchi, 1995; Davenport et al., 1998). What is required now is a tool that can retain knowledge and skills in the organization even though the possessor resigns or quits. To face this challenge, this research utilizes the concept of self-documentation (adopted from Selamat & Choudrie, 2007).

System analyst can code and store documented knowledge or skills in the database (Haldin-Herrgard, 2000; Selamat & Choudrie, 2007). Thereafter, the coded and stored documented knowledge and skills can be termed "tangible knowledge" because it can be seen, read, measured and evaluated in the meeting. Another term that can be used to represent this kind of knowledge and skills is "explicit knowledge" (Nonaka & Takeuchi, 1995). In the information systems area, the coded and stored knowledge is usually coined as information (Churchman, 1971; Beveren, 2002). These three terms are used interchangeably in this research to represent the externalized tacit knowledge.

Effective documentation process is the best strategy to make tangible the intangible knowledge and skills (Karhu, 2002). Therefore, self-documentation amongst staff members should be stressed by all organizations including universities. Moreover, relying too much on intangibility could create unnecessary misunderstanding and conflict between the staff members. If not handled appropriately, the process of making decision or undertaking actions based on those decisions become ineffective and problematic. This problematic scenario could be evaded if intangible knowledge and skills are transformed into a tangible form. This is because tangible knowledge and skills (in the form of proposal, meeting minutes or working paper) can be evaluated and scrutinized in the meeting. In short, it is imperative to have a good

documentation on the externalized and shared tacit knowledge and good techniques to encourage this self-documentation amongst staff members.

From the above description it is clear that documenting the externalized and shared tacit knowledge also face the same difficulties as in the externalization and sharing of tacit knowledge. This is because it is still hard to deal with subjective tacit knowledge. In addition, staff members must trust the management and have a positive attitude towards the organizations (Karhu, 2002; Ferres, Connell, & Travaglione, 2004). Without trust and positive attitude towards the organization staff members will be reluctant to put everything in written document whereby the document will become the property of the company eventually.

To summarize, it can be said that it is not easy to establish tacit knowledge documentation in the workplace because tacit knowledge is so ingrained in an individual's mindset. In the higher education institutions, the lecturers and students are also facing the same dilemma. Therefore, to establish active teaching activity in the classroom, there is a need to understand intrinsic values that can assist lecturers to encourage students not only to externalize and share but also to document tacit knowledge. Establishing knowledge sharing activities is paramount since the level of an organization's competitive advantage and growth relies heavily on a continuous determination and commitment of staff members (Zakaria, 2013).

To recapitulate, the failure to overcome the above knowledge sharing issue could lead to ineffective and inefficient active teaching and learning (Weimer, 2002; Zady, Portes & Ochs, 2003). In turn, the development students' communication skill and

critical thinking will be at unsatisfactorily level (Weimer, 2002; Zady, Portes & Ochs, 2003). To face such phenomenon, this research argues that the lecturers need to be equipped with positive value of faith, sincerity, contemplation, goal obsession, means and attitude towards university. Lecturers who are not embedded with these intrinsic values tend to be passive in terms of their commitment to encourage students to share knowledge and in turn establish active teaching in the classroom. This is important for developing students' soft skills. In this case, the lecturers not only have to overcome their resistance to change but also must willing to encourage students to externalize and share their tacit knowledge in the classroom. The factors that are proposed in this research aim to assist lecturers facing these two issues, which ultimately could establish active teaching in the classroom.

2.8 Factors for the Establishment of Active Teaching in the Classroom

From the above discussion it is clear that the first and foremost thing to do when establishing active teaching is enabling knowledge sharing amongst students. This is because tacit knowledge will be always the property of an individual that resides deeply in the brain (Churchman, 1971; Tsoukas & Vladimirou, 2001; Beveren, 2002; Tsoukas, 2002; Selamat & Choudrie, 2007). Through knowledge sharing it is argued that the students can externalize and share their tacit knowledge. In turn, it is easy for the lecturers to undertake active teaching activity effectively. To develop lecturers' commitment to encourage students to share knowledge in the classroom and in turn establish active teaching, this research proposes affective commitment, continuance commitment and normative commitment constructs.

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2.8.1 Affective Commitment

Affective commitment refers to the emotional or psychological connection of an individual to identify and participate in the organization. This research proposes two intrinsic values under the affective commitment construct, namely, faith and sincerity. The definition and description for each value are dealt with in the following two subsections.

2.8.1.1 Faith

Faith is a great trust or confidence in something or someone (Cambridge International Dictionary of English, 1995). Its position is much higher than trust or confidence. Having faith in active teaching enables lecturers to appreciate students' communication skill and critical thinking development (Gardiner, 1994; Prawat, 1992; Stage et al., 1998; Weimer & Associates, 1996; Hallinger & Lu, 2013; Selamat et al., 2015). In turn, forces them to encourage students to share knowledge in the classroom and in turn establish active teaching. This enables the students to experience soft skills development more effectively and efficiently.

Pedler et al. (1994), Butcher et al. (1997) and Harvey and Butcher (1998) found that there is a significant relationship between faith in organization and organizational performance. On the other hand, Selamat and Choudrie (2007) and Abdul Wahab et al. (2013) found a significant relationship between faith in organization and the willingness to externalize and share knowledge and skills within the organization.

Haldin-Herrgard (2000) further supported this axiom by saying that lack of faith prevents staff members from externalizing and sharing their tacit knowledge.

There is a proverb that a thousand steps in the future begin from a single step. However, the first step must be inspired with the belief that "I can start my first step." For example, when considering a climber of a coconut tree, it would be logical to predict that the first thing that would came across in his mind is "Can I climb this coconut tree?" If he has a high level of faith in his work and talent, he will say "I can climb this coconut tree" and, as a consequence, will start utilizing his talent and energy to climb the coconut tree. However, if he has a low level of faith in his work and talent, he will leave the coconut tree.

From the above discussion it is clear that the implementation of active teaching relies on lecturers' faith in the potential of active teaching and its capability in developing students' communication and critical thinking skills effectively. In other words, there is a potential relationship between the value of faith and the commitment to encourage students to share knowledge in the classroom and in turn establish active teaching. In short, there is a potential relationship between faith, commitment to encourage students to share knowledge and active teaching commitment. Thus all of them are included in this research theoretical framework.

2.8.1.2 Sincerity

Sincerity is the most important intrinsic value that should be instilled in the workplace including lecturers. Every lecturer must have a feeling that he or she

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works for the sake of the university and for fulfilling his or her responsibility to the university. There are four signs of sincerity: (1) hardworking when together; (2) lazy when alone; (3) hardworking after being appraised; and (4) lazy after being scolded (Selamat & Choudrie, 2007). Thus it could be said that failure to instil sincerity amongst the lecturers results in low commitment to encourage students to share knowledge in the classroom and in turn low acceptance on active teaching and passive reaction to students' needs, but make a lot of complaints and grievances. In short, sincerity leads to genuine commitment to prosper the university and vice versa.

In the case of the coconut tree climber, insincere coconut climber inclines to pluck wrong or low quality coconut. This would result in the buyer fail to get quality coconut and proper services. In addition to this, the co-workers would get frustrated with him and as a consequence would not trust him anymore. Sincerity can push the lecturers to appreciate students' need on soft skills development and create a conducive learning environment in the classroom. This scenario is critical in the process of establishing active teaching in the university and therefore should be emphasized in this research.

The important role of sincerity in developing effective individuals has been stressed by Schroder (1989). This is further supported by Selamat and Choudrie (2007), Abdullah and Selamat (2007) and Abdul Wahab, Selamat and Saad (2012) whereby they obtained an effective role of sincerity in motivating staff members to participate in learning environment. The main reason why an organization recruits people is to assist management in the maximizing of its profits. Thus every recruited staff has to bear in his or her mind in the workplace that "we must perform organizational tasks

sincerely." The value of sincerity also gives staff members a strength to ignore any negative sentiment to the management, that is created through gossip and slander (Schroder, 1989; Selamat & Choudrie, 2007).

Based on the above discussion it could be argued that sincere lecturers will encourage students to share knowledge in the classroom without hesitation. On the other hand, lecturers tend to ignore instruction to implement active teaching in the classroom given by the faculty if they do not have sincere feeling to the university. This in turn will jeopardize university's aim to produce quality graduates for the industry. In addition, sincere lecturers tend to be steadfast in implementing active teaching activities, even without being monitored by the faculty. Thus it is argued that there is a close relationship between sincerity, commitment to encourage students to share knowledge and active teaching commitment. In turn, the elements of sincerity, commitment to encourage students to share knowledge and active teaching commitment are included in this research theoretical framework.

2.8.2 Continuance Commitment

Continuance commitment means that when employees enter into an organization they are bound to maintain a bond with the organization or remain with the organization due to the awareness of costs associated with leaving the organization. This research proposes two intrinsic values under the continuance commitment construct, namely, contemplation and goal obsession. The definition and description for each value are dealt with in the following two subsections.

2.8.2.1 Contemplation

It is normal for individuals to raise this question in their mind before undertaking any task: "What will I get from doing this?" If the benefits outweigh the effort or cost then it is worth it to give a try and vice versa. In business organizations, this scenario is also evident from the use of investment evaluation techniques, namely, cost-benefit analysis, value linking, value acceleration, value restructuring and innovation evaluation (Ward & Peppard, 2002). Politicians always say that: "The end justifies the means." All these scenarios highlight that people and organizations are always contemplating the reward or profit that they will get before doing something.

Rewards in the workplace include monetary rewards (salary, bonus, allowance, promotion) and non-monetary (complimentary words such as thank you and congratulation) (Lohman, 2000; Ashton, 2004; Bryson et al., 2006). The employees in the manufacturing companies (Sambrook & Stewart, 2000; Bryson et al., 2006) and multinational corporations consider reward system as a basis before participating actively in the organizational activities. Similarly, Lohman (2000) found that teachers contemplate rewards first before get involve in additional school activities such as sponsoring student clubs, reviewing curriculum, mentoring colleagues, leading teams and departments and supervising student teachers. However, professionals such as accountants (Hicks et al., 2007) and system analyst (Lohman, 2009) did not consider rewards as a main evaluation basis before participating in any organizational activities.

Klein and Hirschheim (1996) stated that the information system design choices are made to serve some interests at the expense of others and involve moral value judgements. This means that technical aspects and moral issues (such as what is good or bad, or right or wrong) are contemplated in depth by an organization before venturing in any information system project. All the project issues will be evaluated in a rational way. In other words, project team will contemplate the costs and benefits of the project first before sharing their ideas on the feasibility of the project with the management.

As stated above, one of the reasons why the lecturers are reluctant to change their teaching style is due to the absence of incentives (Bonwell & Eison, 1991; Haas & Keley, 1998; Halpern & Associates, 1994; Seldin & Associates, 1995; Travis, 1995; Weimer, 1990, 1996, 2002; Weimer & Associates, 1996). Based on the social exchange theory and norm of reciprocity, when employers acknowledge their employees' efforts by offering opportunities and benefits, employees may feel obligated to reciprocate and become more committed to the organization (Shore, Thornton, & Newton, 1990; Tansky & Cohen, 2001).

In short, it is generally accepted that contemplation is part of an individual or an organization's daily activities including knowledge sharing and active teaching. Lecturers will contemplate the costs and benefits of encouraging students to share knowledge in the classroom and establish active teaching first before implementing them. Thus it could be said that there is a potential relationship between contemplation, commitment to encourage students to share knowledge and active teaching commitment. In turn, the elements of contemplation, commitment to

encourage students to share knowledge and active teaching commitment are included in this research theoretical framework.

2.8.2.2 Goal Obsession

The second element of continuance commitment construct is goal obsession. In this research goal obsession is defined as a continuous visualization of university's goals and commitment to achieve them (adapted from Selamat & Choudrie, 2007). Every lecturer must be obsessed with the university's goal, especially the aim to produce high quality graduates. Being obsessed with this aim enables them to become more receptive to active teaching because it is considered as the best approach to develop students' analytical and communication skills (Gardiner, 1994; Prawat, 1992; Stage et al., 1998; Weimer & Associates, 1996; Hallinger & Lu, 2013).

An individual that works without aims or targets is like "a blind person touching things in a dark room." Blind people always think that what they do is right but actually is not. They will also put organizational interests and aims at the back. These attributes will create ineffective and inefficient daily operations, which ultimately increases operational costs.

Previous studies have found a significant relationship between aims or targets understanding with organizational performance (Butcher et al., 1997; Manogran & Liang, 1998; Selamat & Choudrie, 2007; Abdul Wahab et al., 2013). Being equipped with right understanding on organizational aims and targets enables staff members to undertake tasks diligently and monitor performance prudently. In addition, it assists

staff members to effectively navigate the difficult and dynamic organizational reality. As this understanding enables adept use of knowledge and skills, it is beneficial when considering knowledge sharing and active teaching activities and is therefore adopted in this research.

In short, the inspiration to build up university's image through quality graduates makes goal obsession applicable for encouraging students to share knowledge in the classroom and in turn establishing active teaching. Lecturers will think that it is pointless to be selfish because university needs good ranking and image for future growth. This kind of thinking will motivate them to undertake active teaching activities relentlessly. Thus it is argued that there is a potential relationship between goal obsession, commitment to encourage students to share knowledge and active teaching commitment. Thus all of them are included in this research theoretical framework.
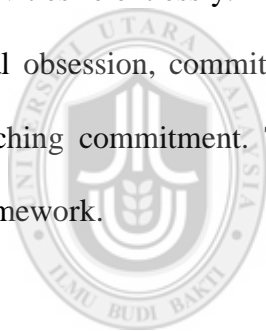
2.8.3 Normative Commitment

Normative commitment is related to employees' sense of responsibility or obligation to remain at the current organization due to employees' various pre-entry and socialization experiences. Employees with normative commitment feel that they have a moral obligation in paying back the organization through remain with the employing organization. This research proposes two intrinsic values under the normative commitment construct, namely, means and attitude towards university. The definition and description for each value are dealt with in the following two subsections.

2.8.3.1 Means

In the organizations, means is normally coined as standard operating procedure or organizational best practice (Barham & Rassam, 1989; Burgoyne, 1988; Schroder, 1989; Morgan, 1989; Drucker, 1992; Selamat & Choudrie, 2007). In this study, means refers to techniques to undertake active teaching. The faculty must provide adequate training on active teaching techniques to the lecturers to ensure that they gain adequate exposure on active teaching.

Standard operating procedure or organizational best practice can be described as "meta-competencies" which allows staff members to create and adapt specific competencies for specific situations (Burgoyne, 1988). By adopting standard operating procedure, staff members can undertake tasks based upon "the right approach for the right situation." This enables business organizations implementing economical approach when undertaking daily operation without compromising on product or service quality.

Undertaking tasks in accordance with the standard operating procedure enables cost, time and energy savings (Barham & Rassam, 1989; Burgoyne, 1988; Schroder, 1989; Morgan, 1989; Drucker, 1992; Selamat & Choudrie, 2007; Abdul Wahab et al., 2013). For example, referring back to the above coconut tree climber; to ensure that the climbing process is a successful effort, the climber has to be well equipped with the correct climbing method and knowledge to use climbing tools. To instil this kind of knowledge in his mindset, the climber can meet a climbing expert and learn the

accurate way to climb using the available tool in the market. Being equipped with this kind of knowledge and skills enables the climber to know the best way to accomplish his mission. This in turn reduces the climbing failure risk.

As stated above, the use of active teaching requires a different skill set that goes beyond teaching by lecturer, and is accompanied by a different mental model (Bonwell & Eison, 1991; Chickering & Gamson, 1987). Armstrong-Stassen (2008), McEvoy and Blahna (2001), Kooij et al. (2008) and Maurer and Rafuse (2001) stated that the opportunity to develop skills and competencies may facilitate workers' commitment because the availability of training is a strong signal that the organization is willing to 'invest' in its workforce. Thus it could be said that extensive training on active teaching methods can improve lecturers' skill and mentality on active teaching and in turn their commitment to encourage students to share knowledge in the classroom.

From the above discussion it could be argued that every lecturer must know how to conduct active teaching in the classroom before it could be practiced extensively in the university. The lecturers also must know how to encourage students to externalize and share knowledge in the classroom. This is to ensure right action is taken at the right time. Thus it needs to be emphasized when establishing knowledge sharing and active teaching activities in the classroom. In short, it could be said that there is a potential relationship between means, commitment to encourage students to share knowledge in the classroom and active teaching commitment. Thus all of them are included in this research theoretical framework.

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2.8.3.2 Attitude towards University

Fishbein and Ajben (1975) state that attitudes are learned disposition to respond to an object or behavior. It is representing a hierarchy of effect from feeling or judgments toward person, object or issue and linked to user behavior (McMillan et al., 2003). There are three components of attitudes, namely, cognitive, affective or behavioral responses (Min & Lee, 2009; Simon & Peppas, 2004). Attitude is the most important concept that is used to explain user behavior. This is evident from many studies that used it as one of the determinants in explaining user behavior (Fishbein & Ajben, 1975; Jahng et al., 2007; McMillan et al., 2003; Simon & Peppas, 2004). For example, in the area of marketing, the concept of attitude has been used to understand the effectiveness of advertisement (McMillan et al., 2003; Simon & Peppas, 2004). In the online world, the concept of attitude has been linked with website acceptance whereby online user predisposition to respond favorably or unfavorably to a website, especially with the enormous growth of e-commerce, has been measured (Chen, Clifford, & Wells, 2002).

Hwang et al. (2011) stated that it is important to understand users' attitudes because it can generally predict their purchasing intention and behavior. For example, the users have stronger intention to purchase online product when they react favorably to an advertisement about that product. This logic has been proven with respect to attitude towards a website (Bruner & Kumar, 2005).

Jain and Jeppesen (2013) found significant relationship between management cognitive styles and knowledge management practices in public organizations. Yao,

Kam and Chan (2007) supported this by saying that senior management in the public administration sector should be made more aware of what knowledge management can do to help improve organizational efficiency and effectiveness. Rhodes et al. (2013), when comparing the performance of public sector in Brazil, Italy, Portugal, Spain, Ghana, Indonesia and Ireland, found that administrative culture and the attitudes of elites are critical determinants of public sector performance.

From the above findings it is argued that lecturers' actions can be strongly influenced by their attitude towards the management of the university. Positive attitude towards university make them more receptive to active teaching and vice versa. This axiom leads to the pre-supposition that attitude towards university influences lecturers' commitment to encourage students to share knowledge in the classroom and in turn gives impact on the process of establishing active teaching activities. Thus the elements of attitude towards university, commitment to encourage students to share knowledge and active teaching commitment are included in this research theoretical framework.

2.9 Commitment to Encourage Students to Share Knowledge

From the above discussion it is clear that the commitment to encourage students to share knowledge is the mediating variable in this research. It is defined as a persistent action of externalizing and sharing tacit knowledge amongst students in the classroom. The elements of faith, sincerity, contemplation, goal obsession, means and attitude towards university are expected to develop lecturers' commitment to encourage students to share knowledge in the classroom positively.

Knowledge sharing is the most investigated area under knowledge management practice in public sector (Syed-Ikhsan & Rowland, 2004; Yao, Kam, & Chan, 2007; Chawla & Joshi, 2010; Tsirikas, Katsaros, & Nicolaidis, 2012; Rhodes et al., 2013; Jain & Jeppesen, 2013) and private sector (Nonaka & Takeuchi, 1995; Selamat & Choudrie, 2007; Amayah, 2013; Quinn et al., 1996; Davenport et al., 1998). However, most of them investigated knowledge sharing from the organizational perspective. The implications provided are normally linked to what the management should do to promote knowledge sharing amongst staff members.
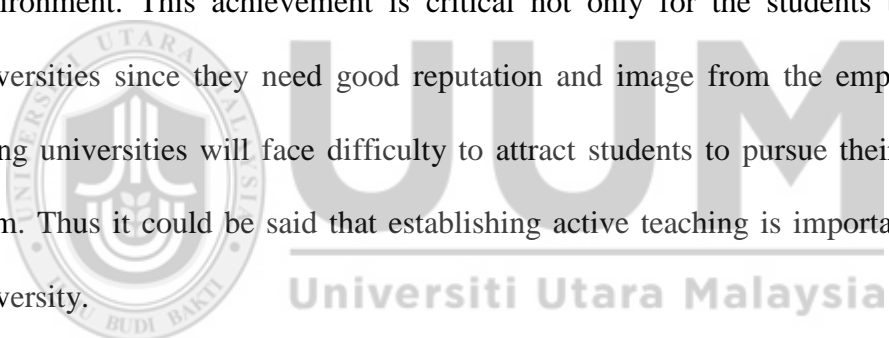
But giving comprehensive training programs and/or sufficient facilities cannot warrant active knowledge sharing activities in the workplace. As stated by Harvey and Butcher (1998), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013), there are many factors that stop individuals from externalizing and sharing tacit knowledge in the workplace. These include fear, low confidence level, reluctance to implement it, confusion due to negative sentiments and other inhibitors. The lecturers in the universities are also facing the same problem where the students are reluctant to share knowledge in the classroom. This research intends to develop lecturers' commitment to face that problem by proposing the elements of faith, sincerity, contemplation, goal obsession, means and attitude towards university.

Positive faith, sincerity, contemplation, goal obsession, means and attitude towards university can encourage lecturers to actively motivate students to externalize and share knowledge in the classroom. This in turn enables active teaching activity to be established in the classroom. Thus commitment to encourage students to share

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knowledge is embedded in this research theoretical framework as a mediator between individual intrinsic values (independent variables) and active teaching commitment (dependent variable).

2.10 Active Teaching Commitment

The main issue of this research is enabling active teaching in the classroom. From this it is clear that active teaching is the dependent variable of this research. As argued in Chapter 1, active teaching improves students' cognitive and analytical skills and in turn prepares them to face challenges in rapidly changing business environment. This achievement is critical not only for the students but also the universities since they need good reputation and image from the employers. Low rating universities will face difficulty to attract students to pursue their study with them. Thus it could be said that establishing active teaching is important for every university.

To recapitulate, this research theoretical framework is a continuum of individual intrinsic values (faith, sincerity, contemplation, goal obsession, means and attitude towards university), commitment to encourage students to share knowledge and active teaching commitment. As active teaching is closely related to holistic student development, the findings could contribute significantly to the Malaysian educational sector.

2.11 Underpinning Theories

The theoretical framework is developed based on organizational commitment model, theory of reasoned action and attribution theory. Accordingly this section discusses the underpinning theories that support the theoretical framework.

2.11.1 Organizational Commitment Model

The three component model of organizational commitment developed by Meyer and Allen (1991) is a dominant model and had been widely used in many research studies regarding topic of organizational commitment. The model consists of three core themes, namely, affective, continuance and normative commitment. Please refer to Figure 2.1.
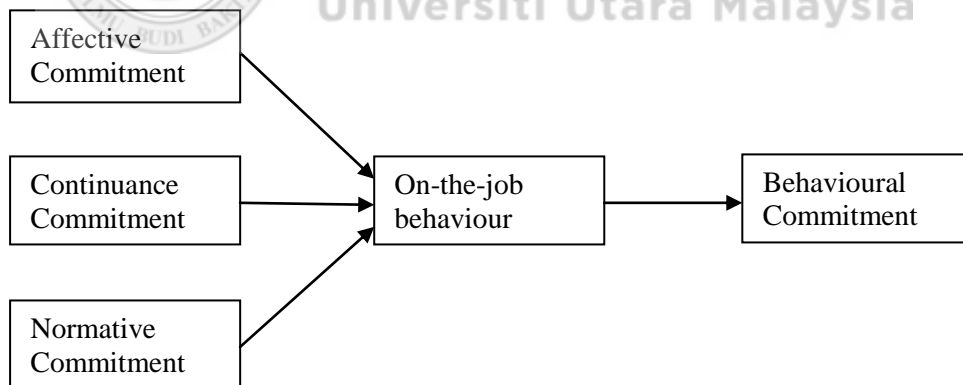
Figure 2.1:   Organizational Commitment Theoretical Framework

According to Meyer and Allen (1991), affective commitment refers to the emotional or psychological connection of an individual to identify and participate in the organization. Employees with affective commitment will continue their service with

organization because they want to do so. Continuance commitment means that when employees enter into an organization, they are bound to maintain a bond with the organization or remain with the organization due to the awareness of costs associated with leaving the organization. Another reason one could not leave the organization would be lack of alternative opportunities. Normative commitment is related to employees' sense of responsibility or obligation to remain at the current organization due to employees' various pre-entry and socialization experiences. Examples of pre-entry experiences are benefits, status improvement or fulfilment the organization gives the individual over the years.

However, the above organizational commitments are developed from the organizational perspective. In other words, what the organization should do to increase employees' commitment in the workplace. The proposed elements are such as work experience, organizational investment and job alternatives (Meyer & Allen, 1991). As discussed earlier, the scope of this study is intrinsic values that can develop lecturers' commitment to encourage students to share knowledge in the classroom and in turn establish active teaching. Therefore the proposed elements are changed to faith, sincerity, contemplation, goal obsession, means and attitude towards university. Nevertheless, the three constructs of commitment (affective, continuance and normative) are maintained.

To recapitulate, the use of organizational commitment model in this study is evident from the inclusion of affective commitment, continuance commitment and normative commitment constructs. Affective commitment consists of the elements of faith and sincerity. Continuance commitment consists of the elements of contemplation and

goal obsession. Lastly, normative commitment consists of the elements of means and attitude towards university.

2.11.2 Theory of Reasoned Action

Theory of reasoned action was proposed by Fishbein and Ajben (1975). They state that attitudes are learned disposition to respond to an object or behaviour. It is representing a hierarchy of effect from feeling or judgments toward person, object or issue and linked to user behaviour (McMillan et al., 2003). There are three components of attitudes, namely, cognitive, affective or behavioural responses (Min & Lee, 2009; Simon & Peppas, 2004). Attitude is the most important concept that is used to explain user behaviour. This is evident from many studies that used it as one of the determinants in explaining user behaviour (Fishbein & Ajben, 1975; Jahng et al., 2007; McMillan et al., 2003; Simon & Peppas, 2004). For example, in the marketing area, the concept of attitude has been used to measure the effectiveness of advertisement (McMillan et al., 2003; Simon & Peppas, 2004). In the online world, the concept of attitude has been linked with website acceptance whereby online user predisposition to respond favourably or unfavourably to a website, especially with the enormous growth of e-commerce, has been measured (Chen, Clifford, & Wells, 2002).

The above scenario could also be applied to active teaching and knowledge sharing activities. This is because lecturers' actions can be strongly influenced by their attitude towards the management of the university. Positive attitude towards the management of the university make them more receptive and supportive to active

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teaching and knowledge sharing activities and vice versa. This axiom leads to the pre-supposition that attitude towards university influences lecturers' commitment and intention to encourage students to share knowledge in the classroom and in turn gives impact on the process of establishing active teaching activity. In short, it is clear that theory of reasoned action is relevant to this research. This is evident from the inclusion of the element of attitude towards university in the theoretical framework.

2.11.3 Attribution Theory

Attribution means to explain by indicating a cause. Thus attribution theory is motivational theory looking at how the average person constructs the meaning of an event based on his /her motives to find a cause and his/her knowledge of the environment (Fiske & Taylor, 1991). It is basically looking at how people make sense of their world; what cause and effect inferences they make about the behaviors of others and of themselves. Heider (1958) stated that there is a strong need in individuals to understand transient events by attributing them to the actor's disposition or to stable characteristics of the environment. The purpose behind making attributions is to achieve cognitive control over one's environment by explaining and understanding the causes behind behaviors and environmental occurrences.

The event that is observed in this study is task accomplishment. In other words, this study tries to explain what motivate people to continuously accomplish and improve task. This leads to the pre-supposition of five elements, namely, faith, sincerity,

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contemplation, goal obsession and means. People will work hard if they have faith with

the organization – in terms of integrity, benevolence and competence (McKnight et al.,

2002). Knowing the techniques in doing the given tasks encourages one staff to do

them without delay. Evaluating cost and benefits (contemplation) of one action or

project is part of human and organizational life (Klein & Hirschheim, 1996; Ward &

Peppard, 2002; Lohman, 2009). Being sincere enables one employee to be hardworking

and productive in whatever conditions and situations (Selamat & Choudrie, 2007).

Lastly, having targets enables one employee to prioritize his/her work effectively in the

workplace (Butcher et al., 1997; Selamat & Choudrie, 2007).

To recapitulate, attribution theory is relevant to this research. This is evident from the

inclusion of faith, sincerity, contemplation, goal obsession and means elements in this

research theoretical framework.

2.12 Summary

This chapter offers theoretical information on the issues to be investigated in this

research. The discussion also includes the theories used in the current study, which

are attribution theory, resource based theory and trust model. The chapter also

explains the theoretical framework and its constructs.

CHAPTER 3

RESEARCH FRAMEWORK AND HYPOTHESES

3.1 Introduction

This chapter illustrates this research theoretical framework. Then hypotheses on individual values which are argued to enable knowledge sharing and active teaching in the classroom are developed. Thereafter, summary of the research hypotheses and the chapter summary are presented.

3.2 Proposed Theoretical Framework

Based on the discussion in sections 2.8, 2.9, 2.10 and 2.11, this research theoretical framework is then illustrated in Figure 3.1. The framework postulates that the commitment to encourage students to share knowledge in the classroom and in turn establish active teaching amongst Malaysian lecturers is influenced by the following constructs: (1) affective commitment; (2) continuance commitment; and (3) normative commitment. Affective construct consists of the elements of faith and sincerity. Continuance commitment consists of the elements of contemplation and goal obsession. Normative construct consists of the elements of means attitude towards university. These independent variables are expected to have positive influence on mediating variable that is commitment to encourage students to share knowledge and dependent variable that is active teaching commitment.

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                                                    H1a & H2a
┌──────────────────────┐
│ Affective Commitment │
│  -  Faith            │─────────────────────────────────────────────┐
│  -  Sincerity        │                                              │
└──────────────────────┘         H1b & H2b                           │
                      \                                               │
                       \                                              ▼
┌──────────────────────┐  H3b & H4b  ┌──────────────────┐        ┌──────────────┐
│ Continuance          │────────────▶│ Commitment to    │  H8    │ Active       │
│ Commitment           │             │ encourage students│──────▶│ Teaching     │
│  -  Contemplation    │             │ to share knowledge│        │ Commitment   │
│  -  Goal Obsession   │\            └──────────────────┘        └──────────────┘
└──────────────────────┘ \              ▲            ▲               ▲      ▲
                          \            /             │               │      │
┌──────────────────────┐   \  H5b & H6b     H3a & H4a                │      │
│ Normative Commitment │────/                                        │      │
│  -  Means            │                                             │      │
│  -  Attitude towards │──────────── H5a & H6a ──────────────────────┘      │
│     university       │                                                    │
└──────────────────────┘                                                    │
          │                                                                 │
          └──────────── H7a, H7b, H7c, H7d, H7e & H7f ────────────────────┘
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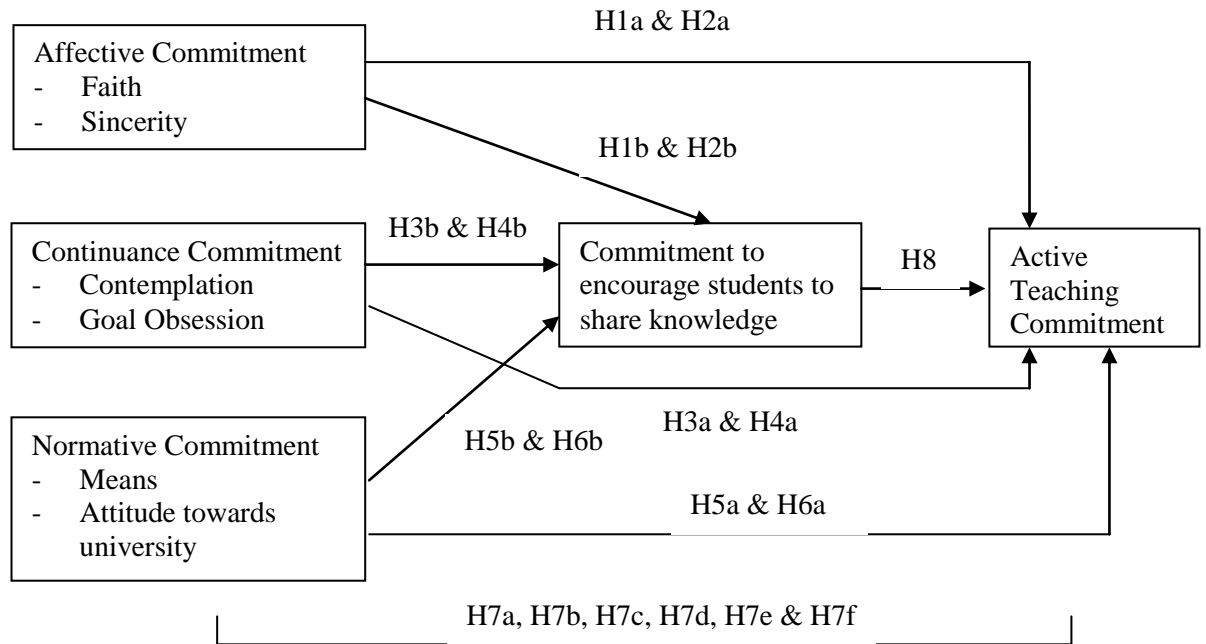
Figure 3.1:   Theoretical Framework for Promoting Active Teaching

3.3 Hypotheses Development

Based on the proposed theoretical framework illustrated in Figure 3.1, this section

discusses the hypotheses of this research. As mentioned earlier, this research

examines the influence of individual values (faith, sincerity, contemplation, goal

obsession, means and attitude towards university) on commitment to encourage

students to share knowledge in the classroom and in turn active teaching. The

description of hypotheses for each factor is dealt with in subsections 3.3.1 till 3.3.6.

3.3.1 Faith

The use of active teaching requires a different skill set that goes beyond teaching by

lecturer, and is accompanied by a different mental model (Bonwell & Eison, 1991;

Chickering & Gamson, 1987). In turn, lecturers must have faith in active teaching so that they dare to face any challenges in its implementation. This is because new teaching approach requires more time and resources for preparation. On the other hand, Haldin-Herrgard (2000), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013) found a significant relationship between faith in organization and the willingness to externalize and share knowledge and skills within the organization. As active teaching requires two-way communication between lecturer and students and also amongst students themselves, lecturers must have a commitment to encourage students to share knowledge in the classroom. Thus the following hypotheses are developed:

H1a: There is a relationship between faith and active teaching commitment

H1b: There is a relationship between faith and commitment to encourage students to share knowledge in the classroom

3.3.2 Sincerity

Sincerity is the most important value in every human endeavour including active teaching. This is because, based on the norm of reciprocity, when employers offer job and salary to sincere individuals, they may feel obligated to reciprocate and become more committed to the organization (Shore et al., 1990; Tansky & Cohen, 2001). Lohman (2009), Selamat and Choudrie (2007), Abdullah and Selamat (2007) and Abdul Wahab, Selamat and Saad (2012) supported this by saying that sincerity plays an effective role in developing employees' commitment to involve in teaching and knowledge sharing environment. This leads to the following hypotheses:

H2a: There is a relationship between sincerity and active teaching commitment

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H2b: There is a relationship between sincerity and commitment to encourage students to share knowledge in the classroom

3.3.3 Contemplation

Lohman (2000), Bonwell and Eison (1991), Haas and Keley (1998), Halpern and Associates (1994), Seldin and Associates (1995), Travis (1995), Weimer (1990, 1996, 2002), and Weimer and Associates (1996) found that teachers contemplate rewards first before get involve in additional school activities such as assisting student societies, developing syllabus, coaching juniors, guiding teamwork and units and facilitating student teachers. The employees in the manufacturing companies and multinational corporations contemplate reward system as a basis before participating actively in the organizational activities (Sambrook & Stewart, 2000; Bryson et al., 2006). However, professionals such as accountants (Hicks et al., 2007) and system analyst (Lohman, 2009) did not consider reward contemplation as a main evaluation basis before participating in any organizational activities.

Although there is conflicting views on the influence of reward contemplation in task accomplishment, but it is argued to have role in developing lecturers' commitment to encourage students to share knowledge in the classroom and in turn active teaching (McKnight et al., 2002). This is because, based on the social exchange theory and norm of reciprocity, lecturers would be obliged to reciprocate and become more loyal to the university if the management appreciate their efforts through attractive incentives and rewards (Shore et al., 1990; Tansky & Cohen, 2001). Thus the following hypotheses are proposed:

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H3a: There is a relationship between contemplation and active teaching commitment

H3b: There is a relationship between contemplation and commitment to encourage students to share knowledge in the classroom

3.3.4 Goal Obsession

Butcher et al. (1997), Manogran and Liang (1998), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013) found a significant relationship between aims or targets understanding with organizational performance. This is because aims and targets enable staff members to monitor organizational activities and determine future directions. The inspiration to build up university's image through quality graduates makes this value applicable for developing lecturers' commitment to encourage students to share knowledge in the classroom and in turn active teaching. Lecturers will think that it is pointless to be selfish in the workplace because university needs good ranking and image for future growth (McKnight et al., 2002). Thus the following hypotheses are developed:

H4a: There is a relationship between goal obsession and active teaching commitment

H4b: There is a relationship between goal obsession and commitment to encourage students to share knowledge in the classroom

3.3.5 Means

Previous studies have highlighted training as a basis for enabling active teaching (Bonwell & Eison, 1991; Chickering & Gamson, 1987). This is because active teaching requires a different skill set that goes beyond teaching by lecturer, and is

accompanied by a different mental model. Training facilitates workers' commitment because the availability of training is a strong signal that the organization is willing to "invest" in its workforce (Armstrong-Stassen, 2008; Kooij et al., 2008; McEvoy & Blahna, 2001; Maurer & Rafuse, 2001). Thus it could be argue that every lecturer must know how to conduct active teaching in the classroom before it could be practiced extensively in the university. The lecturers also must know how to persuade students to externalize and share knowledge in the classroom. This leads to the following hypotheses:

H5a: There is a relationship between means and active teaching commitment

H5b: There is a relationship between means and commitment to encourage students to share knowledge in the classroom

3.3.6 Attitude towards University

Attitude is one of the essential factors in influencing user behaviour and become as one of the most investigated concepts (Fishbein & Ajben, 1975; Jahng et al., 2007; McMillan et al., 2003; Simon & Peppas, 2004). It has been the focus of marketing researches, especially to investigate the impact of advertisement on sales (McMillan et al., 2003; Simon & Peppas, 2004). Derived from this scenario this research argues that positive attitude towards university make lecturers more receptive to active teaching activity and vice versa. This axiom leads to the pre-supposition that attitude towards university influences lecturers' commitment to encourage students to share knowledge in the classroom and in turn active teaching. Thus the following hypotheses are developed:

H6a: There is a relationship between attitude towards university and active teaching

H6b: There is a relationship between attitude towards university and commitment to encourage students to share knowledge in the classroom

3.3.7 Commitment to Encourage Students to Share Knowledge

As active teaching requires two-way communication between lecturer and students and also amongst students themselves, lecturers must have a strong commitment to encourage students to share their tacit knowledge in the classroom (Nonaka & Takeuchi, 1995; Selamat & Choudrie, 2007; Amayah, 2013). The success of active teaching relies heavily on the encouragement of students to share knowledge in the classroom. From this scenario it can be seen that, as discussed in Chapter 2, commitment to encourage students to share knowledge represents mediating variable of this research. In short, commitment to encourage students to share knowledge has a potential to mediate the relationships between faith, sincerity, contemplation, goal obsession, means, attitude towards university and active teaching commitment. This argument leads to the following hypotheses:

H7a: The relationship between faith and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

H7b: The relationship between sincerity and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

H7c: The relationship between contemplation and active teaching is commitment mediated by the commitment to encourage students to share knowledge in the classroom

H7d: The relationship between goal obsession and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

H7e: The relationship between means and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

H7f: The relationship between attitude towards university and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

3.3.8 Active Teaching Commitment

To complement the above hypotheses and in tandem with this research theoretical framework (as illustrated in Figure 2.1), the following hypothesis is proposed as the final hypothesis:

H8: There is a relationship between commitment to encourage students to share knowledge and active teaching commitment

3.4 Summary

This chapter has illustrated the diagram for this research theoretical framework and the resulted research hypotheses. All these will be the basis for the research instrument development, data analysis and results interpretation. The research methodology employed in this study is presented in the next chapter.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Introduction

As mentioned in the previous chapters, this research intends to examine the factors that can be used to develop lecturers' commitment to encourage students to share knowledge in the classroom and in turn implement active teaching. To assist in this process, one theoretical framework is developed (as depicted in Figure 3.1). This chapter discusses the methodology that is adopted to attain the best type of data for the research. The discussion is divided into five sections, namely, overview of philosophical assumptions, measurement of variables, research equation, data collection and data analysis. Finally, a summary of the chapter is offered.

4.2 Overview of Philosophical Assumptions

Orlikowski and Barudi (2002) and Chua (1986) proposed three paradigms which can be followed by the researchers: (1) positivist; (2) interpretive; and (3) critical. Philosophically, these three paradigms are distinct to each other (Myers & Avison, 2002). The following paragraphs discuss the paradigms and their relevancy to this research in detail.

Positivist paradigm emphasizes on the quantitative methods of data collection and analysis which allow generalization (Chua, 1986). The sources of quantitative data in social science are such as survey method, laboratory experiment and mathematical

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modeling. It entails the use of quantifiable measures of variables, hypotheses testing and the drawing of inferences about a phenomenon from the sample to the stated population (Orlikowski & Barudi, 2002; Straub et al., 2004). All these research activities are considered appropriate to this research because it intends to investigate factors that influence knowledge sharing and in turn active teaching and learning activities in the faculty.

Interpretive paradigm emphasizes on the qualitative methods of data collection and analysis. Examples of qualitative methods are action research, case study research and ethnography. It involves the process of understanding people from the context of their conditions and lives (Merriam, 1998; Trauth, 2001). To achieve this, social constructions such as language, consciousness, shared meanings, documents and other artifacts are collected and analyzed. In other words, interpretive paradigm requires researchers to explore and understand the social world through the participants' and their own perspectives. Since this research does not intend to build interactive relationship between researchers and research participants and gather and analyze empirical data in a qualitative manner in order to understand the factors that influence knowledge sharing and in turn active teaching and learning activities in the faculty, this paradigm is considered less relevant.

Critical paradigm assumes that social reality is historically constituted and that is produced and reproduced by people (Myers & Avison, 2002). Critical researchers believe that there are no theory-independent facts that can conclusively prove or disapprove a theory (Chua, 1986; Myers & Avison, 2002). Critical research focuses on historical development and changes within the totality of relation (Myers &

Avison, 2002). Historical development, ethnographic research and case studies are commonly used data collection methods for critical paradigm researchers (Chua, 1986). Since this research has no intention to build a theory based on detailed historical explanations using ethnographic or case study approach; instead it examines factors that influence knowledge sharing and in turn active teaching and learning activities in the faculty at this particular of time, critical paradigm is also considered less relevant to this research.

To recapitulate, this research adopts positivist paradigm in developing theoretical framework, collecting the empirical evidence and testing the research hypotheses. Survey method was utilized to gather empirical evidence. In turn, descriptive statistics and multiple regression analysis were adopted to answer the research questions as posited in Chapter 1.

4.3 Operational Definition and Measurement of Variables

This section discusses operational definition and measurement of variables. As mentioned in Chapters 1, 2 and 3, independent variables of this study consist of six motivational factors (faith, sincerity, contemplation, goal obsession, means and attitude towards university). Active teaching commitment is the dependent variable of this study. The relationship between independent variables and dependent variable is expected to be mediated by the commitment to encourage students to share knowledge in the classroom – mediating variable. The operational definition and measurement of each variable is offered in the following subsections.

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4.3.1 Independent Variables

As stated above, independent variables of this research are as follows: (1) faith; (2) sincerity; (3) contemplation; (4) goal obsession; (5) mean; and (6) attitude towards university. Operational definition and measurement for each independent variable is provided below.

4.3.1.1 Faith

This variable is operationalized as a great trust or confidence in undertaking and accomplishing organizational tasks. As shown in Table 4.1, eight items were used to measure this variable.

Table 4.1

Items Constituting Faith

I always tell myself to be a role model at the workplace
I am ready to face any challenges at the workplace
I am ready to take new responsibility
I am daring in taking risk when introducing a new way of undertaking task
I dare to be critiqued as long as it helps improving the work quality
I am willing to share knowledge with my colleagues
I am willing to utilize available resources in order to satisfy clients
I always advise my colleagues to have self-confidence

All the items were constructed by the researcher. This action need to be undertaken by the researcher since, as far as the researcher is concerned, there are only few studies that relate faith to active teaching commitment and commitment to encourage students to share knowledge and from the perspective of Malaysian higher education institutions. A Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree)

was used for these items. The highest score (8 items x 7 points = 56 points) indicates that the respondents perceive this variable as important in the workplace and the lowest score (8 items x 1 point = 8 points) indicates vice versa.

4.3.1.2 Sincerity

This variable is operationalized as the extent to which staff members have an intention that they work for prospering the company and for fulfilling their obligation as an employee to the company. Being equipped with sincerity enables staff members to undertake a job diligently and carefully to ensure that the products or services could be delivered at high quality level. As illustrated in Table 4.2, three items were used to measure this variable.

Table 4.2

Items Constituting Sincerity

I work by following the universal religious/moral values
I contribute to firm's development sincerely
I always advise my colleagues to have clear conscious when undertaking task

All the items were constructed by the researcher. This strategy need to be adopted by the researcher because, as far as the researcher is concerned, there are only few studies that relate sincerity to active teaching commitment and commitment to encourage students to share knowledge and from the perspective of Malaysian higher education institutions. A Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used for these items. The highest score (3 items x 7 points = 21

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points) indicates that the respondents perceive this variable as important in the workplace and the lowest score (3 items x 1 point = 3 points) indicates vice versa.

4.3.1.3 Contemplation

This variable is operationalized as the extent to which staff members contemplate the reward or profit that they will get before doing something. If the benefits outweigh the effort or cost then it is worth it to give a try and vice versa. As shown in Table 4.3, six items were used to measure this variable.

Table 4.3

Items Constituting Contemplation

I know work to be done every time
Customer satisfaction is my main concern at the workplace
I always ensure benefits outweigh costs when making decision at the workplace
I know the company's reward systems in details
I always attend training program to improve my performance
A continuous career development is important in my life

All the items were constructed by the researcher. This action need to be undertaken in this research since, as far as the researcher is concerned, there are only few studies that relate contemplation to active teaching commitment and commitment to encourage students to share knowledge and from the perspective of Malaysian higher education institutions. A Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used for these items. The highest score (6 items x 7 points = 42 points) indicates that the respondents perceive this variable as important in the workplace and the lowest score (4 items x 1 point = 4 points) indicates vice versa.

4.3.1.4 Goal Obsession

This variable is operationalized as the extent to which staff members understand and think about their organizational aims and targets at the workplace. Understanding aims and targets enables staff members to monitor organizational activities and determine future directions. This understanding promotes the judicious use of accumulated experience. As illustrated in Table 4.4, six items were used to measure this variable.

Table 4.4

Items Constituting Goal Obsession

I feel that my works are being monitored to ensure compliance to internal standards
I think the reward when completing job on the list
I always advise my colleagues to be mindful of their actions at the workplace
I always compare my current performance with agreed targeted performance
My performance is always above target
I always have a meeting with my colleagues to improve know-how skill

All the items were constructed by the researcher. This action need to be undertaken by the researcher since, as far as the researcher is concerned, there are only few studies that relate goal obsession to active teaching commitment and commitment to encourage students to share knowledge and from the perspective of Malaysian higher education institutions. A Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used for these items. The highest score (6 items x 7 points = 42 points) indicates that the respondents perceive this variable as important in the workplace and the lowest score (5 items x 1 point = 5 points) indicates vice versa.

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4.3.1.5 Means

This variable is operationalized as the extent to which staff members can undertake tasks in accordance with the accepted standard operating procedure. Sometimes it is coined as organizational best practice. As shown in Table 4.5, five items were used to measure this variable.

Table 4.5

Items Constituting Means

I always advise my colleagues to use right procedure when undertaking task
Right working procedures will produce high quality services which in turn increases the company's competitive advantage
Right working procedures will create a conducive environment because every staff shares the same way of completing task
I encourage my colleagues to minimize mistakes at an acceptable rate required by the company
I am willing to adapt working procedures on non-standard works if required

All the items were constructed by the researcher. This strategy need to be adopted because is because, as far as the researcher is concerned, there are only few studies that relate means to active teaching commitment and commitment to encourage students to share knowledge and from the perspective of Malaysian higher education institutions. A Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used for these items. The highest score (5 items x 7 points = 35 points) indicates that the respondents perceive this variable as important in the workplace and the lowest score (5 items x 1 point = 5 points) indicates vice versa.

4.3.1.6 Attitude towards University

This variable is operationalized as the extent to which staff members incline to contribute to the organization due to a sense of agreement with the management. Positive attitude towards university make them more proactive and supportive in the organization and vice versa. As shown in Table 4.6, five items were used to measure this variable.

Table 4.6

Items Constituting Attitude towards University

The final say to adopt or not to adopt student centred learning approach is on the hand of lecturers
Lecturers incline to adopt active teaching if they feel happy with the university
Top management commitment is critical in ensuring the success of student centred learning
I will adopt active teaching if working environment is conducive for it
The university should be blamed if the adoption of student centred learning approach is disappointing

All the items were constructed by the researcher. This strategy need to be adopted in this study because, as far as the researcher is concerned, there are only few studies that relate attitude towards university to active teaching commitment and commitment to encourage students to share knowledge and from the perspective of Malaysian higher education institutions. A Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used for these items. The highest score (5 items x 7 points = 35 points) indicates that the respondents perceive this variable as the enabler of knowledge sharing and in turn active teaching in the classroom and the lowest score (5 items x 1 point = 5 points) indicates vice versa.

4.3.2 Commitment to Encourage Students to Share Knowledge

This is a mediating variable and it is operationalized as the extent to which lecturers encourage students to externalize and share tacit knowledge in the classroom persistently. Table 4.7 illustrates five items that were used to measure knowledge sharing.

Table 4.7

Items Constituting Commitment to Encourage Students to Share Knowledge

During active teaching, lecturers and students share knowledge actively
Sharing ability enables lecturers to guide students to learn
Sharing ability enables students to express ideas actively in the classroom
Knowledge sharing is a basis for smooth implementation of active teaching and learning
Students must know how to share knowledge to develop their thinking skills

All the items were constructed by the researcher. This action need to be undertaken by the researcher since, as far as the researcher is concerned, there are only few studies that relate commitment to encourage students to share knowledge to active teaching commitment and from the perspective of Malaysian higher education institutions. A Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used for these items. The highest score (5 items x 7 points = 35 points) indicates that the respondents perceive this variable as the enabler of active teaching and the lowest score (5 items x 1 point = 5 points) indicates vice versa.

4.3.3 Active Teaching Commitment

This is a dependent variable and it is operationalized as a method that focuses on student learning (outputs) through active engaging learning rather than delivery of knowledge (input) that emphasizes passive learning only. As shown in Table 4.8, six items were used to measure this variable.

Table 4.8

Items Constituting Active Teaching Commitment

Active learning helps students to think critically
Lecturers should take on the role of facilitators in the classroom
Problem based learning enables students to improve their soft skills
I encourage two way communication in the classroom
Learner centred learning is more practical to prepare students to face rapidly changing business environment
I imagine needed soft skills in real practical setting when facilitating learning process in the classroom

All the items were constructed by the researcher. This strategy need to be adopted in this research because, as far as the researcher is concerned, there are only few studies that examine active teaching commitment from the perspective of Malaysian higher education institutions. A Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used for these items. The highest score (6 items x 7 points = 42 points) indicates that lecturers' commitment in active teaching is high and the lowest score (6 items x 1 point = 6 points) indicates vice versa.

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4.4 Research Equation

Based on the discussion in Chapter 3, this study intends to examine the effect of independent variables (faith, sincerity, contemplation, goal obsession, means and attitude towards university) on dependent variables (active teaching commitment and commitment to encourage students to share knowledge). Research equations for these relationships are formed based on standard multiple regression analysis since it is the most appropriate approach to test the influence of a set of independent variables (X_1, X_2,...X_n) on one dependent variable (Y) (Coakes & Steed, 2003; Hair et al., 2006; Pallant, 2010). In this case, all the independent variables are entered into the equation simultaneously and each independent variable is evaluated in terms of its predictive power (Regression Coefficient = β) (Coakes & Steed, 2003; Hair et al., 2006; Pallant, 2010).

In making the prediction of the dependent variables, accuracy can be improved by utilizing a constant (a) in the regression mode known as the intercept (Hair et al., 2006). The intercept represents the value of the dependent variable when all of the independent variables have a value of zero (Hair et al., 2006). If the value of independent variables never can have a true value of zero such as perceptions, the intercept assists in improving the prediction process, but has no explanatory value (Hair et al., 2006). Meanwhile, Residual (e) is the error in predicting sample data. This error is an estimate of the true random error in population (ε) (Hair et al., 2006). The general mathematical equation in standard multiple regression analysis is as follows:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_n X_n + e$$

Where:

Y = Dependent Variable

a = Constant

β = Regression Coefficient

X = Independent Variable

e = Residual

Therefore, the research equations for the above relationships are expressed as follows:

$$ATC = a + \beta_1 F + \beta_2 S + \beta_3 C + \beta_4 GO + \beta_5 M + \beta_6 ATU + e$$

$$CESSK = a + \beta_1 F + \beta_2 S + \beta_3 C + \beta_4 GO + \beta_5 M + \beta_6 ATU + e$$

Where:

ATC = Active Teaching Commitment

CESSK = Commitment to Encourage Students to Share Knowledge

a = Constant

β = Regression Coefficient

F = Faith

S = Sincerity

C = Contemplation

GO = Goal Obsession

M = Means

ATU = Attitude towards University

The above equations show that six independent variables (faith, sincerity, contemplation, goal obsession, means and attitude towards university) are used to predict active teaching commitment and commitment to encourage students to share knowledge (dependent variables) (Coakes & Steed, 2003; Hair et al., 2006; Pallant, 2010). The relative contribution of each independent variable is assessed in terms of Regression Coefficient (β) (Coakes & Steed, 2003; Hair et al., 2006; Pallant, 2010). The set of independent variables forms the regression variate, a linear combination of the intrinsic values used collectively to predict active teaching and knowledge sharing activities (Hair et al., 2006).

Since independent variables can never have a true value of zero, the intercept or constant (a) in the equation has no explanatory value (Hair et al., 2006). Therefore, the function of intercept is to improve the prediction accuracy of active teaching and knowledge sharing activities (Hair et al., 2006). In addition, Residual (e) is the error in predicting the research sample data. This error is an estimate of the true random error in the research population (ε) (Hair et al., 2006).

Hierarchical regression is also carried out to examine the effect of commitment to encourage students to share knowledge as a mediating variable on the relationship between faith, sincerity, contemplation, goal obsession, means and attitude towards university and active teaching. This leads to the following research equation:

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$$ATC = a + \beta 1F\Delta CESSK + \beta 2S\Delta CESSK + \beta 3C\Delta CESSK + \beta 4GO\Delta CESSK + \beta 5M\Delta CESSK + \beta 6ATU\Delta CESSK + e$$

Where:

ATC = Active Teaching Commitment

CESSK = Commitment to Encourage Students to Share Knowledge

a = Constant

β = Regression Coefficient

Δ = Changing Level

F = Faith

S = Sincerity

C = Contemplation

GO = Goal Obsession

M = Means

ATU = Attitude towards University

4.5 Data Collection

4.5.1 Data Gathering

Data of this study were gathered through a survey approach. Survey is considered to be the favoured tool for data collection amongst quantitative researchers (Fowler, 2009). In addition, it is one of the most common data collection methods for

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examining the participation in active teaching and learning activities (Barr & Tagg, 1995; Closson, 1996; O'Banion, 1999; Baxter, Terenzini, & Hutchings, 2002).

Survey research suits the unit of analysis of this study, which are lecturers in the Malaysian higher education institutions. Dwivedi (2005) suggested that when the unit of analysis is individual rather than organization, survey approach is more preferable than other approaches such as case study. This is because of several research issues such as convenience, cost, time and accessibility (Dwivedi, 2005; Gilbert, 2001). In other words, survey approach facilitates data collection from the majority of respondents within a short period of time, which was the main gist of this research (Fowler, 2009; Zikmund, 2003). In addition, since this study involves hypotheses testing and validation of theoretical framework, survey approach is considered the most suitable one (Dwivedi, 2005). This is applicable to this study since, as discussed in Chapter 3, it has theoretical framework and hypotheses.

To recapitulate, survey is the most appropriate and feasible approach for this research. This results in the use of questionnaire. The discussion on survey instrument development process is offered in Chapter 5.

4.5.2 Population

The population of this study was lecturers in Malaysian universities. They were selected because: (1) participation in active teaching activities is necessary to develop critical thinking in the classroom that translates into future workforce development (Baxter, Terenzini, & Hutchings, 2002); and (2) their professional work

is critical to public given that they prepare younger generation to lead the country in the future. The sample frame was identified from the current university list of Ministry of Education. In 2014, there are 22 public universities and 40 private universities throughout the country. All these universities were included in this study. The number of lecturers that hold at least doctorate degree is approximately 10,000 (Ministry of Education website).

4.5.3 Sample Size

Sekaran (2003) suggested that 370 respondents as an appropriate sample size to statistically represent a population of 10,000. Therefore, the researcher decided to distribute 370 (approximately 3.7% of the population) questionnaires to the respondents.

4.5.4 Survey Procedure

This study utilized stratified random sampling as a sampling technique (Sekaran, 2003; Fowler, 2009; Babin & Griffin, 2010). Stratified random sampling, as its name implies, involves a process of stratification or segregation, followed by random selection of subjects from each stratum (universities) (Sekaran, 2003; Fowler, 2009; Babin & Griffin, 2010). It allows every element in the population to have equal probability of being chosen (Sekaran, 2003). It also has the least bias and offers the most generalizability (Sekaran, 2003). A total of 370 lecturers in public and private universities across Malaysia were randomly selected. As stated above 62 universities participated in this study. Thus 6 questionnaires (370/62) were distributed to every

university. The questionnaires were distributed by liaison lecturers (most of them are deans of the faculty or school) of the universities.

The main advantage of mail survey is that a wide geographical area can be covered in the survey (Sekaran, 2003). Since the respondents of this study are scattered across Malaysia, mail survey is considered the most appropriate one. Mail survey is less expensive compared to other survey methods such as face-to-face and telephone (Ahmad-Mahdzan, 1997; Fowler, 2009). This method is expected to provide a high precision rate if the questionnaires are returned within the same time or nearly the same time (Ahmad-Mahdzan, 1997). Besides that, mistakes or errors that caused by enumerators can be avoided (Ahmad-Mahdzan, 1997). Another advantage of this approach is that the respondents can complete the questionnaires at their own convenience such as at their house or workplace (Sekaran, 2003).

However, there are several disadvantages when using mail survey. The response rate of mail survey is typically low. Techniques used to achieve a better response rate include enclosing a cover letter, increasing the sample size, doing follow-up through telephone, enclosing tokens as incentives with the questionnaire, and providing the respondents with self-addressed and stamped return envelopes (Sekaran, 2003). In addition, mail survey is not suitable for complicated and difficult survey questions (Ahmad-Mahdzan, 1997). This problem was overcome by conducting survey instrument development process (see Chapter 5). In this sense, feedbacks and findings received from the instrument development process were utilized to improve the questionnaire. Another disadvantage of mail survey is that any doubts the respondents might have cannot be clarified (Sekaran, 2003). This problem was

minimized by forming clear, concise and specific items in the questionnaire (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In addition, there is a possibility that the respondents' answers are influenced by other people (Ahmad-Mahdzan, 1997). This problem is beyond the researcher's control. However, in the cover letter, the respondents' were asked to offer sincere views. Bearing the advantages and disadvantages of mail survey in mind, it was then employed

4.5.5 Administration and Field Work

The questionnaires were sent together with a cover letter. The respondents were asked to answer and return the questionnaires within four weeks to the researcher (some were collected by hand and some were posted to the researcher's address). After this period, the respondents and liaison lecturers were contacted to do the follow up process. Data collection was stopped when the sample size had achieved sufficient level for statistical analyses. The data collection period took approximately three months from March 2014 to May 2014.

4.6 Data Analysis

The collected data of this research was analyzed using Statistical Package for Social Research (SPSS) version 21.0. SPSS was selected because it facilitates and offers all the required statistics for data analysis such as descriptive statistics, Chi-square tests, independent sample t-tests, factor analysis, reliability analysis and standard multiple regression analysis (Pallant, 2010). Data analysis of this research involved four stages, namely, data examination, goodness of measures, descriptive statistics and

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standard multiple regression analysis. The definition and description of each stage are offered in the following subsections.

4.6.1 Data Examination

The first stage of data analysis of this study was data examination and it involved two main steps, namely, data screening and data testing to fulfill the multivariate assumptions. This stage is essential to ensure that the data meet requirements for multivariate analyses such as factor analysis and standard multiple regression analysis (Hair et al., 2006).

4.6.1.1 Data Screening

The purpose of data screening is to clean the data to a format most suitable for multivariate analysis (Hair et al., 2006). For the data screening, three tests were performed. They were missing data, response bias and outliers identification.

4.6.1.1.1 Missing Data

Missing data can be defined as valid values on one or more variables are not available for analysis (Hair et al., 2006). Two options are available when dealing with missing data (Hair et al., 2006). If the sample is adequate, the questionnaires that have missing data will be excluded from this research. However, if excluding the questionnaires that have missing data results in inadequate sample size for statistical

analyses, remedies for missing data will be applied such as mean substitution method (Hair et al., 2006).

4.6.1.1.2 Response Bias

Response bias test is performed to examine whether there is a significant difference between early and late response groups. For this purpose, the early response group was coded as 1 and the late response group was coded as 2. A period of four weeks was utilized as a benchmark to demarcate between the two groups. This four-week period is considered to be adequate for the respondents to complete and return the questionnaires to the researcher. Chi-square tests and independent sample t-tests were run to both groups. The chi-square test was conducted for categorical variables (demographic profiles) of respondents such as gender, age, number of years as lecturers, and number of years working in the university. Independent sample t-tests were conducted on study variables. Significant values ($p<0.05$) for both tests indicate the existence of response bias while non-significant values ($p>0.05$) indicate vice versa (Coakes & Steed, 2003; Pallant, 2010).

4.6.1.1.3 Outliers Identification

Outliers are observation with a unique combination of characteristics identifiable as distinctly different from the other observations (Hair et al., 2006). This research used multiple regression procedure to detect both univariate outliers on dependent variable and multivariate outliers on independent variables (Coakes & Steed, 2003). Univariate outliers can be detected using studentized residuals. Studentized residuals

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are z-scores computed for a case based on the data for all other cases in the data set (Coakes & Steed, 2003). Coakes and Steed (2003) suggested that a case in the data set is univariate outlier if the z-score for studentized residual is greater than $\pm$ 3.0. Meanwhile, multivariate outliers can be detected by inspecting Mahalanobis distances that are presented in the data set (Pallant, 2010). To identify which cases are multivariate outliers, the researcher determines the critical chi-square value using the number of independent variables as the degree of freedom at alpha level of 0.001 (Pallant, 2010; Tabachnick & Fidell, 2007). In this study, there are 6 independent variables, therefore, the critical value is 31.26 (Tabachnick & Fidell, 2007). Any of the cases in the data set that have a Mahalanobis distance value exceeding this value is designated as multivariate outlier. The identified univariate and multivariate outliers will be removed from this research.

4.6.1.2 Data Testing – Tests on Multivariate Assumptions

Multivariate assumption tests are foundation for making conclusions and providing statistical results (Hair et al., 2006). They are also a pre-requisite before factor analysis and standard multiple regression analysis can be performed (Hair et al., 2006). There are four tests to meet the multivariate assumptions which are normality, linearity, homoscedasticity and multicollinearity (Hair et al., 2006).

4.6.1.2.1 Normality

The first multivariate assumption is normality. Data normality test is important to assess whether score for each variable is normally distributed or not (Hair et al.,

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2006). This research utilized statistics for skewness and kurtosis to assess the normality of data because they are appropriate for interval level data (Coakes & Steed, 2003). Skewness and kurtosis refer to the shape of the distribution (Coakes & Steed, 2003). Positive values for skewness indicate a positive skew, while positive values for kurtosis indicate a distribution that is peaked. On the other hand, negative values for skewness indicate a negative skew, while negative values for kurtosis indicate a distribution that is flatter (Coakes & Steed, 2003). Normality of data is assumed if statistics for skewness and kurtosis are less than ± 2.58 (as suggested by Coakes & Steed, 2003; Hair et al., 2006). If the statistics for skewness and kurtosis are more than ± 2.58, transformation is an option that is available to the researcher (Coakes & Steed, 2003).

4.6.1.2.2 Linearity

The second test to meet the multivariate assumption is linearity. The function of linearity test is to evaluate whether the relationship between the independent and dependent variables of this research is linear or otherwise. This research used residual scatterplots to test this assumption (Coakes & Steed, 2003). From the scatterplot of residuals against predicted values, assumption of linearity is achieved if there is no clear relationship between the residuals and the predicted values (Coakes & Steed, 2003).

4.6.1.2.3 Homoscedasticity

The next multivariate assumption is homoscedasticity. Homoscedasticity is defined as the assumption that dependent variable(s) show similar level of variance across the range of independent variables (Hair et al., 2006). For this purpose, Levene test was conducted on the metric variables against the non-metric variable (gender) of this research (Hair et al., 2006). Homoscedasticity assumption is achieved if the relationship between the metric and non-metric variable is not significant ($p>0.001$). Meanwhile, the data is said to be heteroscedastic if the relationship between these variables is significant ($p<0.001$) (Coakes & Steed, 2003; Hair et al., 2006).

4.6.1.2.4 Multicollinearity

The last multivariate assumption is multicollinearity. Multicollinearity is defined as high correlations amongst two or more independent variables (Hair et al., 2006). Hair et al. (2006) argued that the existence of multicollinearity negatively affects the predictive power of each independent variable. This research used Pearson product-moment correlation coefficient, tolerance and variation inflation factor (VIF) to trace if data suffers with the problem of multicollinearity. Based on Pearson product-moment correlation coefficient, multicollinearity problem exists if the correlation between independent variables is above 0.80 (Hair et al., 2006). Based on the tolerance and VIF, data suffers multicollinearity problem if the tolerance value is below a common cutoff threshold value, which is 0.10. This value corresponds to a VIF value of 10 as recommended by Hair et al. (2006).

4.6.2 Goodness of Measures

The second stage of data analysis of this study was to establish the goodness of measures for testing the research hypotheses. To achieve this, the data of this study were initially submitted for factor analysis. Thereafter, the internal consistency of the factors was examined by conducting reliability analysis.

4.6.2.1 Factor Analysis

After examining data, the next stage of data analysis was factor analysis. This analysis is critical to test the basic patterns or relationships for a large number of variables, to determine whether the information can be condensed or summarized in a smaller set of factors or components and to determine the most parsimonious set of factors (Gerbing & Anderson, 1988; Hair et al., 2006).

Factor analysis is also utilized to assess construct validity of the study variables (Hair et al., 2006). Construct validity is defined as the extent to which a set of measured items actually reflects the theoretical latent construct those items are designed to measure (Hair et al., 2006). In other words, it deals with the accuracy of measurements (Hair et al., 2006). It also provides confidence that item measures from a sample represent the actual true score that exists in the population (Hair et al., 2006). Construct validity can be divided into convergent validity and discriminant validity. Convergent validity refers to items that are indicators of a specific factor should converge or share a high proportion of variance in common (Hair et al., 2006). Meanwhile, discriminant validity refers to the extent to which a factor truly

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distinct from other factors (Hair et al., 2006). This means that high discriminant validity provides evidence that a construct is unique and captures some phenomena other measures do not (Hair et al., 2006). In this research, construct validity for both convergent validity and discriminant validity were established by examining the factor loadings to ensure that, once cross-loading items are dropped, items load cleanly on factors upon which they are posited to load and do not cross-load on factors upon which they should not load (see below) (Straub et al., 2004).

Several statistical values in factor analysis were observed to examine whether the items are suitable to be factor analyzed. The first criterion is the anti-image correlation matrix. This matrix is used to assess the sampling adequacy of each item (Coakes & Steed, 2003). Items with a measure of sampling adequacy (MSA) that falls below the acceptable level of 0.50 should be excluded from the analysis (Coakes & Steed, 2003). The second criterion is Kaiser-Meyer-Okin (KMO), the measure of sampling adequacy for overall items (Coakes & Steed, 2003; Hair et al., 2006). If the KMO value is greater than 0.6, the factorability is assumed (Coakes & Steed, 2003; Hair et al., 2006). The last criterion was the Bartlett test of Sphericity (BTOS), a statistical test for the presence of correlations amongst variables (Hair et al., 2006). A large and significant BTOS (sig.<0.05) indicates that sufficient correlations exist amongst the variables to proceed with the factor analysis (Coakes & Steed, 2003; Hair et al., 2006).

Once the items are suitable to be factor analyzed, the next step of factor analysis is to select the factor extraction and rotational methods (Coakes & Steed, 2003; Hair et al., 2006). The factor extraction method of this study was Principal Component

Analysis (PCA) while Varimax was the factor rotational method. PCA with a Varimax rotation is the appropriate approach because the purpose of factor analysis in this research is to summarize most of the original information (variance) in a minimum number of factors for prediction purposes (Coakes & Steed, 2003; Hair et al., 2006). The data that have the same uniqueness are grouped as one construct. In other words, PCA with a Varimax rotation is the most preferred method when the research goal is data reduction to either a smaller number of variables or a set of uncorrelated measures for subsequent use in other multivariate techniques (Hair et al., 2006).

This research used several criteria to interpret the factors. First, eigenvalues of the factors should exceed 1.0. The factors with eigenvalues greater than 1.0 are considered significant (Hair et al., 2006). Second, the derived factors should have a cumulative percentage of variance explained of 60% or higher (Hair et al., 2006). Third, values of rotated factor loading should exceed ±0.50. The factor loadings values greater than ±0.50 are considered practically significant and appropriate for interpretation of structure for a sample size of around 200 (Hair et al., 2006). The next interpretation criterion was all items should have high (significant) loadings only on a single factor. When items are found to have more than one significant loading, they are termed as cross-loading. A cross-loading item is an item that loads at 0.35 or higher on two or more factors (Hair et al., 2006). In this study, items that cross-load will be eliminated to avoid difficulty when interpreting the factor loading matrix (Hair et al., 2006; Singhapakdi, Marta, Rallapalli, & Rao, 2000). Once all the significant loadings have been identified, the last criterion was to assess the communalities of items (Hair et al., 2006). Hair et al. (2006) argued that

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communality is important to assess whether the items meet acceptable levels of explanation or not. In this case, items should generally have communalities of greater than 0.50 to be retained in the analysis (Hair et al., 2006).

Once an acceptable factor solution has been obtained in which all items have a significant loading on a factor, the next step is to assign a name or label to a factor that accurately reflects the items loading on that factor (Hair et al., 2006). However, this step is not required if the items do load onto their original factors (Hemdi, 2005).

4.6.2.2 Reliability Analysis

Reliability analysis is undertaken to determine how well the items measuring a concept link together as a set (Sekaran, 2003). This analysis is important to assess the quality of the survey instrument (Churchill, 1979). This research used Cronbach's alpha value to estimate the internal consistency of items in the instrument. This approach was selected since Cronbach's alpha is an adequate test of internal consistency reliability in almost every case (Churchill, 1979; Sekaran, 2003). The nearer Cronbach's alpha value to 1, the higher the internal consistency reliability is (Sekaran, 2003). The generally agreed upon lower limit for Cronbach's alpha value is 0.60 (Hair et al., 2006). Therefore, the variables (or factors) with Cronbach's alpha values less than 0.60 should be deleted from the analysis (Hair et al., 2006).

4.6.3 Descriptive Statistics

The third stage of data analysis of this research was descriptive statistics. The purposes of descriptive statistics in this research are to explain the trend of the gathered data (Pallant, 2010). Frequencies and percentages were calculated to describe the profile of research respondents such as gender, age and number of years working in the current university. Minimum and maximum scores, mean scores and standard deviations were computed to describe the study variables.

4.6.4 Hierarchical Linear Regressions

Lastly, the hierarchical linear regressions were utilized to measure the linkage between independent variables (faith, sincerity, contemplation, goal obsession, means and attitude towards university), dependent variable (active teaching commitment) and mediating variable (commitment to encourage students to share knowledge). If it is statistically significant, such model is considered significantly mediated (Hair et al., 2006; Baron & Kenny, 1986). This research considered in regards to mediator that: (1) independent variables are related to dependent variable significantly; (2) independent variables are related to mediating variable significantly; (3) when independent variables and mediating variable are regressed against dependent variable, mediating variable is significant (Ramayah, 2011; Baron & Kenny, 1986); and (4) in view of the fact from third step, if the beta value of independent decrease or increase, if it is still significant hence partial mediation or full mediation occurs and such model is considered significantly mediated (Hair et al., 2006; Baron & Kenny, 1986).

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4.7 Summary

This chapter defines and describes the adopted research methods of this research. The discussions consist of methods suitability, advantages and also their disadvantages. The study of a complicated scenario such as the determinants of knowledge sharing and active teaching demands detailed research work. Therefore, the decision to adopt the quantitative survey approach fits with the research questions, objectives and statistical analyses. In the next chapter, instrument development process will be presented.

CHAPTER 5

SURVEY INSTRUMENT DEVELOPMENT

5.1 Introduction

This chapter offers a discussion on the process of developing survey instrument of this research. The discussion is divided into two sections, namely, general appearance of the questionnaire and refinement of the questionnaire. Finally, a summary of the chapter is provided.

5.2 General Appearance of the Questionnaire

According to Sekaran (2003), besides focusing on wording and measurement, it is also necessary to pay attention to how the questionnaire should look like. The following strategies were adopted to enhance the respondents' motivation in completing the questionnaire. First, a cover letter that discloses the identity of the researcher, conveys the purpose and importance of the survey and mentions about the confidentiality of the information provided by the respondents was attached to the questionnaire (Sekaran, 2003). Second, the items were grouped based on content similarity and areas (Dillman, 1978; Sekaran, 2003). Third, the items in the questionnaire were arranged in descending order in terms of importance and usefulness (Dillman, 1978). Fourth, the instructions on how to complete the items in each section were provided (Sekaran, 2003). Last but not least, a courteous note was also stated at the end of the questionnaire.

Since the range of possible responses for a scale can vary, all items for dependent, independent and mediating variables of this research were measured using seven points Likert scale. Seven points Likert scale was utilized since it is one of the most commonly used point scales to capture information on a range of phenomena in social science research (Dawes, 2008; Malhotra & Peterson, 2006; Tannenbaum, 1997). Dawes (2008) argued that previous simulation and empirical studies have generally concurred that reliability and validity are improving when using seven points scale than those with fewer scale points. He further argued that in relation to the distribution of data, more scale points (for instance, seven versus five points scales), provide more options for the respondents and would result in a greater spread of the data and larger variance (Dawes, 2008).

The final questionnaire of this research is illustrated in Appendix 1. The questionnaire has 44 variable items, one open-ended item and three demographic questions on seven-page-double-sided paper using English as the command language and in a booklet form. It is divided into nine sections. The sections are as follows: (A) Active Teaching Commitment; (B) Faith; (C) Means; (D) Contemplation; (E) Sincerity; (F) Goal Obsession; (G) Attitude towards University; (H) Commitment to Encourage Students to Share Knowledge; and (I) Demographic Information.

5.2.1 Section A: Active Teaching Commitment

This section requires the respondents to rate the extent that the students learn through active engaging learning rather than delivery of knowledge that emphasizes passive learning only. It consists of six items that were constructed by the researcher. Likert

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scales with a range from 1 (strongly disagree) to 7 (strongly agree) was used to measure the six items of active teaching and learning activities (adopted from Sekaran, 2003).

5.2.2 Section B: Faith

In this section, the respondents are required to rate the role of trust or confidence in undertaking and accomplishing organizational tasks. It consists of eight items that were constructed by the researcher. Likert scales with a range from 1 (strongly disagree) to 7 (strongly agree) was used to measure the eight items of faith (adopted from Sekaran, 2003).

5.2.3 Section C: Means

In this section, the respondents are required to rate the extent to which staff members can undertake tasks based upon "the right approach for the right situation". It consists of five items that were constructed by the researcher. Likert scales with a range from 1 (strongly disagree) to 7 (strongly agree) was used to measure the five items of means (adopted from Sekaran, 2003).

5.2.4 Section D: Contemplation

The respondents are then required to rate the extent to which staff members contemplate the reward or profit that they will get before doing something. If the benefits outweigh the effort or cost then it is worth it to give a try and vice versa. It

consists of six items that were constructed by the researcher. Likert scales with a range from 1 (strongly disagree) to 7 (strongly agree) was used to measure the six items of contemplation (adopted from Sekaran, 2003).

5.2.5 Section E: Sincerity

This section consists of items that rate the extent to which staff members have a feeling that they work for the sake of the company and for fulfilling their responsibility to the company. It consists of three items that were constructed by the researcher. Likert scales with a range from 1 (strongly disagree) to 7 (strongly agree) was used to measure the three items of sincerity (adopted from Sekaran, 2003).

5.2.6 Section F: Goal Obsession

This section intends to obtain feedback from the respondents regarding the extent to which staff members understand and think about their organizational aims and targets at the workplace. It consists of six items that were constructed by the researcher. Likert scales with a range from 1 (strongly disagree) to 7 (strongly agree) was used to measure the six items of goal obsession (adopted from Sekaran, 2003).

5.2.7 Section G: Attitude towards University

This section intends to obtain feedback from the respondents regarding the extent to which lecturers incline to adopt active teaching and motivate students to externalize and share their tacit knowledge in the classroom due to a sense of agreement with the

management. It consists of five items that were constructed by the researcher. Likert scales with a range from 1 (strongly disagree) to 7 (strongly agree) was used to measure the five items of attitude towards university (adopted from Sekaran, 2003).

5.2.8 Section H: Commitment to Encourage Students to Share Knowledge

The respondents are then requested to give feedback on the extent to which lecturers and students externalize and share tacit knowledge in the organization persistently. To achieve this, five items were constructed by the researcher. Likert scales with a range from 1 (strongly disagree) to 7 (strongly agree) was used to measure the five items of knowledge sharing (adopted from Sekaran, 2003).

5.2.9 Section I: Additional Question

In this section, an open-ended item was provided. This is to enable the respondents to share additional individual intrinsic values humanistic elements that can encourage the implementation of active teaching and knowledge sharing activities in the higher education institutions.

5.2.10 Section J: Demographic Information

This section contains three demographic questions to identify the gender, age and number of years working in the current university of the respondents. Gender was measured using nominal scale (Male and Female) (as suggested by Sekaran, 2003). Ordinal scale was used to measure age (21-30 years, 31-40 years, 41-50 years, 51-60

years and Over 60 years) and number of years working in the current university (5

years or less, 10 years or less, 15 years or less, 20 years or less and Over 21 years)

(as suggested by Sekaran, 2003).

5.3 Refinement of the Questionnaire

Several scholars suggested that the reliability and validity of the developed items in

the questionnaire must be evaluated (Sekaran, 2003; Straub et al., 2004). Thus,

before gathering the primary data, several steps were carried out to further refine the

questionnaire of this research. The researcher undertook three steps, which were

content validity, pre-testing and pilot study to further improve the reliability and

validity of the research questionnaire. This strategy is in tandem with the one that

was suggested by Sekaran (2003) and Straub et al. (2004). Table 5.1 summarizes the

list of study variables included in the various stages of refinement of the

questionnaire.

Table 5.1

List of Study Variables Included in the Various Stages of Refinement of the

Questionnaire

No.	Study Variables	Content Validity	Pre-Testing	Pilot Study
1.	Faith	Yes	Yes	Yes
2.	Means	Yes	Yes	Yes
3.	Contemplation	Yes	Yes	Yes
4.	Sincerity	Yes	Yes	Yes
5.	Goal Obsession	Yes	Yes	Yes
6.	Attitude towards university	Yes	Yes	Yes
7.	Commitment to encourage student to share knowledge	Yes	Yes	Yes
8.	Active teaching commitment	Yes	Yes	Yes

5.3.1 Content Validity

Hair et al. (2006) argued that content validity must be established prior to any statistical analyses. In general, content validity is an issue of representation (Straub et al., 2004). Specifically, it refers to the degree to which items in an instrument reflect the content universe to which the instrument will be generalized (Straub et al., 2004). Straub et al. (2004) argued that empirical assessment of this validity is generally not required. Thus, content validity of this research was established through literature review and expert panel's recommendation (Sekaran, 2003; Straub et al., 2004).

The process of constructing items in this research began with a review of the relevant theories and previous research work (Selamat & Choudrie, 2007; Amayah, 2013; McMillan et al., 2003; Lohman, 2009). Items (statements) considered to be relevant were then constructed in this research (see measurement of variables section in Chapter 4).

To further check for content validity, several rounds of meeting with different expert panels were conducted (Hair et al., 2006; Straub et al., 2004). For this purpose, personal communications were held between the researcher and six deans in the SEGi University. In addition, three academicians who are experts in the field of study were also consulted. Several recommendations from the experts were taken into consideration.

One of the recommendations made by the panels was to provide an open-ended item in the questionnaire. This is important to provide a mechanism for obtaining other potential individual intrinsic values that could enable knowledge sharing and active teaching activities that were not found in the previous studies. Thus the following open-ended question was included: "Please identify any other humanistic elements that can encourage knowledge sharing and active teaching in the classroom." (see Section I).

The second recommendation was to relocate the demographic information section. In the original version, the demographic information was located at the first section in the questionnaire. In the revised version, the information was located at the last section of the questionnaire. Several experts believed that the relocation is important to maintain confidentiality amongst respondents that their identity is protected and their responses are for academic purposes.

5.3.2 Pre-Testing

It is important to pre-test the questionnaire to ensure that the respondents understand the given items and there are no problems with the wording or measurement (Sekaran, 2003). Pre-testing involves the use of a small number of respondents to test the appropriateness of the items and their comprehension (Sekaran, 2003). Boyd, Westfall and Stasch (1977) recommended that a sample of 20 is satisfactory for pre-testing. In addition, the pre-testing should use the respondents who are as similar as possible to the targeted respondents (Tull & Hawkin, 1976). To fulfill all these requirements, 20 questionnaires were pre-tested on SEGi University lecturers in December 2013.

In pre-testing the questionnaire, five fundamental issues were addressed, namely, the length of the questionnaire, the understandable of the items, the suitability of the scales, the design of the questionnaire and the time required in completing the questionnaire (Hunt, Sparkman, & Wilcox, 1982; Sekaran, 2003). Table 5.2 indicates that 13 (65%) respondents opined that the length of the questionnaire was appropriate. 16 (80%) respondents reported that the items were understandable and 15 (75%) of them indicated that the scales used were suitable to measure the items. 17 (85%) respondents opined that the design of the questionnaire was suitable for mail survey. In addition, the respondents spent between 10 and 20 minutes to complete the questionnaire. Since the results of the pre-testing were quite encouraging, the modification was not required.

Table 5.2

Pre-Test Results (N=20)

No.	Questions	Frequencies	Percentage
1.	Is the length of the questionnaire appropriate?		
	Yes	13	65
	No	7	35
2.	Are the items understandable to answer?		
	Yes	16	80
	No	4	20
3.	Are the scales suitable to measure the items?		
	Yes	15	75
	No	5	25
4.	Is the design of the questionnaire suitable for mail survey?		
	Yes	17	85
	No	3	15
5.	How long it takes to complete the questionnaire?		
	Between 10 and 15 Minutes	12	60
	Between 16 and 20 Minutes	8	40

5.3.3 Pilot Study

This subsection discusses the empirical results and analysis process for the pilot study. There are two ways to use the term of pilot study in social science research. Pilot study can be called as feasibility studies. It involves a small scale version of study or trial study that is undertaken by the researcher as a preparation for the major study (Polit, Beck, & Hungler, 2001). However, a pilot study can also be used as a pre-trial or 'trying out' of a particular research instrument (Baker, 1994). One of the advantages of conducting a pilot study is that it might provides advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated. This is in tandem with the statement made by De Vaus (1993) whereby he said that "Do not take the risk. Pilot test first." (p.54). Thus the purpose of undertaking the pilot study in this research was to establish the reliability of survey instrument. The refined survey instrument is then used to collect and analyze primary data of this research.

A pilot study was conducted with 20 lecturers in several universities located in Petaling Jaya and Kuala Lumpur in January 2014. All questionnaires were returned and can be used for data analysis.

To examine the internal consistency of the survey instrument, the Cronbach's alpha vales were calculated. Table 5.3 illustrates the results for the Cronbach's alpha values for all variables. In overall, the Cronbach's alpha values for all variables of

this research pilot study varied between 0.712 for contemplation and 0.873 for faith.

Four variables possessed Cronbach's alpha values above 0.80 (faith, sincerity, commitment to encourage students to share knowledge, active teaching commitment) and another four between 0.70 and 0.80 (means, contemplation, goal obsession, attitude towards university). In other words, none of the variables of this research pilot study demonstrated below the minimum reliability level (<0.60) (Hair et al., 2006). The good Cronbach's alpha values for all variables imply that they are internally consistent and measuring the same content universe (Churchill, 1979; Sekaran, 2003).

Table 5.3

Reliability of Survey Instrument (N=20)

No.	Study Variables	Number of Items	Cronbach's Alpha Values
1.	Faith	8	0.873
2.	Means	5	0.765
3.	Contemplation	6	0.712
4.	Sincerity	3	0.802
5.	Goal Obsession	6	0.785
6.	Attitude towards university	5	0.744
7.	Commitment to encourage students to share knowledge	5	0.817
8.	Active teaching commitment	6	0.861

To recapitulate, as the results and analysis process of the pilot study were considered acceptable, it was suggested that the survey instrument does not require any modification and was considered appropriate for the primary data collection.

5.4 Summary

This chapter describes the survey instrument development process in depth. The process is important to establish validity and reliability of the instrument. Data analysis and results of this research are presented in the next chapter.

CHAPTER 6

DATA ANALYSIS AND RESULTS

6.1 Introduction

This chapter discusses the results of data analysis. The presentation of this chapter would be as follows. Firstly, the response rate would be highlighted. Thereafter, data examination is explained. The goodness of measures is then discussed. This is followed by the demographic profiles of the respondents. Descriptive statistics are then offered. A standard multiple regression analysis is then discussed to test the research hypotheses. Finally, a summary of the discussion is provided.

6.2 Response Rate

As stated in Chapter 4, the researcher distributed 370 questionnaires to the lecturers in Malaysian public and private universities. Some of the questionnaires were posted through mail and some were given by hand (especially to the universities around Klang Valley). All the respondents hold at least doctorate degree. The data collection period took approximately three months, from March 2014 to May 2014. Out of 370 distributed questionnaires, 253 were returned. This resulted in a response rate of 68.38%. As suggested by Sekaran (2003), a response rate of 30% is considered adequate for mail survey research. Based on this suggestion, the response rate of this study (68.38%) was above the recommended rate. In turn, the findings of this research can be generalized to the population.

6.3 Data Examination

Data examination in this study involved two main steps, namely, data screening and data testing to meet the multivariate assumptions (Hair et al., 2006).

6.3.1 Data Screening

As stated in Chapter 4, three tests were performed for data screening. The tests were missing data, response bias and outliers identification. The results of the tests are discussed in the following subsections.

6.3.1.1 Missing Data

Missing data is defined as information not available for a case about whom other information is available (Hair et al., 2006). In this study, missing data was reduced by checking for errors in all the variables at the point of time the questionnaires were received from the respondents. The respondents were contacted through telephone or e-mail if the researcher found any unanswered questions and asked them to complete the questionnaires. In addition, the researcher conducted frequency distribution and missing value analysis for each variable to ensure that all collected data were cleaned. The issue of missing data was able to be solved by the researcher at the end of the stipulated data collection period which is at the end of May 2014.

6.3.1.2 Response Bias

The issue of non-response bias occurs in statistical surveys if the answers of respondents differ from the potential answers of those who did not answer. For purposes of this research, non-response bias is defined as a bias that exists in survey results when respondents to a survey are different from those who did not respond in terms of demographic or attitudinal variables, or other variables relevant to the survey topic (Coakes & Steed, 2003; Pallant, 2010). It is a function of: (1) the proportion of non-respondents in the total sample; and (2) the extent to which there is a systematic discrepancy between respondents and non-respondents on variables relevant to the inquiry. The presence of non-response bias is a threat to the external validity or generalizability of research findings to the target population of a study (Coakes & Steed, 2003; Pallant, 2010). A well-designed survey and a research-based administration method, following generally acceptable protocols and procedures as well as reporting them in the research analysis, are the first-steps in the attempt to increase response rates and also control for non-response bias (Coakes & Steed, 2003; Pallant, 2010).

Approach used to test non response bias is using one-way ANOVA analysis. For the purpose of this study, respondents from all over of Malaysia were selected. Mean score for all variables; were then computed for all respondent from each state. The mean scores were compared to examine the differences in each state of responses. The results are shown in Table 6.2. It is found that there were no differences in the responses in all variables. Hence, the data used in this study is free from bias.

Out of 253 respondents, 112 respondents were coded as early response group (received within four weeks) while the remaining 141 were coded as late response group (received after the four weeks). Chi-square tests and independent sample *t*-tests were undertaken to both groups. The chi-square tests were conducted for categorical variables (demographics profiles) of this study. Table 6.1 presents the results of the tests.

Table 6.1

Results of Chi-Square Tests for Response Bias between Early and Late Response Groups (N=253)

Categorical Variables	Early	Late	χ^2	*p-value Sig. (2-sided)
Gender:			1.41	.24
Male	59	70		
Female	53	71		
Age:			1.12	.77
21-30 years	16	19		
31-40 years	44	54		
41-50 years	31	47		
51-60 years	16	16		
Over 60 years	5	5		
Numbers of Years Working in the University			3.45	.49
5 years or less	31	44		
10 years or less	48	50		
15 years or less	18	23		
20 years or less	10	14		
Over 21 years	5	10		

Note:*p<0.05

As illustrated in Table 6.1, the results of chi-square tests did not indicate any significant differences (p>0.05) between two groups of respondents in terms of gender, age and number of years working in the university. Thus, it can be said that

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there was no serious response bias for categorical variables of this study (Coakes &
Steed, 2003; Pallant, 2010).

Additionally, the researcher undertook independent sample *t*-tests on all variables to
examine whether the mean scores for early and late response groups were
significantly different from each other. The results of the tests are illustrated in Table
6.2.

Table 6.2

Results of Independent Samples t-Tests for Response Bias between Early and Late
Response Groups (N=253)

No.	Variables	Early (N=112)		Late (N=141)		*p-value Sig. (2-tailed)
		Mean	Standard Deviation	Mean	Standard Deviation	
1.	Faith	5.7567	.48827	5.7465	.53388	.220
2.	Means	5.8643	.61349	5.9589	.61110	.523
3.	Contemplation	5.7932	.60950	5.8901	.56408	.210
4.	Sincerity	5.7530	.46659	5.7447	.49544	.307
5.	Goal obsession	3.9345	.54998	3.9125	.53400	.496
6.	Attitude towards university	3.9304	.49335	3.8922	.39606	.053
7.	Commitment to encourage students to share knowledge	5.9375	.38999	5.9248	.40886	.638
8.	Active teaching commitment	5.2192	.37330	5.2396	.38198	.717

Note: *p<0.05

The results of the independent sample *t*-tests indicate that there was no significant
difference (p>0.05) in mean scores for the two groups of respondents. Therefore, it
can be said that there was no serious response bias for all variables (Coakes & Steed,

2003; Pallant, 2010). In short, the results of chi-square tests and independent sample *t*-tests did not indicate any significant differences between the two groups of respondents. Therefore, it can be reasonably concluded that the two groups were from the same population.

6.3.1.3 Outliers Identification

The third test of data screening was the identification of outliers. Outliers are the cases whereby they have data values that are not similar to data values of the majority of cases in the data set. It is critical to identify outliers because they can change the statistical results of data analysis. The decision to include or exclude outliers from the data analysis depends on the reason why the case is an outlier and the purpose of the analysis. To assist in detecting outliers, this study employed the Mahalanobis D^2. Mahalanobis D^2 is a multidimensional version of a z-score. It measures the distance of a case from the centroid (multidimensional mean) of a distribution, given the covariance (multidimensional variance) of the distribution. A case is considered as a multivariate outlier if the probability associated with its D^2 is 0.001 or less. D^2 follows a chi-square distribution with degrees of freedom equal to the number of variables included in the calculation. From the analysis, the data of this study shows no cases of D^2 probability score (p) less than 0.001. Thus, no are treated as outliers and none of them were deleted from the data.

6.3.2 Tests on Multivariate Assumptions

After screening the data, tests to meet four assumptions of multivariate analyses were conducted. The tests were normality, linearity, homoscedasticity and multicollinearity (Hair et al., 2006). The results of the tests are discussed in the following subsections.

6.3.2.1 Normality

6.3.2.1.1 Statistical Approach

The normality of data distribution was determined by calculating skewness and kurtosis values for all the variables. Skewness values illustrate the symmetry of the distribution score and a skew variable's mean will not be at the centre of this distribution; while kurtosis confer information about the 'peakness' of distribution which can be either too peaked (with short and thick tail) or too flat (with long and thin tail) (Tabachnick & Fidell, 2007).

Normal distribution is obtained when the value of skewness and kurtosis is at zero (0). If the position of a cluster of cases is to the left side with a long right tail, it represents positive skewness (Tabachnick & Fidell, 2007). If the position of a cluster of cases is to the right side with a long left tail, it represents negative skewness (Tabachnick & Fidell, 2007). In the case of kurtosis, if the values obtained from the analysis are below zero (0), it indicates a relative flat distribution, which is also known as "playkurtic". If the analysis gives kurtosis values above zero (0), it

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indicates a peak distribution, which is also known as "leptokurtic". T is recommended by researchers that samples be large enough to prevent under-estimation of variance. Perfect normality assumption is rarely achieved. Thus, Hair et al. (2006) recommended the threshold for the rejection of the normality assumption, which are as follows: at absolute values of ± 3.29 at p<0.001 significant level, ± 2.58 at p<0.01 significant level and ± 1.96 at p<0.05 significant level.

This study applied the above suggestions to assess the normality of the variables. From the analysis it is noticeably found that there was no variables that fell outside the ± 3.29 at p<0.001 probability range level. This result was expected since the sample size was 370. A summary of the kurtosis and skewness results for all the variables is provided in Table 6.3. The results show that all the variables were normally distributed. Thus it could be said that all the variables in this study did not deviate the normality test requirement.

Table 6.3

Skewness and Kurtosis for the Variables

Construct	Mean	Std Deviation	Skewness	Kurtosis
Faith	5.7510	.51322	.178	-.556
Means	5.9170	.61275	.055	-.320
Sincerity	5.7484	.48195	-.356	-.947
Contemplation	5.8472	.58543	-.321	-.498
Goal Obsession	3.9223	.54016	-.292	.499
Attitude towards university	3.9091	.44127	-.008	.275
Commitment to encourage students to share knowledge	5.9304	.39988	.259	-.273
Active teaching	5.2306	.37755	-.381	.127

6.3.2.1.2 Visual Approach

The other technique to analyze the normality of the data is by examining the shape of the distribution. Thus visual inspection was conducted to determine that all the variables are normal. Visual approach is an informal approach to test normality in a research. Under this approach, a histogram of the sample data is compared to a normal probability curve. The empirical distribution of the data (the histogram) should be bell-shaped and resemble the normal distribution. Figures 6.1 to 6.8 show the histogram for all variables studied.

Figure 6.1 shows the histogram of element of faith. It can be observed in the figure that the histogram was very well shaped and within the normal curve distribution at the mean = 5.75 and sd = 0.51.
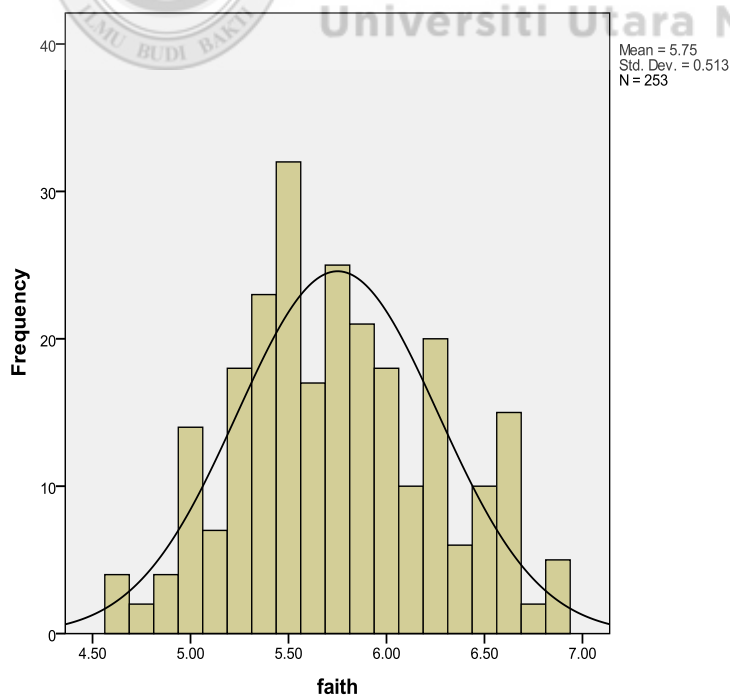
Figure 6.1: Histogram of Element of Faith

This is followed by Figure 6.2 that represents the histogram of element of means. It can be observed in the figure that the histogram was very well shaped and within the normal curve distribution at the mean = 5.92 and sd = 0.61.
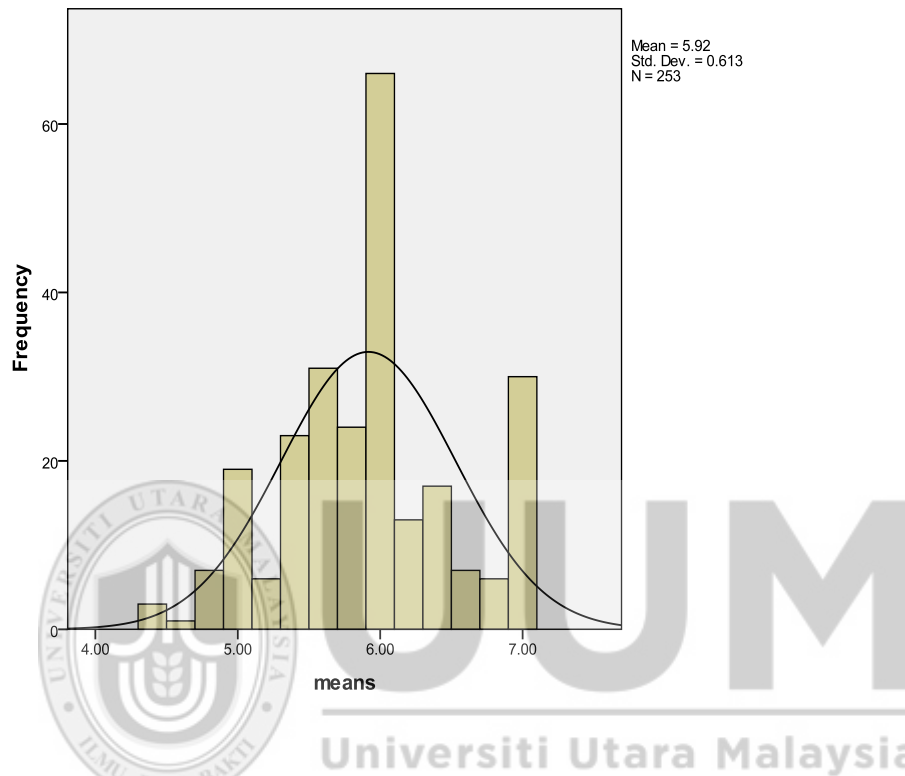
Figure 6.2: Histogram of Element of Means

This is followed by Figure 6.3 that shows the histogram of element of sincerity. It can be observed in the figure that the histogram was very well shaped and within the normal curve distribution at the mean = 5.75 and sd = 0.48.
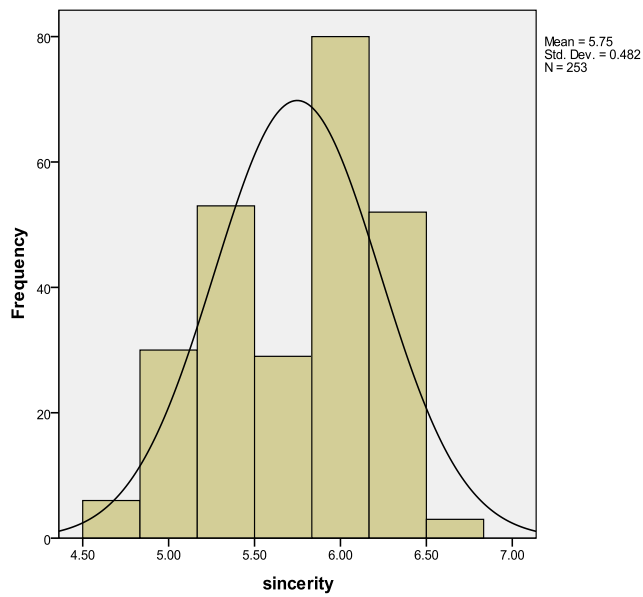
Figure 6.3: Histogram of Element of Sincerity

This is followed by Figure 6.4 that illustrates the histogram of element of contemplation. It can be observed in the figure that the histogram was very well shaped and within the normal curve distribution at the mean = 5.85 and sd = 0.59.
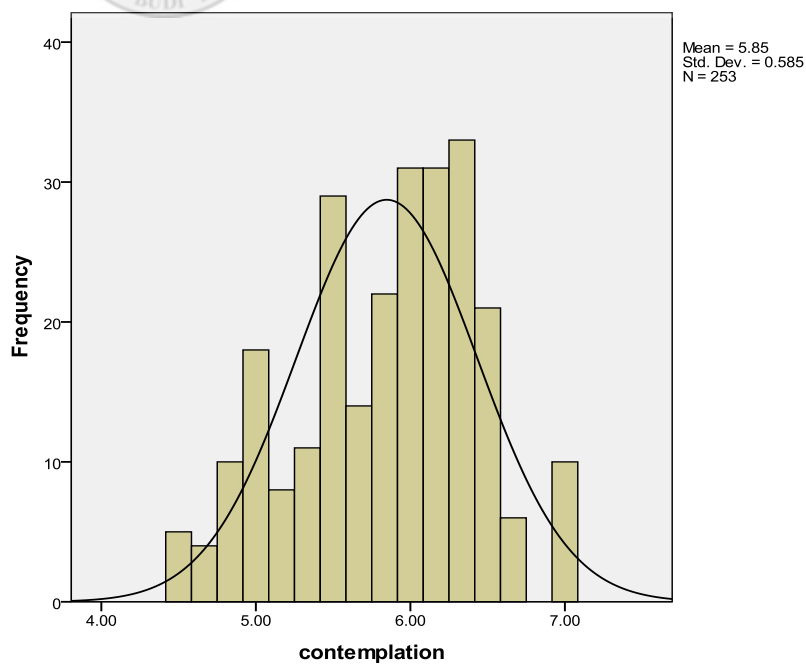
Figure 6.4: Histogram of Element of Contemplation

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This is followed by Figure 6.5 that represents the histogram of element of goal obsession. It can be observed in the figure that the histogram was very well shaped and within the normal curve distribution at the mean = 3.82 and sd = 0.54.
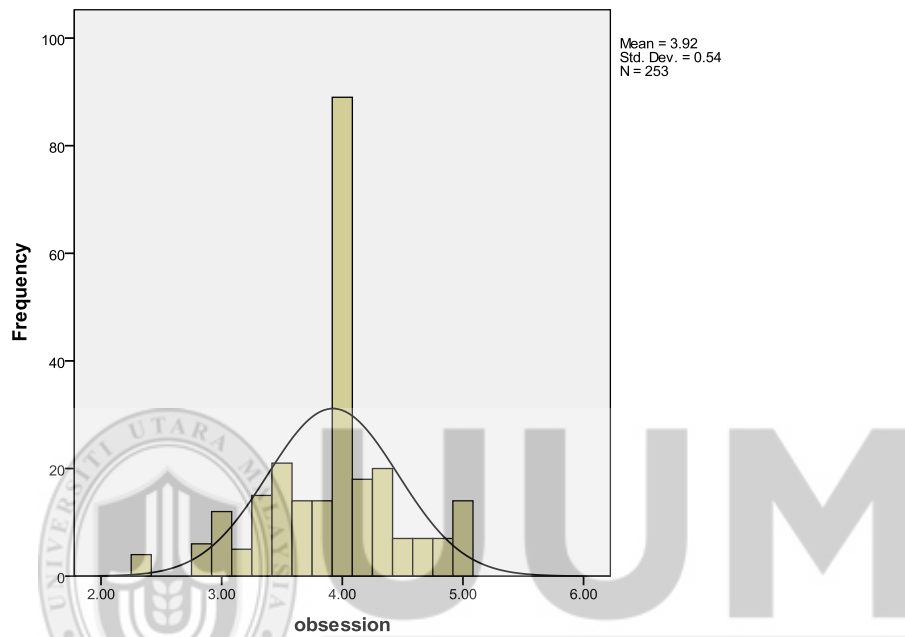
Figure 6.5: Histogram of Element of Goal Obsession

This is followed by Figure 6.6 that illustrates the histogram of attitude towards university. It can be observed in the figure that the histogram was very well shaped and within the normal curve distribution at the mean = 3.91 and sd = 0.44.
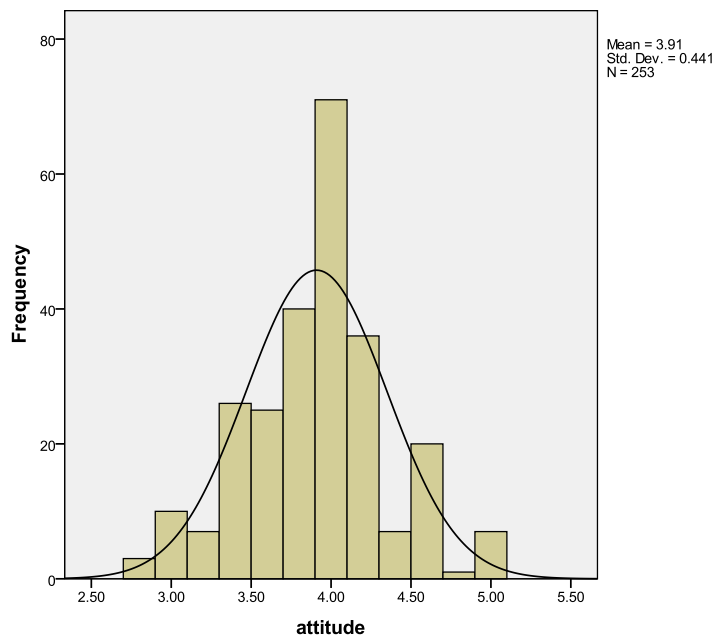
Figure 6.6: Histogram of Attitude towards University

This is followed by Figure 6.7 that illustrates the histogram of commitment to encourage students to share knowledge. It can be observed in the figure that the histogram was very well shaped and within the normal curve distribution at the mean = 5.93 and sd = 0.40.
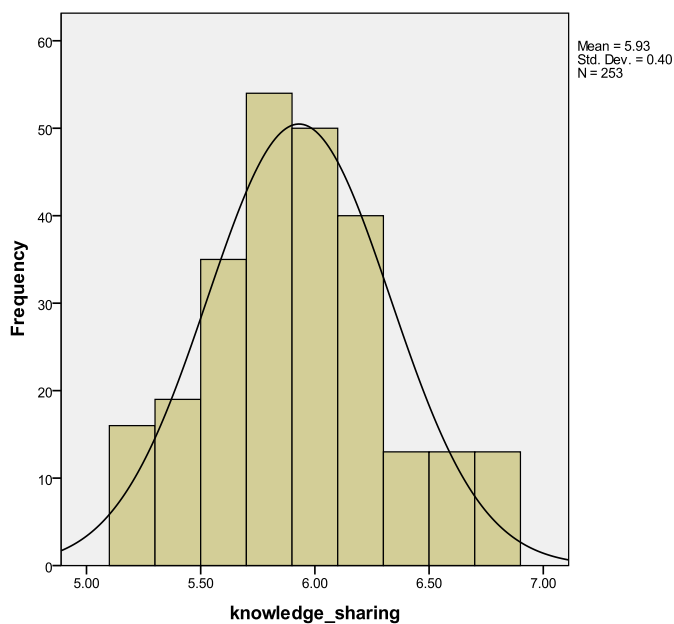
Figure 6.7: Histogram of Commitment to Encourage Students to Share Knowledge

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This is followed by Figure 6.8 that illustrates the histogram of active teaching commitment. It can be observed in the figure that the histogram was very well shaped and within the normal curve distribution at the mean = 5.23 and sd = 0.38.
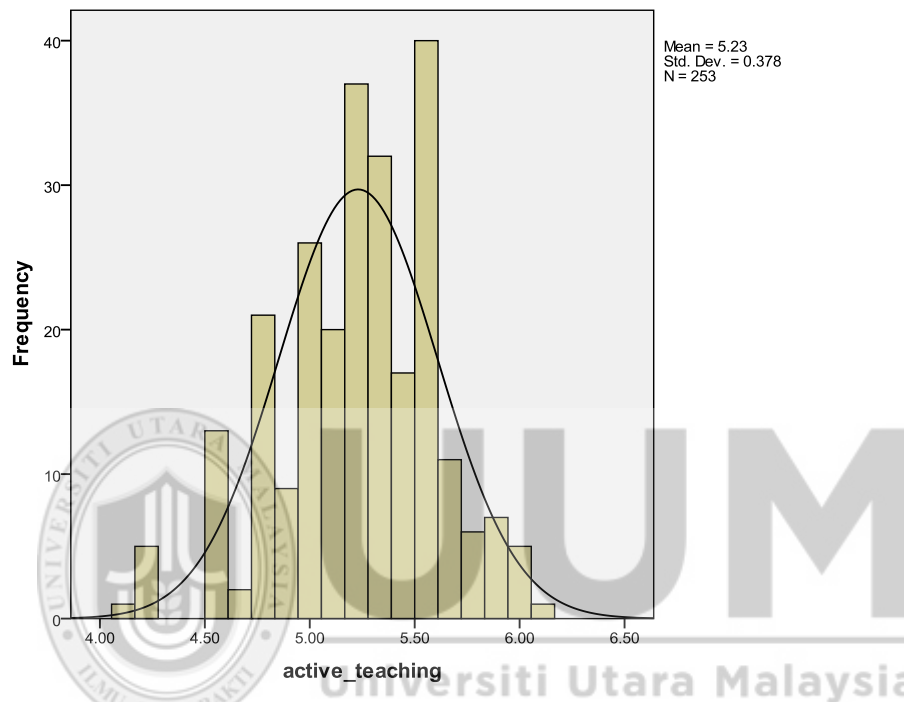
Figure 6.8: Histogram of Active Learning

From the above illustrations (from Figure 1 to Figure 8) it can be observed that all figures were very well shaped and within the normal curve distribution. Hence, it is suggested that all variables were normally distributed. In turn, the first assumption of multivariate assumptions was fulfilled.

6.3.2.2 Linearity

Another assumption to meet is linearity of data which is the relationship between the residuals against the predicted values; linearity refers as the error term of

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distribution. Linearity is important for the regression analysis because correlation can capture only the linear association between variables and if there are substantial non-linear relationship, it will be ignored in the analysis because will underestimate the actual strength of the relationship (Tabachnick & Fidell, 2007).

Linearity can be observed by examining the scatterplots (Hair et al., 2006). The results of linearity through scatter plot diagrams for various variables indicate no clear relationship between the residuals and the predicted values.

Assessment of all scatterplots of the standardized residual versus standardized predicted values revealed that in all the plots the residual were scattered with no systematic or curvilinear pattern (U shape distribution) or clustering or residuals as indicated by Tabachnick and Fidell (2007). The randomized pattern of the scatter plots indicated that the assumption of linearity was met. Therefore, the linearity could be assumed.

Figure 6.9 illustrates the scatterplot of element of faith on active teaching commitment. Assessment of scatterplots of the standardized residual versus standardized predicted values revealed that in the plots the residual were scattered with no systematic or curvilinear pattern (U shape distribution) or clustering or residuals as indicated by Tabachnick and Fidell (2007). The randomized pattern of the scatter plots indicated that the assumption of linearity was met. Therefore, the linearity could be assumed.

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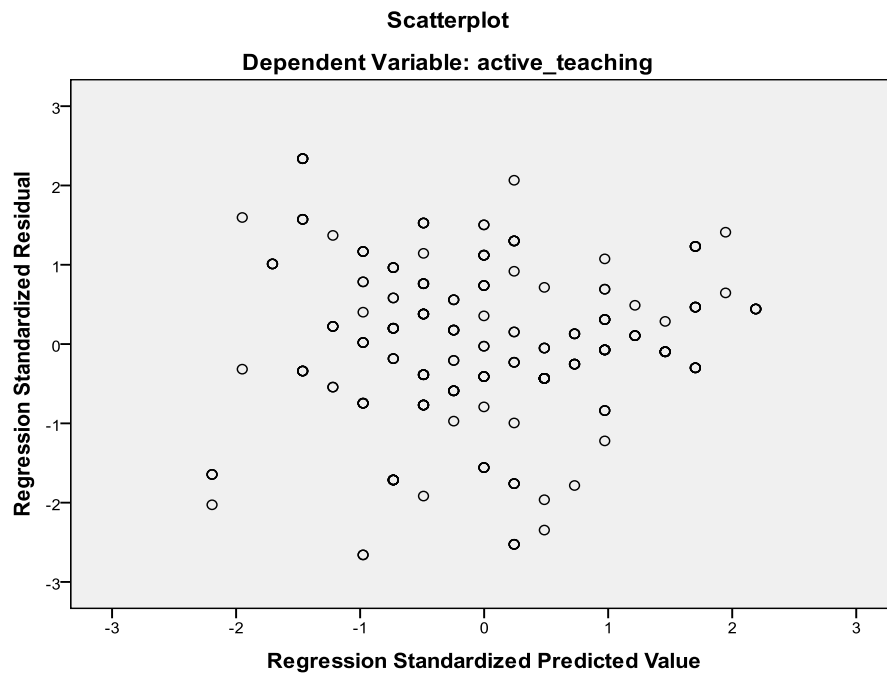
Figure 6.9: Scatterpolts of Element of Faith against Active Teaching Commitment

This is followed by Figure 6.10 that shows the scatterplot of element of means on active teaching commitment. Assessment of scatterplots of the standardized residual versus standardized predicted values revealed that in the plots the residual were scattered with no systematic or curvilinear pattern (U shape distribution) or clustering or residuals as indicated by Tabachnick and Fidell (2007). The randomized pattern of the scatter plots indicated that the assumption of linearity was met. Therefore, the linearity could be assumed.

Scatterplot

Dependent Variable: active_teaching
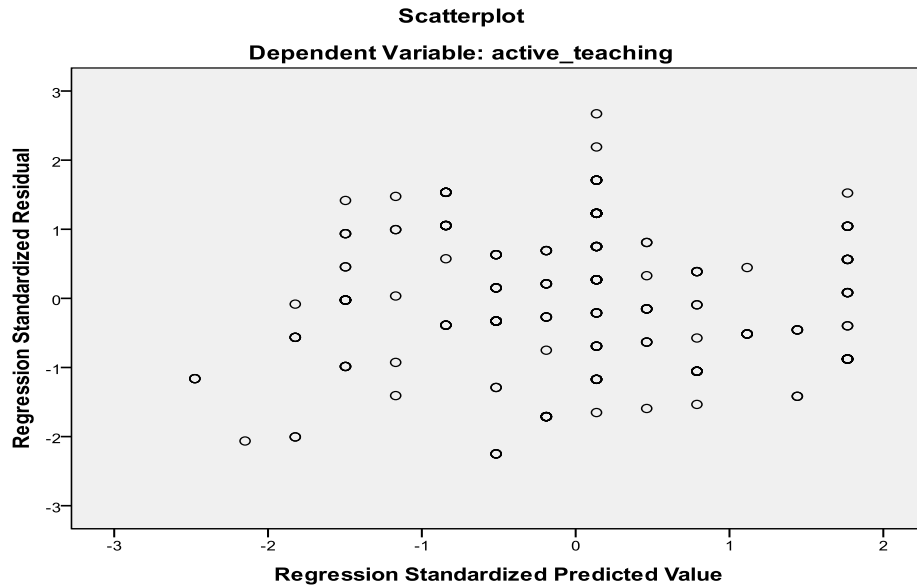
Figure 6.10: Scatterpolts of Element of Means against Active Teaching Commitment

This is followed by Figure 6.11 that illustrates the scatterplot of element of sincerity on active teaching commitment. Assessment of scatterplots of the standardized residual versus standardized predicted values revealed that in the plots the residual were scattered with no systematic or curvilinear pattern (U shape distribution) or clustering or residuals as indicated by Tabachnick and Fidell (2007). The randomized pattern of the scatter plots indicated that the assumption of linearity was met. Therefore, the linearity could be assumed.

Scatterplot

Dependent Variable: active_teaching
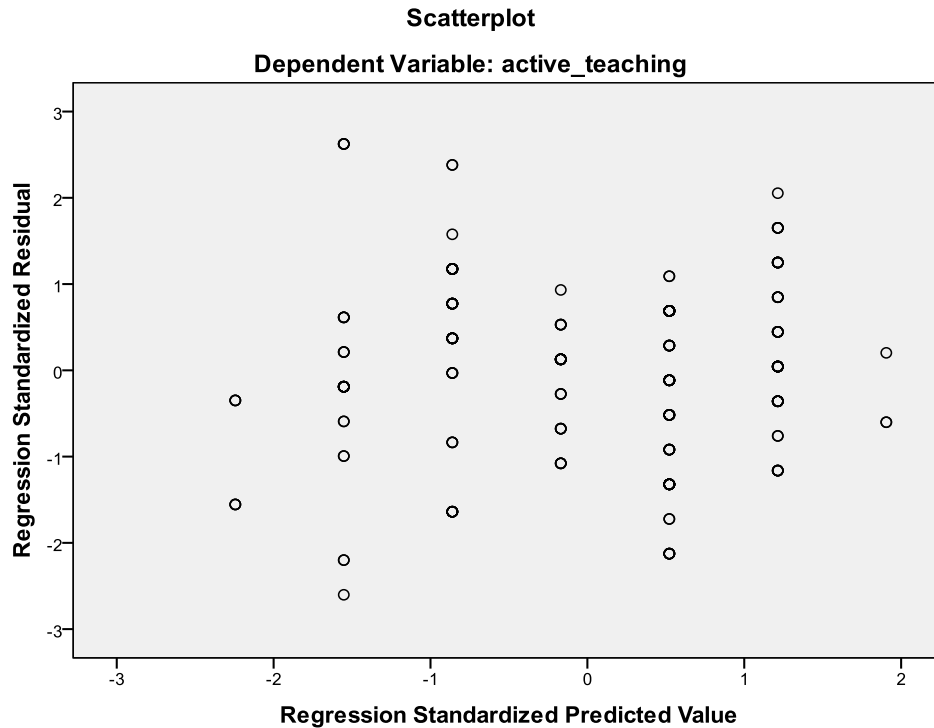
Figure 6.11: Scatterpolts of Element of Sincerity against Active Teaching Commitment

This is followed by Figure 6.12 that shows the scatterplot of element of contemplation on active teaching commitment. Assessment of scatterplots of the standardized residual versus standardized predicted values revealed that in the plots the residual were scattered with no systematic or curvilinear pattern (U shape distribution) or clustering or residuals as indicated by Tabachnick and Fidell (2007). The randomized pattern of the scatter plots indicated that the assumption of linearity was met. Therefore, the linearity could be assumed.

Scatterplot

Dependent Variable: active_teaching
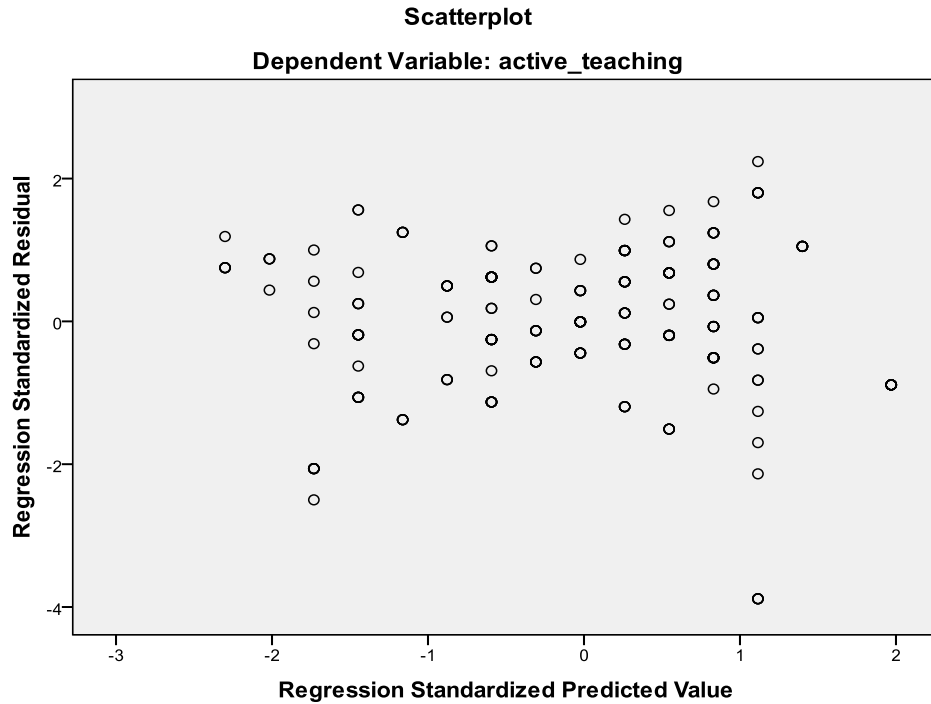
Figure 6.12: Scatterpolts of Element of Contemplation against Active Teaching Commitment

This is followed by Figure 6.13 that illustrates the scatterplot of element of obsession on active teaching commitment. Assessment of scatterplots of the standardized residual versus standardized predicted values revealed that in the plots the residual were scattered with no systematic or curvilinear pattern (U shape distribution) or clustering or residuals as indicated by Tabachnick and Fidell (2007). The randomized pattern of the scatter plots indicated that the assumption of linearity was met. Therefore, the linearity could be assumed.

Scatterplot

Dependent Variable: active_teaching
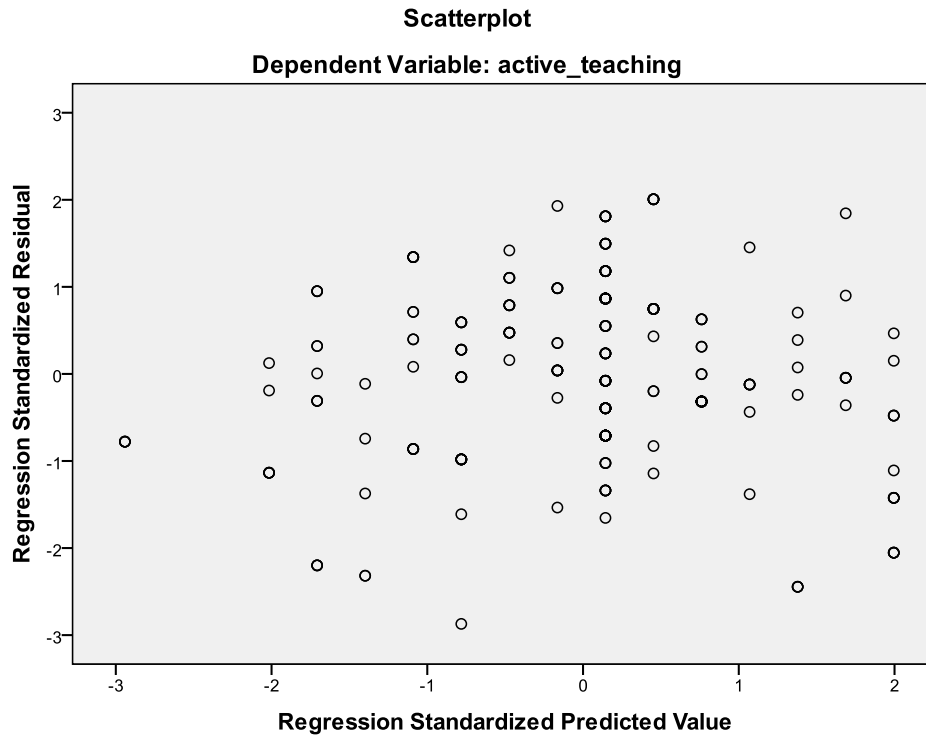
Figure 6.13: Scatterpolts of Element of Obsession against Active Teaching Commitment

This is followed by Figure 6.14 that shows the scatterplot of element of attitude towards university on active teaching commitment. Assessment of scatterplots of the standardized residual versus standardized predicted values revealed that in the plots the residual were scattered with no systematic or curvilinear pattern (U shape distribution) or clustering or residuals as indicated by Tabachnick and Fidell (2007). The randomized pattern of the scatter plots indicated that the assumption of linearity was met. Therefore, the linearity could be assumed.

Scatterplot

Dependent Variable: active_teaching
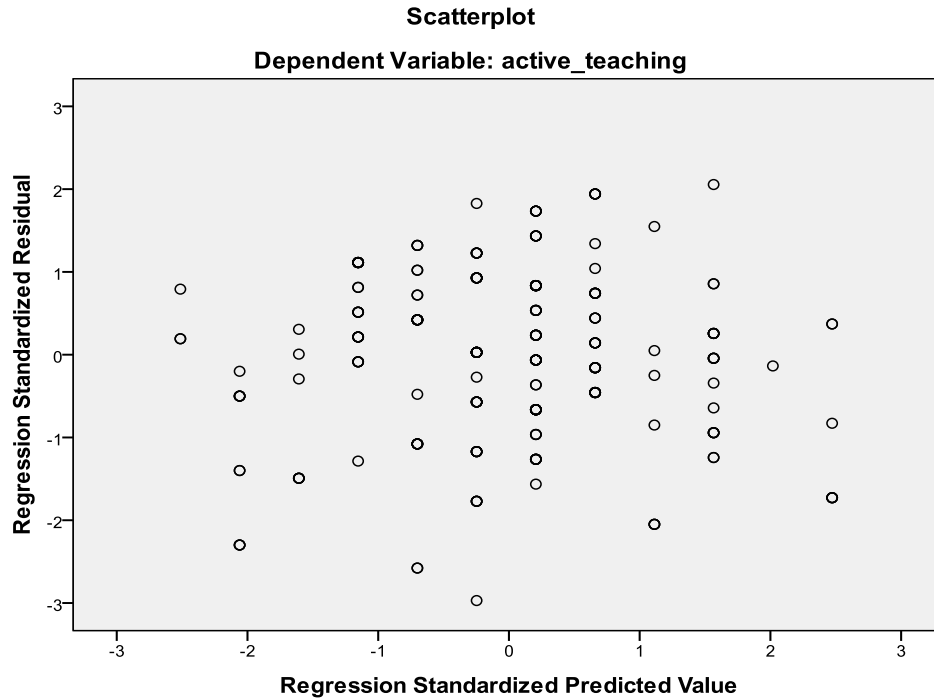
Figure 6.14: Scatterpolts of Attitude towards University against Active Teaching Commitment

This is followed by Figure 6.15 that shows the scatterplot of element of commitment to encourage students to share knowledge on active teaching commitment. Assessment of scatterplots of the standardized residual versus standardized predicted values revealed that in the plots the residual were scattered with no systematic or curvilinear pattern (U shape distribution) or clustering or residuals as indicated by Tabachnick and Fidell (2007). The randomized pattern of the scatter plots indicated that the assumption of linearity was met. Therefore, the linearity could be assumed.

Scatterplot

Dependent Variable: active_teaching
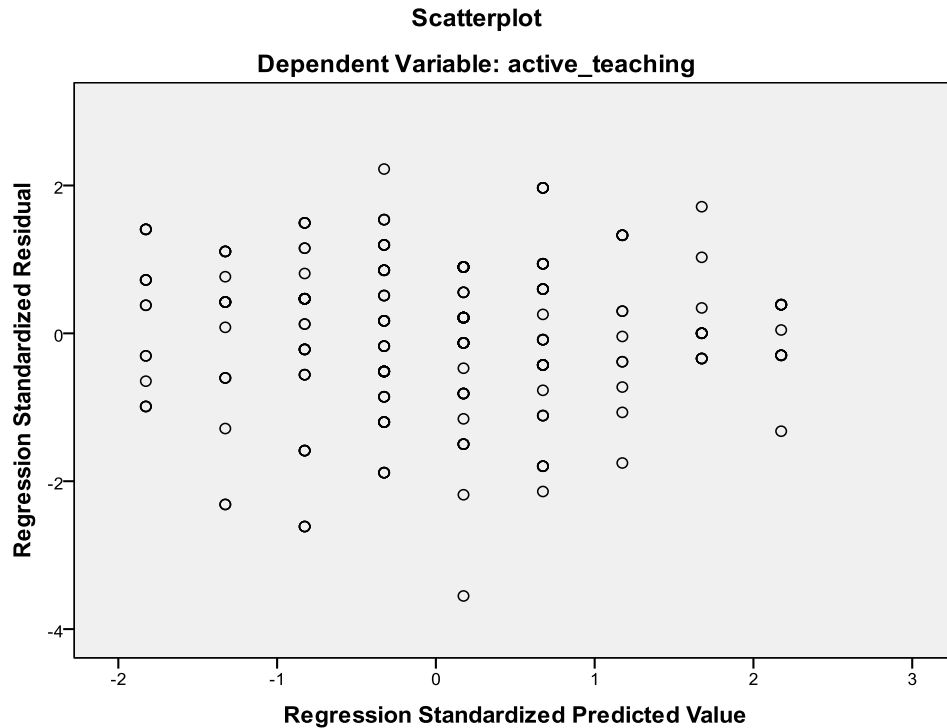
Figure 6.15: Scatterpolts of Commitment to Encourage Students to Share Knowledge against Active Teaching Commitment

From the above illustrations (from Figure 9 to Figure 15) it can be observed that all figures have the randomized pattern of the scatter plots. This indicates that the assumption of linearity was met and in turn fulfils the second assumption of multivariate assumptions.

6.3.2.3 Homoscedasticity

Homoscedasticity refers as constant variance of the error term and the variance of the dependent variables is approximately the same different levels of the explanatory variable (Hair et al., 2006). Homoscedasticity is indicated when the width of the band of the residuals is approximately the same at the different level of the

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dependent variables and scatter plot show a pattern of residual normally distributed around the mean. To check the homoscedasticity, the scatterplots of studentized residual against the predicted values were used (Hair et al., 2006). There is need to inspect the plots of residual against the predicted values to reveal that the residuals were scattered randomly with no obvious systematic pattern. If there is no systematic pattern of decreasing of increasing residuals, it can be assumed that the assumption of homoscedasticity is not violated (refer to Figure 6.16).
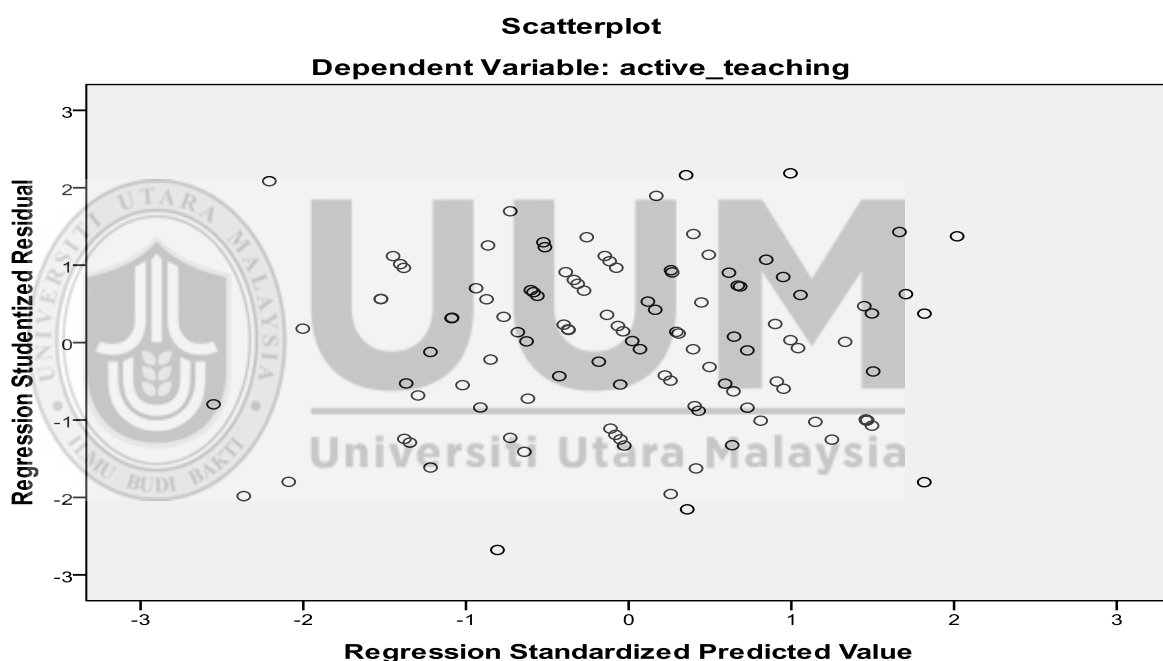
Figure 6.16: Scatterpolts of Studentized Residuals against the Predicted Values

This assumption was also examined using Levene test on the matric variables against the non-matric variable (gender) in this study (Hair et al., 2006). Table 6.4 presents the results of the homoscedasticity test. It can be seen in Table 6.4 that the results of Levene test were not significant (p<0.001). This indicated that dependent variables

exhibits equal level of variance across the range of independent variable for gender (Coakes & Steed, 2003; Hair et al., 2006).

Table 6.4

Results of Homoscedasticity Test (N=253)

| | **Non-Metric Variable (Gender)** | |
	Levene Statistic (F Value)	*Significant Level (p<0.001)*
Faith	3.446	.065
Means	2.253	.135
Contemplation	.029	.865
Sincerity	.066	.798
Goal obsession	.921	.338
Attitude towards university	5.433	.051
Commitment to encourage students to share knowledge	3.540	.061

From the above illustrations (Figure 16.6 and Table 6.4) it can be said that the assumption of homoscedasticity was met in this study. In turn, the third assumption of multivariate assumptions was fulfilled.

6.3.2.4 Multicollinearity

The last assumption pertains to multicollinearity and singularity which are related to the correlations between the predictors' variables. Singularity occurs when one of the independent variable merged with other independent variables (Tabachnick & Fidell, 2007). Multicollinearity poses a problem for multiple regression when the independent variables are highly correlated ($r = 0.8$ and above). When such case happens, the regression coefficients would not be significant due to high standard

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error. According to Tabachnick and Fidell (2007), tolerance values approaching zero (0) specify the presence of high multicollinearity. The cut-off value for variance inflation factor (VIF) is less than 10 and tolerance value of more than 0.1. All the independent variables' tolerance value of more than 0.1 and VIF value of less than 10 (refer to Table 6.5).

Table 6.5

Test of Multicollinearity

	Tolerance	VIF
Faith	.357	2.803
Means	.329	3.037
Contemplation	.431	2.321
Sincerity	.455	2.198
Goal obsession	.281	3.560
Attitude towards university	.288	3.478
Commitment to encourage students to share knowledge	.455	2.200

From the above discussion it can be seen that there is no violation of the assumption of multicollinearity for this study. This indicates that the assumption of multicollinearity was met and in turn fulfils the fourth assumption of multivariate assumptions.

6.4 Goodness of Measures

The second stage of data analysis of this study was to establish the goodness of measures for testing the research hypotheses. The data of this study were initially submitted for factor analysis. Thereafter, the internal consistency of the factors was

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examined by conducting reliability analysis. The results of the both tests are described in the following subsections.

6.4.1 Factor Analysis

To assess the construct validity of the active teaching enablers, factor analysis was undertaken. There were initially 44 items for the enablers. Initial results of the factor analysis on the 44 items revealed that one item for commitment to encourage students to share knowledge had communalities below than 0.50. As suggested by Hair et al. (2006), this one item was eliminated from further analysis due to low communalities. Table 6.6 shows the item that had low communalities.

Table 6.6

Active Teaching Enabler that Had Low Communalities (N=253)

No.	Enabler	Items (Item Number)	Communalities
1.	Commitment to encourage students to share knowledge	Sharing ability enables students to express ideas actively in the classroom (3)	0.40

Factor analysis was rerun on the remaining 43 items. Table 6.7 provides the results of the analysis.

Table 6.7

Factor Loading of the Variables

Factor / items	Loading							
	1	2	3	4	5	6	7	8
1: Means								
c1	.876							
c2	.820							
c3	.767							
c4	.813							
c5	.816							
2: Active teaching commitment								
a1		.564						
a2		.601						
a3		.564						
a4		.658						
a5		.708						
a6		.850						
3: Faith								
b1			.807					
b2			.770					
b3			.860					
b4			.759					
b5			.500					
b6			.780					
b7			.756					
b8			.819					
4: Contemplation								
d1				.757				
d2				.799				
d3				.807				
d4				.670				
d5				.763				
d6				.756				
5: Sincerity								
e1					.708			
e2					.651			
e3					.790			
6: Goal obsession								
f1						.790		
f2						.649		
f3						.701		
f4						.799		
f5						.837		
f6						.560		
7: Attitude towards university								
g1							.673	
g2							.809	
g3							.897	
g4							.836	
g5							.685	
8: Commitment to encourage student to share knowledge								
h1								.717
h2								.819
h4								.876
h5								.897
Eigenvalue	11.07	8.050	4.952	2.161	2.042	1.900	1.847	1.754
Percentage	50.47	11.74	6.86	2.700	2.42	2.09	1.97	1.75

KMO	*0.963*
Barlett's test of sphericity	*8607.050*
Sig.	*0.000*

As shown in Table 6.7, the KMO value for the items was 0.963, exceeding the recommended value of 0.60 (Coakes & Steed, 2003; Hair et al., 2006). This indicated that the items were interrelated and they shared common factors (Hair et al., 2006). The individual item MSA values were above 0.50, indicating that the data matrix was suitable for factor analysis (Coakes & Steed, 2003). BTOS also reached statistical significance (p=0.000), supporting the factorability of the correlation matrix (Coakes & Steed, 2003; Hair et al., 2006). Factor loadings for the 43 items were above the recommended value of 0.50 (Hair et al., 2006). The results of Varimax rotated analysis also indicated the existence of eight significant factors with eigenvalues greater than one that explained 80.02% of variance in the data. As suggested by Hair et al. (2006), the eight factors retained represent 80.02% (more than 60%) of variance is deemed sufficient in terms of total variance explained.

Factor (or component) 1 included five items relating to means. The eigenvalue of this factor was 11.07, explaining 50.47% of variance in the data. Factor loadings for the five items ranged from 0.767 to 0.876. Since these five items did load onto original factor, the original name means was retained.

Factor 2, which was labelled as active teaching commitment accounted for 11.74% of variance in the data with an eigenvalue of 8.05. Factor loadings for items in this factor ranged from 0.564 to 0.85. This factor consisted of six items. Since these six items did load onto original factor, the original name active teaching was retained.

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Factor 3 which was represented by eight items was named as faith. This factor had an eigenvalue of 4.952 accounted for 6.86% of variance in the data. Factor loadings for items in this factor ranged from 0.50 to 0.86. Since these eight items did load onto original factor, the original name faith was retained.

Factor 4 included six items relating to contemplation. The eigenvalue of this factor was 2.161, explaining 2.70% of variance in the data. Factor loadings for the six items ranged from 0.67 to 0.807. Since these six items did load onto original factor, the original name contemplation was retained.

Factor 5, which was labelled as sincerity accounted for 2.42% of variance in the data with an eigenvalue of 2.042. Factor loadings for items in this factor ranged from 0.651 to 0.79. This factor consisted of three items. Since these three items did load onto original factor, the original name sincerity was retained.

Factor 6 which was represented by six items was named as goal obsession. This factor had an eigenvalue of 1.90 accounted for 2.09% of variance in the data. Factor loadings for items in this factor ranged from 0.56 to 0.837. Since these six items did load onto original factor, the original name goal obsession was retained.

Factor 7 included five items relating to attitude towards university. The eigenvalue of this factor was 1.847, explaining 1.97% of variance in the data. Factor loadings for the five items ranged from 0.673 to 0.897. Since these five items did load onto original factor, the original name attitude towards university was retained.

Factor 8 which was labelled as commitment to encourage students to share knowledge accounted for 1.75% variance in the data with an eigenvalue of 1.754. Factor loadings for items in this factor ranged from 0.717 to 0.897. This factor consisted of four items. Since these four items did load onto original factor, the original name commitment to encourage students to share knowledge was retained.

6.4.2 Reliability Analysis

Every research instrument (questionnaire) must be able to produce consistent and stable measurements (Sekaran, 2003). Thus this research undertook reliability analysis in a rigorous manner. The definition of reliability can be looked from two perspectives, namely, reliability (the extent of accuracy) and unreliability (the extent of inaccuracy). In this research, reliability test was undertaken during pilot test and primary data collection.

To test the reliability of the research instrument, as suggested by Sekaran (2003), this study utilized internal consistency method which is measured by Cronbach's alpha. The coefficient for the Cronbach's alpha is expressed between 0 and 1.00. Higher coefficient is representing higher reliability of the research instrument and vice versa. The main reason for the use of internal consistency method is because the measurement of instrument used in this study was the questionnaire constructed in several questions. Thus Cronbach's alpha coefficients need to be estimated to determine how all items on a test relate to all other items and to the total test – internal coherence of data (internal consistency). In other words, Cronbach's alpha

implies to the positive relationship of one item with another. Another reason for the use of Cronbach's alpha is because it is the most common reliability coefficient that is utilized by the social science researchers (Sekaran, 2003; Hair et al., 2006). It is generally accepted that Cronbach's alpha coefficient should be greater than 0.60 (Hair et al., 2006).

The results of the Cronbach's alpha values of the variables for the pilot test are as illustrated in Table 5.3. On the other hand, Table 6.8 exhibits the Cronbach's alpha values of the variables for the primary data collection. For both stages of reliability analysis, it could be concluded that all the variables in this study have values more than 0.70.

Table 6.8

Reliability Coefficients for Variables (N=253)

Variable	N of Item	Cronbach Alpha
Faith	8	0.890
Means	5	0.931
Contemplation	6	0.924
Sincerity	3	0.790
Goal obsession	6	0.932
Attitude towards university	5	0.901
Commitment to encourage students to share knowledge	5	0.767
Active teaching commitment	6	0.905

As shown in Table 6.8, the Cronbach's alpha values for variables varied between 0.767 (commitment to encourage students to share knowledge) and 0.932 (goal obsession). Five variables possessed Cronbach's alpha values above 0.90 (means, contemplation, goal obsession, attitude towards university and active teaching

commitment), one between 0.80 and 0.90 (faith) and only two below than 0.80 (sincerity and commitment to encourage students to share knowledge). In other words, none of the study variables demonstrated below the minimum reliability level of 0.60 (Hair et al., 2006). Thus the internal consistency of the measures used in this study was considered acceptable (Churchill, 1979; Sekaran, 2003).

6.5 Profile of Respondents

The frequency and percentage of each demographic profile are illustrated in Table 6.9. The reported demographic profiles include gender, age and number of years working in the current university.

Table 6.9

Background of the Respondents (N=253)

	Frequency	Percentage
Gender		
Male	108	42.7
Female	145	57.3
Age (years)		
21-30	12	4.7
31-40	119	47.0
41-50	81	32.0
51-60	37	14.6
>60	4	1.6
Length of Service		
<5	26	10.3
<10	100	39.5
<15	65	25.7
<20	62	24.5
>21	0	0.0

In this research, gender distribution was slightly higher for female. Out of 253 respondents, 108 (42.7%) respondents are male and 145 (57.3%) respondents are female.

The largest group of respondents (N=119, 47.0%) reported that they were in the "31-40" age group. The second largest group consisted of respondents with age "41-50" (N=81, 32.0%), third largest group consisted of respondents with age "51-60" (N=37, 14.6%) and fourth largest group consisted of respondents with age "21-30" (N=12, 4.7%). The smallest group of respondents (N=4, 1.6%) reported that they were in "Over 60" age group.

The largest group of respondents (N=126, 49.8%) indicated that they have worked at the current university "10 years or less". The second largest group of respondents (N=62, 24.5%) reported that they have worked at the current university "20 years or less). This is followed by "15 years or less" category (N=65, 25.7%).

6.6 Descriptive Statistics

The descriptive statistics of the variables were then calculated. There were a total of 253 usable samples taken from the survey. All the variables were measured on a seven (7) internal scale. According to Hair et al. (2006), mean values can be categorized into 3 levels, namely, low, moderate and high. For this study, the categories were divided as follows:

Low: 1.00 to 3.00

Moderate: 3.01 to 5.00

High: 5.01 to 7.00

Table 6.10 shows the mean, standard deviation and level of the variables. All the means are higher than three 3.00. They ranged from 3.88 to 5.86.

Table 6.10

Descriptive Analysis of the Variables

	Mean	Standard Deviation	Level
Faith	5.7510	.51322	High
Means	5.9170	.61275	High
Contemplation	5.7484	.48195	High
Sincerity	5.8472	.58543	High
Goal obsession	3.9223	.54016	Moderate
Attitude towards university	3.9091	.44127	Moderate
Commitment to encourage students to share knowledge	5.9304	.39988	High
Active teaching commitment	5.2306	.37755	High

The commitment to encourage student to share knowledge had the highest mean score (5.93) with a standard deviation of 0.40. Meanwhile, attitude towards university had the lowest mean score (3.91) with a standard deviation of 0.44. The mean and standard deviation scores for other variables are as follows: (1) faith (mean = 5.75, standard deviation = 0.51); (2) means (mean = 5.91, standard deviation = 0.61); (3) contemplation (mean= 5.75, standard deviation = 0.48); (4) sincerity (mean = 5.85, standard deviation = 0.89); (5) goal obsession (mean = 3.92, standard deviation = 0.54); and (6) active teaching commitment (mean = 5.23, standard deviation = 0.38). This suggests that respondents perceived the high level of

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agreement towards all the variables. All the standard deviations were low suggesting the variability on the data (Sekaran, 2003).

6.6.1 Faith

Faith is described as as a great trust or confidence in undertaking and accomplishing organizational tasks. In this study, it was measured using eight (8) items. Table 6.11 illustrates the descriptive analysis of the eight of element of faith. First item (I always tell myself to be a role model at the workplace), indicated the highest mean score (Mean=6.40, sd=0.71) compared to other items. It is followed by item no. 6 (I am willing to share knowledge with my colleagues) with mean score = 6.03, sd=0.76); no. 4 (I am daring in taking risk when introducing a new way of undertaking task (mean=5.95, sd=0.69); no. 2 (I am ready to face any challenges at the workplace (mean=5.87, sd=0.86); no. 3 (I am ready to take new responsibility) (mean=5.76, sd=0.86); no. 7 (I am willing to utilize available resources in order to satisfy clients) (mean=6.65, sd=0.83) and no.5 (I dare to be critiqued as long as it helps improving the work quality) (mean=5.59, sd=0.97). Item no. 8 (I always advise my colleagues to have self-confidence) showed the lowest mean score (mean=4.76, sd=0.93).

Table 6.11

Descriptive Analysis of Faith

	Mean	**SD**	**Level**
1. I always tell myself to be a role model at the workplace	6.3953	.71402	High
2. I am ready to face any challenges at the workplace	5.8696	.85611	High
3. I am ready to take new responsibility	5.7628	.85860	High
4. I am daring in taking risk when introducing a new way of undertaking task	5.9526	.69417	High

	Mean	SD	Level
5. I dare to be critiqued as long as it helps improving the work quality	5.5929	.97400	High
6. I am willing to share knowledge with my colleagues	6.0277	.75804	High
7. I am willing to utilize available resources in order to satisfy clients	5.6482	.82542	High
8. I always advise my colleagues to have self-confidence	4.7589	.93072	Moderate

6.6.2 Sincerity

Sincerity is described as the extent to which staff members have a feeling that they work for the sake of the company and for fulfilling their responsibility to the company. Without this value, staff members tend to undertake a job hastily and carelessly. This construct was measured using three (3) items. Table 6.12 summarizes the result of descriptive analysis constituting this construct. As described in Table 6.12, respondents perceived high degree of agreement towards all three items. Item no. 1 (I work by following the universal religious/moral values) showed the highest mean score (mean=5.93, sd=0.67); followed by item no. 2 (I contribute to firm's development sincerely) (mean=5.66, sd=0.62) and item no. 3 (I always advise my colleagues to have clear conscious when undertaking task) (mean=5.66, sd=0.55).

Table 6.12

Descriptive Analysis of Sincerity

	Mean	SD	Level
1. I work by following the universal religious/moral values	5.9289	.68637	High
2. I contribute to firm's development sincerely	5.6601	.61967	High
3. I always advise my colleagues to have clear conscious when undertaking task	5.6561	.54585	High

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6.6.3 Contemplation

Contemplation is described as the extent to which staff members contemplate the reward or profit that they will get before doing something. If the benefits outweigh the effort or cost then it is worth it to give a try and vice versa. In this study, element of contemplation was measured using six (6) items. Described in Table 6.13 was the result of descriptive statistic for this construct. As described in Table 6.13, respondents perceived the high agreement towards all of the items, except for no. 2 (Customer satisfaction is my main concern at the workplace) (mean=4.86, sd=1.14). The highest mean score is at item no. 6 (A continuous career development is important in my life) (mean=6.42, sd=0.71), followed by item no. 5(I always attend training program to improve my performance) (mean=6.29, sd=0.77); item no 1 (I know work to be done every time) (mean=6.00, sd=0.72); item no. 3 (I always ensure benefits outweigh costs when making decision at the workplace) (mean=5.94, sd=0.67) and item no. 4 (I know the company's reward systems in details) (mean=5.59, sd=0.81).

Table 6.13

Descriptive Analysis of Contemplation

	Mean	SD	Level
1. I know work to be done every time	6.0000	.71824	High
2. Customer satisfaction is my main concern at the workplace	4.8577	1.14240	Moderate
3. I always ensure benefits outweigh costs when making decision at the workplace	5.9407	.66700	High
4. I know the company's reward systems in details	5.5850	.80530	High
5. I always attend training program to improve my performance	6.2925	.77243	High
6. A continuous career development is important in my life	6.4071	.71009	High

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6.6.4 Goal Obsession

Goal obsession is described as the extent to which staff members understand and think about their organizational aims and targets at the workplace. Understanding aims and targets enables staff members to monitor organizational activities and determine future directions. This understanding promotes the judicious use of accumulated experience. In this study, goal obsession was measured using six (6) items. Table 6.14 illustrates the result of descriptive analysis of the items measuring goal obsession. It can be found that respondents perceived the moderate level of agreement towards all six items in this construct. Item no. 3 (I always advise my colleagues to be mindful of their actions at the workplace) (mean=4.07, sd=0.73) showed the highest mean score, followed by item no. 1 (I feel that my works are being monitored to ensure compliance to internal standards) (mean=4.01, sd=0.66) and item no. 2 (I think the reward when completing job on the list) (mean=3.94, sd=0.71). The other items showed the lower mean score ranged from 3.74 to 3.90.

Table 6.14

Descriptive Analysis of Goal Obsession

	Mean	SD	Level
1. I feel that my works are being monitored to ensure compliance to internal standards	4.0119	.66358	Moderate
2. I think the reward when completing job on the list	3.9368	.70987	Moderate
3. I always advise my colleagues to be mindful of their actions at the workplace	4.0711	.73116	Moderate
4. I always compare my current performance with agreed targeted performance	3.7352	.80489	Moderate
5. My performance is always above target	3.8814	.76231	Moderate
6. I always have a meeting with my colleagues to improve know-how skill	3.8972	.71082	Moderate

6.6.5 Means

Means is described as the extent to which staff members can undertake tasks based upon the right approach for the right situation (Barham & Rassam, 1989; Burgoyne, 1988; Schroder, 1989; Morgan, 1989; Drucker, 1992; Selamat & Choudrie, 2007). It is normally coined as standard operating procedure or organizational best practice. Element of means was measured using five (5) items. Table 6.15 describes the descriptive analysis of the variable. It was found that the respondents perceived the high level of agreement towards all statements measuring the element of means. Item 3 (Right working procedures will create a conducive environment because every staff shares the same way of completing task) scored the highest mean (mean=6.07, sd=0.75); followed by item no. 4 (I encourage my colleagues to minimize mistakes at an acceptable rate required by the company) (mean=6.02, sd=0.67); item no. 5 (I am willing to adapt working procedures on non-standard works if required) (mean=6.00, sd=0.77); item no. 2 (I always advise my colleagues to use right procedure when undertaking task) (mean=5.82, sd=0.77) and lastly by item no. 1 (I always advise my colleagues to use right procedure when undertaking task) (mean=5.69, sd=0.83).

Table 6.15

Descriptive Analysis of Means

	Mean	SD	Level
1. I always advise my colleagues to use right procedure when undertaking task	5.6877	.83174	High
2. Right working procedures will produce high quality services which in turn increases the company's competitive advantage	5.8182	.76541	High
3. Right working procedures will create a conducive environment because every staff shares the same way of completing task	6.0672	.75028	High
4. I encourage my colleagues to minimize mistakes at an acceptable rate required by the	6.0158	.66648	High

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	Mean	SD	Level
company			
5. I am willing to adapt working procedures on non-standard works if required	5.9960	.76893	High

6.6.6 Attitude towards University

Next, the other construct studied in this study is attitude towards university. Attitude towards university is described as the extent to which lecturers incline to contribute to the organization due to a sense of agreement with the management. Positive attitude towards university make them more proactive and supportive in the organization and vice versa. This construct is measured using five (5) items. Table 6.16 describes the result of descriptive analysis of the construct. Respondents perceived the moderate level of agreement towards all items in this construct. The mean score for each item were ranged from 3.69 to 4.07.

Table 6.16

Descriptive Analysis of Attitude towards University

	Mean	**SD**	**Level**
1. The final say to adopt or not to adopt student centred learning approach is on the hand of lecturers	3.6838	.68052	Moderate
2. Lecturers incline to adopt active teaching if they feel happy with the university	3.9881	.58066	Moderate
3. Top management commitment is critical in ensuring the success of student centred learning	4.0672	.59714	Moderate
4. I will adopt active teaching if working environment is conducive for it	4.0711	.73116	Moderate
5. The university should be blamed if the adoption of student centred learning approach is disappointing	3.7352	.80489	Moderate

6.6.7 Commitment to Encourage Students to Share Knowledge

In this study, the commitment to encourage student to share knowledge was treated as the mediating variable. The commitment to encourage student to share knowledge is described as the extent to which students externalize and share tacit knowledge in the classroom persistently. It was measured using five items. Table 6.17 summarizes the results of descriptive analysis of knowledge sharing. Respondents scored the high level of agreement towards all items measuring the construct. Item no. 1 (During active teaching, lecturers and students share knowledge actively) (mean=6.31, sd=0.53), followed by item no. 2 (Sharing ability enables lecturers to guide students to learn) (mean=6.07, sd=0.68) and item no. 4 (Knowledge sharing is a basis for smooth implementation of active teaching and learning) (mean=6.03, sd=0.76). Item no. 3 (Sharing ability enables students to express ideas actively in the classroom) and item no. 5 (Students must know how to share knowledge to develop their thinking skills) showed the lowest mean score.

Table 6.17

Descriptive Analysis of the Commitment to Encourage Student to Share Knowledge

	Mean	SD	Level
1. During active teaching, lecturers and students share knowledge actively	6.3123	.52829	High
2. Sharing ability enables lecturers to guide students to learn	6.0711	.68057	High
3. Sharing ability enables students to express ideas actively in the classroom	5.5336	.59417	High
4. Knowledge sharing is a basis for smooth implementation of active teaching and learning	6.0277	.75804	High
5. Students must know how to share knowledge to develop their thinking skills	5.7075	.68532	High

6.6.8 Active Teaching Commitment

Active teaching commitment is described as the extent to which the lecturers use method that focuses on student learning (outputs) through active engaging learning rather than delivery of knowledge (input) that emphasizes passive learning only; and is measure using six (6) items. Table 6.18 shows the result of descriptive analysis of active teaching and learning. It is found that respondent score the high level agreement towards most of the items (Items no. 1, 2, 3 and 4); but moderate level for item no. 5 and 6.

Table 6.18

Descriptive Analysis of Active Teaching Commitment

	Mean	**SD**	**Level**
1. Active learning helps students to think critically	6.3953	.71402	High
2. Lecturers should take on the role of facilitators in the classroom	5.6877	.83174	High
3. Problem based learning enables students to improve their soft skills	6.4071	.71009	High
4. I encourage two way communication in the classroom	5.9289	.68637	High
5. Learner centred learning is more practical to prepare students to face rapidly changing business environment	3.8972	.71082	Moderate
6. I imagine needed soft skills in real practical setting when facilitating learning process in the classroom	4.0711	.73116	Moderate

6.7 Linear Regression

The main purpose of regression analysis is to determine whether independent variables able to predict or explain variation in dependent variable. The basic equation for the regression is as follows:

$$Y = \beta 0 + \beta 1\ X + \varepsilon i$$

$\beta 0$ is representing the intercept of the regression line on Y axis. $\beta 1$ is representing the slope of the line. The other term εi represents random error. X represents the studied independent variables and they are usually represented by hypotheses. A hypothesis is defined as a tentative statement, yet testable, which is used to predict what the researchers expect to get from the empirical data. Hypotheses are derived from the theory on which the conceptual model is based and are often relational in nature (Sekaran 2003). To determine whether to accept or reject hypotheses, the significance level of the statistical test (or alpha p-value) is used. In other words, significance level represents a probability of obtaining statistical value that is as likely or more likely to reject H_o. For the instance of this study, linear regression was carried out to examine the effect of independent variables (faith, sincerity, contemplation, goal obsession, means and attitude towards university) on dependent variables (active teaching commitment and commitment to encourage students to share knowledge). Hierarchical regression was also carried out to examine the effect of commitment to encourage students to share knowledge as a mediating variable on the relationship between faith, sincerity, contemplation, goal obsession, means and attitude towards university and active teaching commitment.

6.7.1 The Effect of Independent Variables on Active Teaching Commitment

This section discusses the results for hypotheses H1a, H2a, H3a, H4a, H5a and H6a, which are related to the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on active teaching commitment. Result is

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summarized in Table 6.19. It is indicated in Table 6.19 that all six independents variables explained 83.1 percent of active teaching commitment (R^2=0.831, F=201.950, p<0.01). Out of six variables, goal obsession was found to have the biggest significant effect on active teaching commitment (B=0.321, t=9.856, p<0.01), followed by element of sincerity (B=0.266, t=11.101, p<0.01) and attitude towards university (B=0.2.33, t=5.858, p<0.01). Other variables were also showed the significant relationship to active teaching commitment as follows: element of faith (B=0.137, t=4.558, p<0.01), element of means (B=0.151, t=5.275, p<0.01) and element of contemplation (B=0.116, t=3.916, p<0.01.

Table 6.19

Effect of Independent Variables on Active Teaching Commitment

	B	t	Sig.
Faith	.137	4.558	.000
Means	.151	5.275	.000
Contemplation	.116	3.916	.000
Sincerity	.266	11.101	.000
Goal Obsession	.321	9.856	.000
Attitude towards university	.233	-5.858	.000
R^2	0.831		
F	201.950		
Sig.	0.000		

In summary, the above findings show that there are significant effects of faith, sincerity, contemplation, goal obsession, means and attitude towards university on active teaching commitment. Thus hypotheses H1a, H2a, H3a, H4a, H5a and H6a were accepted.

6.7.2 The Effect of Independent Variables on the Commitment to Encourage Students to Share Knowledge

This section discusses the results for hypotheses H1b, H2b, H3b, H4b, H5b and H6b, which are related to the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to encourage students to share knowledge. Table 6.20 summarizes the results in relation to the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to encourage students to share knowledge. The results indicate that the model explained 59.7 percent of the commitment to encourage students to share knowledge (R^2=0.597, F=60.781, p<0.05. Only four variables were found to have significant effect on the commitment to encourage students to share knowledge. They were element of faith (B=0.345, t=7.028, p<0.01), element of means (B=0.153, t=3.266, p<0.01), element of contemplation (B=0.241, t=4.978, p<0.01) and element of sincerity (B=-0.126, t=-3.215, p<0.05).

Table 6.20

Effect of Independent Variables on the Commitment to Encourage Students to Share Knowledge

	B	**t**	**Sig.**
Faith	.345	7.028	.000
Means	.153	3.266	.001
Contemplation	.241	4.978	.000
Sincerity	.126	3.215	.001
Goal Obsession	.059	1.110	.268
Attitude towards university	-.045	-.696	.487
R^2	0.597		
F	60.781		
Sig.	0.000		

In summary, the above findings show that there are significant effects of faith, sincerity, contemplation and means on commitment to encourage students to share knowledge. Thus hypotheses H1b, H2b, H3b and H5b were accepted.

6.7.3 Mediating Effect of Commitment to Encourage Students to Share Knowledge on the Relationship between Independent Variables and Active Teaching Commitment

Two steps hierarchical regression was carried out to examine the effect of knowledge sharing on the relationship between task accomplishment, attitude towards university and active teaching. This analysis tested hypotheses H7a, H7b, H7c, H7d, H7e, H7f and H8. Model 1 was to examine the relationship between the independent variables (faith, sincerity, contemplation, goal obsession, means and attitude towards university) and active teaching commitment. Model 2 was to examine the effect of independent variables (faith, sincerity, contemplation, goal obsession, means and attitude towards university) and active teaching commitment but with the present of commitment to encourage students to share knowledge as the mediating variable.

Table 6.21 summarizes the results in relation to the mediating effect of commitment to encourage students to share knowledge on the relationship between independent variables (faith, sincerity, contemplation, goal obsession, means and attitude towards university) and active teaching commitment. The results indicate that the presence of commitment to encourage students to share knowledge only increase the R^2 to 83.4 percent ($R^2=0.834$, F=176.469, p<0.01). All of the independent variables were

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significant. The findings also revealed that there were also significant relationship between commitment to encourage students to share knowledge and active teaching commitment (B=-0.085, t=-0.2.193, p<0.05). However, the presence of commitment to encourage students to share knowledge only decrease the coefficient for sincerity (B=0.256, t=10.518, p<0.01) and attitude towards university (B=-0.237, t=-5.994, p<0.01). It can be concluded that commitment to encourage students to share knowledge only partially mediated the relationship between sincerity and attitude towards university and active teaching commitment. Hence, this study had partially supported H7b and H7f and rejected H8.

Table 6.21

Mediating Effect of Commitment to Encourage Students to Share Knowledge on the Relationship between Independent Variables and Active Teaching Commitment

	B	t	Sig.
Model 1: IV to DV			
Faith	.137	4.558	.000
Means	.151	5.275	.000
Contemplation	.116	3.916	.000
Sincerity	.266	11.101	.000
Goal Obsession	.321	9.856	.000
Attitude towards university	-.233	-5.858	.000
R^2	0.831		
F	201.950		
Sig.	0.000		
Model 2: IV + MV to DV			
Faith	.166	5.089	.000
Means	.164	5.652	.000
Contemplation	.136	4.425	.000
Sincerity	.256	10.518	.000
Goal Obsession	.326	10.062	.000
Attitude towards university	-.237	-5.994	.000
Knowledge Sharing	-.085	-2.193	.029
R^2	0.834		
F	176.469		

		0.000
Sig.		0.000

6.8 Summary of Findings

Table 6.22 presents the summary of the findings from hypotheses testing. Twelve out of nineteen hypotheses were supported in the practical setting.

Table 6.22

Summary of Hypotheses Testing (N=253)

	Hypothesis	Predicted Sign	Finding (Direction)
H1a	There is a relationship between faith and active teaching commitment	Positive	Supported (Positive)
H1b	There is a relationship between faith and commitment to encourage students to share knowledge in the classroom	Positive	Supported (Positive)
H2a	There is a relationship between sincerity and active teaching commitment	Positive	Supported (Positive)
H2b	There is a relationship between sincerity and commitment to encourage students to share knowledge in the classroom	Positive	Supported (Positive)
H3a	There is a relationship between contemplation and active teaching	Positive	Supported (Positive)
H3b	There is a relationship between contemplation and knowledge sharing in the classroom	Positive	Supported (Positive)
H4a	There is a relationship between goal obsession and active teaching commitment	Positive	Supported (Positive)
H4b	There is a relationship between goal obsession and commitment to encourage students to share knowledge in the classroom	Positive	Not Supported (Positive)

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H5a	There is a relationship between means and active teaching commitment	Positive	Supported (Positive)
H5b	There is a relationship between means and commitment to encourage students to share knowledge in the classroom	Positive	Supported (Positive)
H6a	There is a relationship between attitude towards university and active teaching commitment	Positive	Supported (Positive)
H6b	There is a relationship between attitude towards university and commitment to encourage students to share knowledge in the classroom	Positive	Not Supported (Positive)
H7a	H7a: The relationship between faith and active teaching commitment is mediated by commitment to encourage students to share knowledge in the classroom	Positive	Not Supported (Positive)
H7b	The relationship between sincerity and active teaching commitment is mediated by commitment to encourage students to share knowledge in the classroom	Positive	Supported (Positive)
H7c	The relationship between contemplation and active teaching is mediated by knowledge sharing	Positive	Not Supported (Positive)
H7d	The relationship between goal obsession and active teaching commitment is mediated by commitment to encourage students to share knowledge in the classroom	Positive	Not Supported (Positive)
H7e	The relationship between means and active teaching commitment is mediated by commitment to encourage students to share knowledge in the classroom	Positive	Not Supported (Negative)
H7f	The relationship between attitude towards university and active teaching commitment is mediated by commitment to encourage students to share knowledge in the classroom	Positive	Supported (Negative)
H8	There is a relationship between commitment to encourage students to	Positive	Not Supported

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share knowledge in the classroom and
active teaching commitment

The implications of the research findings on the theoretical and practical setting are
offered in Chapter 7.

6.9 Summary

In this chapter, the analysis of the data and results through statistical testing were
presented as proposed in the previous chapter. Chapter 7 will discuss on the findings
and the implication of theories. Policy making and future research will be presented
as well.

CHAPTER 7

DISCUSSION, RECOMMENDATION AND CONCLUSION

7.1 Introduction

This chapter offers a discussion on the findings of this research. The discussion is based on the research questions as illustrated in Chapter 1. Theoretical and practical implications, limitations and suggestions for future research are also included in this chapter. Before ending the discussion, a conclusion of the study is offered. The chapter ends with a summary of the chapter.

7.2 Recapitulation of the Findings

As stated in Chapter 1, this research intends to examine factors that can promote active teaching commitment amongst lectures at the higher education institutions. Data were gathered from lecturers in the public and private universities across Malaysia.

370 questionnaires were distributed and 253 (68.38%) were returned. There was no missing data and outliers cases, thus all data were usable and analyzed. In addition, the results of chi-square tests and independent sample t-tests indicated that there was no response bias between early and late response groups in terms of demographic profiles and study variables. Tests on multivariate assumptions, namely, normality, linearity, homoscedasticity and multicollinearity were also deemed met in this study.

PCA with Varimax rotation factor analysis was utilized to examine the factorial validity of the measures. The results of factor analysis for active teaching commitment motivating factors highlighted the existence of seven significant factors; therefore, consistent with the proposed research theoretical framework. The factors were faith, sincerity, contemplation, goal obsession, means, attitude towards university and commitment to encourage students to share knowledge. However, one item for commitment to encourage students to share knowledge was eliminated because of its communality was below the acceptable level. Therefore, only 43 out of 44 items representing seven active teaching commitment motivating factors were retained for further analysis.

Then, Cronbach's alpha values were computed to examine the internal consistency of the measures. The results of reliability test indicated that the values of Cronbach's alpha for all variables were above the minimum acceptable level.

The findings showed that thirteen hypotheses were supported. Results from the standard multiple regression analysis indicated that faith (H1a), sincerity (H2a), contemplation (H3a), goal obsession (H4a), means (H5a) and attitude towards university (H6a) were found to be positively and significantly influence participation in active teaching activities. From the perspective of magnitude, goal obsession was the most influential factor while contemplation had the least influence on active teaching commitment. This is followed by sincerity, attitude towards university, means and faith as the second, third, fourth and fifth most influential factors for active teaching commitment respectively.

The findings also indicated that faith (H1b), sincerity (H2b), contemplation (H3b) and means (H5b) were found to be positively and significantly influence commitment to encourage students to share knowledge in the classroom. From the perspective of magnitude, faith was the most influential factor while sincerity had the least influence on commitment to encourage students to share knowledge in the classroom. In addition, contemplation and means were the second and third most influential factors for commitment to encourage students to share knowledge in the classroom amongst the lecturers.

This study had supported H7b and H7f. In other words, the relationships between sincerity and attitude towards university and active teaching commitment were mediated by the commitment to encourage students to share knowledge in the classroom. On the other hand, the relationships between faith, means, contemplation and goal obsession and active teaching commitment were not mediated by the commitment to encourage students to share knowledge in the classroom. This study also rejected H8. In other word, there was no relationship between commitment to encourage students to share knowledge in the classroom and active teaching commitment.

7.3 Discussion

This section will discuss the findings highlighted in section 7.2. The discussion is based on the research questions posited in Chapter 1. Specifically, the questions were: (1) What is the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to undertake active teaching in

the classroom? (2) What is the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the commitment to encourage students to share knowledge in the classroom? and (3) Is the commitment to encourage students to share knowledge mediates the relationship between faith, sincerity, contemplation, goal obsession, means, attitude towards university and active teaching commitment?

7.3.1 The Effect of Independent Variables on Active Teaching Commitment

The first research question is related to the effect of faith, sincerity, contemplation, goal obsession, means and attitude towards university on the implementation of active teaching in the classroom. The following subsections discuss this research question in detail.

7.3.1.1 The Effect of Faith on Active Teaching Commitment

Hypothesis H1a posits that faith will have a positive influence on active teaching commitment. This study found that faith was positively and significantly influenced active teaching commitment. The result implies that the lecturers that have low faith or do not believe in active teaching will not implement it in the classroom.

This finding is similar to that of previous studies such as Haldin-Herrgard (2000), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013). They found that personal confidence is the basis for any undertaking in the organizations. The probable explanation could be the use of active teaching requires a different skill set

that goes beyond teaching by lecturer, and is accompanied by a different mental model (Bonwell & Eison, 1991; Chickering & Gamson, 1987). Thus the implementation of active teaching requires more time and resources for preparation. As active teaching requires two-way communication between lecturer and students and also amongst students themselves, the lecturers must be brave to motivate and encourage students to share knowledge in the classroom. Implicit in these phenomena is that the lecturers must have faith in active teaching. They must believe that only through active teaching the students are able to improve their soft skills effectively and in turn able to face challenges in the business real life situation confidently. This belief in turn will make them dare to face any challenges in active teaching implementation.

7.3.1.2 The Effect of Sincerity on Active Teaching Commitment

Hypothesis H2a posits that sincerity will have a positive influence on active teaching commitment. This study found that sincerity was positively and significantly influenced participation in active teaching. The result indicates that this factor was perceived by the lecturers as the motivational factor in the implementation of active teaching activities in the classroom.

The result of this study supported Lohman (2009), Selamat and Choudrie (2007), Abdullah and Selamat (2007) and Abdul Wahab, Selamat and Saad (2012) who found that sincerity plays an effective role in motivating staff members to participate in teaching and knowledge sharing environment. The probable explanation could be the norm that sincerity is the most important value in every human endeavor and

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active teaching is not exceptional. This is because, based on the norm of reciprocity, when the universities offer job and salary to sincere lecturers, they may feel obligated to reciprocate and become more committed to the success of teaching and learning activities in the universities (Shore et al., 1990; Tansky & Cohen, 2001).

7.3.1.3 The Effect of Contemplation on Active Teaching

Hypothesis H3a posits that contemplation will have a positive influence on active teaching commitment. This study found that contemplation was positively and significantly influenced participation in active teaching. The result implies that lecturers contemplate rewards first before get involve in active teaching.

This finding is consistent with previous studies such as Lohman (2000), Bonwell and Eison (1991), Haas and Keley (1998), Halpern and Associates (1994), Seldin and Associates (1995), Travis (1995), Weimer (1990, 1996, 2002), and Weimer and Associates (1996). All these researchers found that teachers contemplate rewards first before get involve in additional school activities such as assisting student societies, developing syllabus, coaching juniors, guiding teamwork and units and facilitating student teachers. The employees in the manufacturing companies and multinational corporations contemplate reward system as a basis before participating actively in the organizational activities (Sambrook & Stewart, 2000; Bryson et al., 2006). However, professionals such as accountants (Hicks et al., 2007) and system analyst (Lohman, 2009) did not consider rewards as a main evaluation basis before participating in any organizational activities.

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Nevertheless, the result of this study highlights that the lecturers want additional rewards before implementing active teaching activities in the classroom. The probable explanation could be extra workload that they have to bear due to tedious preparation of active teaching.

7.3.1.4 The Effect of Goal Obsession on Active Teaching Commitment

Hypothesis H4a posits that goal obsession will have a positive influence on active teaching commitment. This study found that goal obsession was positively and significantly influenced participation in active teaching. The result indicates that this factor was perceived by the lecturers as the motivational factor in the process of establishing active teaching activity in the classroom.

The above finding is in tandem with previous studies such as Butcher et al. (1997), Manogran and Liang (1998), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013). Butcher et al. (1997), Manogran and Liang (1998), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013) found a significant relationship between aims or targets understanding and organizational performance. This is because an obsession towards aims and targets enables staff members to monitor organizational activities and determine future directions. The inspiration to build up university's image through quality graduates makes this value applicable for establishing active teaching in the classroom. Lecturers will think that it is pointless to be selfish because university needs good ranking and image for future growth. This kind of thinking will motivate them to undertake active teaching activities relentlessly.

7.3.1.5 The Effect of Means on Active Teaching Commitment

Hypothesis H5a posits that means will have a positive influence on active teaching commitment. This study found that means was positively and significantly influenced participation in active teaching. The result implies that the lecturers that do not know how to implement active teaching will not implement it in the classroom.

This finding is in tandem with previous studies such as Bonwell and Eison (1991) and Chickering and Gamson (1987). They highlighted training as a basis for enabling active teaching. The probable reason behind this scenario is that active teaching requires a different skill set that goes beyond teaching by lecturer, and is accompanied by a different mental model. In addition, training facilitates in increasing staff members' commitment because the availability of training represents an organization's willingness and seriousness in investing in its human resource development (Armstrong-Stassen, 2008; Kooij et al., 2008; McEvoy & Blahna, 2001; Maurer & Rafuse, 2001). In short, it could be argued that every lecturer must know how to conduct active teaching in the classroom before it could be practiced extensively in the university. The lecturers must also know the best techniques to persuade students to participate in the discussion.

7.3.1.6 The Effect of Attitude towards University on Active Teaching Commitment

Hypothesis H6a posits that attitude towards university will have a positive influence on active teaching commitment. This study found that attitude towards university was positively and significantly influenced participation in active teaching. The result indicates that this factor was perceived by the lecturers as the motivational factor in the process of establishing active teaching activity in the classroom.

The above finding is in tandem with previous studies such as Fishbein and Ajben (1975), Jahng et al. (2007), McMillan et al. (2003), and Simon and Peppas (2004). They found that attitude is one of the critical factors in explaining user behavior and become as one of the most studied concepts. Thus positive attitude towards university make lecturers more receptive to active teaching and vice versa.

7.3.2 The Effect of Independent Variables on the Commitment to Encourage Students to Share Knowledge

The second research question is related to the effect of independent variables (faith, sincerity, contemplation, goal obsession, means and attitude towards university) on the commitment to encourage students to share knowledge in the classroom. The following subsections discuss this research question in detail.

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7.3.2.1 The Effect of Faith on the Commitment to Encourage Students to Share Knowledge

Hypothesis H1b posits that faith will have a positive influence on the commitment to encourage students to share knowledge in the classroom. This study found that faith was positively and significantly influenced the motivation of the lecturers to encourage students to share knowledge sharing in the classroom. The result implies that the lecturers that have low faith or do not believe in the goodness of knowledge sharing will not establish it in the classroom.

The above finding further supports previous studies such as Haldin-Herrgard (2000), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013). They found that personal belief is the basis for any undertaking in the organizations. As stated by Harvey and Butcher (1998), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013), there are many factors preventing individuals from externalizing and sharing tacit knowledge within an organization. These include anxiety, lack of confidence, unwillingness, confusion and being carried away by strong feelings. However, strong faith or belief in the benefits of knowledge sharing in education enables lecturers to overcome those inhibitors effectively. As active teaching requires two-way communication between lecturer and students and also amongst students themselves, the lecturers must be brave to motivate and encourage students to share knowledge in the classroom. Implicit in these phenomena is that the lecturers must have faith in knowledge sharing. They must believe that only through knowledge sharing the students are able to improve their soft skills effectively and in turn able to face

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challenges in the business real life situation confidently. This belief in turn will make them dare to face any challenges in the establishment of knowledge sharing.

7.3.2.2 The Effect of Sincerity on the Commitment to Encourage Students to Share Knowledge

Hypothesis H2b posits that sincerity will have a positive influence on the commitment to encourage students to share knowledge in the classroom. This study found that sincerity was positively and significantly influenced the motivation of the lecturers to encourage students to share knowledge in the classroom. The result indicates that this factor was perceived by the lecturers as the motivational factor in the establishment of knowledge sharing activity in the classroom.

The result of this study supported Lohman (2009), Selamat and Choudrie (2007), Abdullah and Selamat (2007) and Abdul Wahab, Selamat and Saad (2012) who found that sincerity plays an effective role in motivating staff members to participate in teaching and knowledge sharing environment. The probable explanation could be the norm that sincerity is the most important value in every human endeavor and knowledge sharing is not exceptional. This is because, based on the norm of reciprocity, when the universities offer job and salary to sincere lecturers, they may feel obligated to reciprocate and become more committed to the success of teaching and learning activities in the universities (Shore et al., 1990; Tansky & Cohen, 2001).

7.3.2.3 The Effect of Contemplation on the Commitment to Encourage Students to Share Knowledge

Hypothesis H3b posits that contemplation will have a positive influence on the commitment to encourage students to share knowledge in the classroom. This study found that contemplation was positively and significantly influenced the motivation of the lecturers to encourage students to share knowledge in the classroom. The result implies that lecturers contemplate rewards first before establish knowledge sharing activity in the classroom.

This finding is parallel with previous studies such as Lohman (2000), Bonwell and Eison (1991), Haas and Keley (1998), Halpern and Associates (1994), Seldin and Associates (1995), Travis (1995), Weimer (1990, 1996, 2002), and Weimer and Associates (1996) who found that teachers contemplate rewards first before get involve in additional school activities such as assisting student societies, developing syllabus, coaching juniors, guiding teamwork and units and facilitating student teachers. The employees in the manufacturing companies and multinational corporations contemplate reward system as a basis before participating actively in the organizational activities (Sambrook & Stewart, 2000; Bryson et al., 2006). However, professionals such as accountants (Hicks et al., 2007) and system analyst (Lohman, 2009) did not consider rewards as a main evaluation basis before participating in any organizational activities.

Nevertheless, the result of this study highlights that the lecturers want additional rewards before establishing knowledge sharing activity in the classroom. The

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probable explanation could be extra workload that they have to bear due to the difficulty to motivate students to externalize and share their tacit knowledge in the classroom. This is because of the nature of tacit knowledge which is subjective and transparent (Nonaka & Takeuchi, 1995).

7.3.2.4 The Effect of Goal Obsession on the Commitment to Encourage Students to Share Knowledge

Hypothesis H4b posits that goal obsession will have a positive influence on the commitment to encourage students to share knowledge in the classroom. This study found that goal obsession was not positively and significantly influenced the motivation of the lecturers to encourage students to share knowledge in the classroom. The result indicates that this factor was not perceived by the lecturers as the motivational factor in the establishment of knowledge sharing activity in the classroom.

This finding is not parallel with previous studies such as Butcher et al. (1997), Manogran and Liang (1998), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013). Butcher et al. (1997), Manogran and Liang (1998), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013) found a significant relationship between aims or targets understanding with organizational performance. This is because an obsession towards aims and targets enables staff members to monitor organizational activities and determine future directions. The probable explanation could be the lecturers have low inspiration to build up university's image through quality graduates (which could be developed through active discussion in the classroom).

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Completing syllabus of the allocated subjects is much more important in their mind. All these make them less sensitive to the need to increase university's ranking and image for future growth. This kind of thinking does not motivate them to encourage students to share knowledge in the classroom relentlessly.

7.3.2.5 The Effect of Means on the Commitment to Encourage Students to Share Knowledge

Hypothesis H5b posits that means will have a positive influence on the commitment to encourage students to share knowledge in the classroom. This study found that means was positively and significantly influenced the motivation of the lecturers to encourage students to share knowledge in the classroom. The result implies that the lecturers that do not know how to motivate students to externalize and share their tacit knowledge will not be able to establish two-way communication during teaching session in the classroom.

This finding is consistent with previous researchers such as Harvey and Butcher (1998), Selamat and Choudrie (2007) and Abdul Wahab et al. (2013). They highlighted training as a basis for establishing knowledge sharing culture at the workplace. The probable reason behind this scenario is that it is hard to externalize and share tacit knowledge which is transparent and subjective in nature. In addition, as stated above, there are many factors preventing students from externalizing and sharing tacit knowledge such as anxiety, lack of confidence, unwillingness, confusion and being carried away by strong feelings. In turn, the lecturers must know the best techniques to persuade students to participate in the discussion.

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7.3.2.6 The Effect of Attitude towards University on the Commitment to Encourage Students to Share Knowledge

Hypothesis H6b posits that attitude towards university will have a positive influence on the commitment to encourage students to share knowledge in the classroom. This study found that attitude towards university was not positively and significantly influenced the motivation of the lecturers to encourage students to share knowledge in the classroom. The result indicates that this factor was not perceived by the lecturers as the motivational factor in the establishment of knowledge sharing activity in the classroom.

This finding is not parallel with previous studies such as Fishbein and Ajben (1975), Jahng et al. (2007), McMillan et al. (2003), and Simon and Peppas (2004). These studies found that attitude is one of the critical factors in explaining user behavior and become as one of the most studied concepts. The probable explanation could be the reality that sharing knowledge is part and parcel of lecturers' work. Thus they feel obliged to establish knowledge sharing activity in the classroom.

7.3.3 Mediating Effect of Commitment to Encourage Students to Share Knowledge on the Relationship between Independent Variables and Active Teaching Commitment

The third research question is related to the mediating effect of commitment to encourage students to share knowledge in the classroom on the relationship between

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independent variables (faith, sincerity, contemplation, goal obsession, means and attitude towards university) and the implementation of active teaching in the classroom. The involved hypotheses are as follows:

H7a: The relationship between faith and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

H7b: The relationship between sincerity and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

H7c: The relationship between contemplation and active teaching is commitment mediated by the commitment to encourage students to share knowledge in the classroom

H7d: The relationship between goal obsession and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

H7e: The relationship between means and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

H7f: The relationship between attitude towards university and active teaching commitment is mediated by the commitment to encourage students to share knowledge in the classroom

This study found that only H7b and H7f were supported in the practical setting whereas other hypotheses (H7a, H7c, H7d and H7e) were rejected. In other words, only the relationships between sincerity, attitude towards university and active teaching commitment were mediated by commitment to encourage students to share knowledge in the classroom. Due to low acceptance of H7, this study had to reject H8. In other words, there is no relationship between commitment to encourage

students to share knowledge and active teaching commitment. The probable explanation for all these findings could be the nature of active teaching, which requires active two-way communication and group discussion in the classroom. Thus with or without knowledge sharing does not matter in active teaching.

7.4 Implications of the Study

The results of this research provide several theoretical and practical implications. Both implications are discussed in the following subsections.

7.4.1 Theoretical Implications

The theoretical relationships posited in the newly developed research framework were empirically supported. Specifically, this study validated the linkage between faith, sincerity, contemplation, goal obsession, means, attitude towards university and active teaching commitment. In addition, this study also validated the linkage between faith, sincerity, contemplation, means and commitment to encourage students to share knowledge in the classroom. In other words, this study adds further knowledge on the importance of faith, sincerity, contemplation, goal obsession, means and attitude towards university as the factors that can assist lecturers overcome their reluctance in implementing active teaching and establishing discussion in the classroom.

This study also contributes to the academic world as it develops and validates a research instrument for data collection. The instrument examines the effect of faith,

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sincerity, contemplation, goal obsession, means and attitude towards university on active teaching and knowledge sharing activities. It also examines the mediating effect of commitment to encourage students to share knowledge on the relationship between faith, sincerity, contemplation, goal obsession, means, attitude towards university and active teaching commitment. These efforts are considered to be a major contribution to active teaching practice in the context of Malaysian higher education institutions.

Another important theoretical contribution of this study is that it includes five new motivational factors, namely, faith, sincerity, contemplation, goal obsession and means to the active teaching theoretical framework. As discussed in Chapter 2, these factors have yet to be examined on lecturers in Malaysian higher education institutions. Based on the statistical results, all the factors were found to be positively and significantly influence the implementation of active teaching in the classroom. In addition, four out of six (faith, sincerity, contemplation and means) were found to be positively and significantly motivate the lecturers to encourage students to share knowledge in the classroom. In short, this is the first research that provides empirical evidence on the importance of these six factors in enabling active teaching activity.

The use of hierarchical linear regression to examine the mediating effect of commitment to encourage students to share knowledge on the relationship between faith, sincerity, contemplation, goal obsession, means, attitude towards university and active teaching commitment also provides new perspective in active teaching area. It provides improved empirical evidence in terms of statistical validity and generalization of the influence of faith, sincerity, contemplation, goal obsession,

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means and attitude towards university on active teaching commitment and commitment to encourage students to share knowledge in the classroom. In other words, this study provides clear evidence on which factors are most prominent to motivate lecturers to implement active teaching activity in the classroom. In addition, this study also provides clear evidence on which factors should be considered to establish knowledge sharing activities in the classroom.

7.4.2 Practical Implications

The findings from this study give rise to the following important implications for facilitating active teaching and learning activities amongst lecturers in higher education institutions. These implications are related to six hypotheses which were positively and significantly influenced involvement in active teaching activity. The implications are also related to four hypotheses that are positively and significantly influenced the commitment to encourage students to share knowledge in the classroom. Subsections 7.4.2.1 till 7.4.2.3 discuss the implications in detail.

7.4.2.1 Master Plan for Higher Education Institutions

The statistical results illustrate that all motivational factors had a positive and significant influence on active teaching activity and four out of six of motivational factors had a positive and significant influence on knowledge sharing activity. These results suggest that Ministry of Higher Education in general and Malaysian universities in particular must have bold actions in order to promote active teaching amongst lecturers. Making active teaching a mandatory to every school and higher

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education institution is an option that Ministry of Education has in the future. Nevertheless, proper incentives and timeframe should be given to the universities so that active teaching method will be adopted gradually and systematically. All these must be documented in the form of long or short term education plan and communicated with the universities through official programs such as retreat, seminar, workshop or convention. This is to ensure that all universities are ready to adopt active teaching method.

Additionally, active teaching and learning should be made as one of the criteria in the course quality accreditation by the Malaysian Quality Accreditation Institute. This strategy will force the universities to adopt active teaching since previous accreditation could be revoked if active teaching is not implemented. Without accreditation it will be hard for the universities to attract students because they cannot apply for education loan and could face bearish outlook in job opportunities upon graduation.

To recapitulate, if the government wants the universities to adopt active teaching, they should develop appropriate rules and regulations. This is to ensure the seriousness of the universities in implementing active teaching method and developing knowledge sharing skill amongst students.

7.4.2.2 Create a More Conducive Work Environment

The statistical results obtained in this research indicated that all motivational factors had a positive and significant influence on active teaching activity and four out of six

motivational factors had a positive and significant influence on knowledge sharing activity. These results suggest that Malaysian universities need to create a more conducive environment for active teaching and knowledge sharing activities. Conducive working environment is needed to create positive perception towards the university amongst lecturers. If they are not happy with the environment in the university, they incline to leave the university or ignore the order to implement active teaching in the classroom.

Watkins and Marsick (1993) pointed out that the creation of learning environment goes far beyond learning design itself. It involves the design of work, technology, reward systems, structures and policies (Watkins & Marsick, 1993). This highlights the need to remove obstacles, punishments and arrange positive consequences to active teaching and learning activities since it is critical to university's growth and survival. In other words, it is important to create conducive work environment that does not inhibit the lecturers from undertaking active teaching activity. This suggestion is supported by many learning researchers such as Lohman (2000, 2005, 2006, 2009) and Lohman and Woolf (2001). Lohman (2000) also argued that such effort is parallel with a comment made by Benjamin Disraeli, a 19th-century prime minister of England. According to him: '…man is not the creature of circumstances, but circumstances are the creatures of men. Therefore, work environments, like circumstances, are created by people and as such can be redesigned to minimize if not eliminate inhibitors to learning' (as cited in Lohman, 2000).

To recapitulate, if the universities want to create conducive work environment for active teaching activity, they should take appropriate remedial actions to reduce the

inhibitors that are perceived by the lecturers as negative and significant in influencing their participation in active teaching and knowledge sharing activities.

7.4.2.3 Educate Lecturers

The findings of this research suggested that faith, sincerity, contemplation, goal obsession, means and attitude towards university had a positive and significant influence on the implementation of active teaching in the university. Therefore, lecturers, regardless of their position or rank, should be prepared to discharge their role as active lecturers since they can initiate active teaching activity in the classroom. For instance, through on-going talks and activity, practicing active teaching lecturers can convince their colleagues about the benefits of active teaching − as suggested by Gold and Smith (2003), Collin (2009), Hicks et al. (2007), McCracken (2005), Lancaster, Milia and Cameron (2013) and Rushmer, Lough, and Davies (2004). Nevertheless, practicing active teaching lecturers need to be inculcated with the skills to support others in active teaching.

The exposure to training on active teaching methods and strategies is more vital (Ashton, 2004; Bryson et al., 2006; Coetzer, 2007, Ellinger, 2004; Vera & Crossan, 2004). These include management skills, team learning (for instance, cooperative learning), critical reflectivity and creativity skills, interpersonal skills, communication skills, coaching and mentoring skills and leadership approaches (McCracken, 2005; Macneil, 2001; Sadler-Smith et al., 2000). This is to ensure the lecturers know how to discharge new roles effectively. Additional values such as

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sincerity and the mission and vision of the university on active teaching should also be shared with the lecturers during the talks or training programs.

In short, the universities should educate lecturers on the importance of active teaching activity by imparting necessary knowledge and skills. It is argued that this strategy can motivate lecturers to implement active teaching and to instigate knowledge sharing amongst students in the classroom.

7.4.2.4 Revise Reward System

The statistical results obtained in this study showed that contemplating rewards had a positive and significant influence on active teaching and knowledge sharing activities. Therefore, the universities' reward system must be continuously revised so that meaningful benefits can be created to promote active teaching and knowledge sharing activities amongst the lecturers.

The reward system for active teaching should consider both short term and long term rewards. Ashton (2004) highlighted the importance of these two types of rewards in informal learning area. Short term rewards include recognition in the form of 'thank you' or 'congratulation' (Ashton, 2004). As suggested by Doornbos et al. (2004), Straka (2000), and Van Woerkom et al. (2002), employees feel socially integrated if their initiatives are acknowledged by other colleagues. Meanwhile, long term rewards are such as promotion and salary increment. Skule (2004) pointed out that organizational surroundings that reward proficiency by means of wages and allocation of more interesting takes can promote learning activities.

The universities can also provide sort of informal rewards to encourage lecturers to learn collaboratively (Watkins & Cervero, 2000). Rosenblum and Keller (1994) suggested that the firms' reward system should include an explicit rating for the contribution to an informal learning culture. In other words, reward system should clearly spell out incentives to lecturers that guide others. For instance, Dore and Sako (1989) and Koike (2002) found that knowledgeable employees in the Japanese corporations do not hesitate to support other colleagues' informal learning since their efforts are rewarded. The same strategy could also be applied to higher education institutions. In short, the above strategies highlight the importance of rewarding lecturers for a continuous knowledge and skills acquisition as well as their behaviors that support such culture at the workplace.

Consistent with the above discussion, universities' reward system should be revised. The revision aims to ensure the lecturers to contemplate positive reward when undertaking teaching and learning activities in the classroom. This in turn can facilitate lecturers' participation in active teaching activity.

7.4.2.5 Practical Implications to Other Stakeholders

The findings from this research could also be used by relevant government training agencies such as Institut Tadbir Awam Negara (INTAN) and Institut Integriti Malaysia (IIM). In this case, the involved agencies could utilize this research theoretical framework to refine and/or fine tune their training modules and curriculums. Other government agencies could also use the theoretical framework to

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revise their staff training contents and programs. Being equipped with the proposed intrinsic values enables knowledge sharing culture to be established in the public organizations and in turn assists them to be more innovative in reducing operational costs and ultimately contributes towards strengthening government fiscal position.

The industries could also utilize this research theoretical framework to improve their soft skills development programs. In other words, the companies can fine tune their training contents to ensure that staff members will always have the willingness to share knowledge and in turn contribute towards organizational development. Knowledge sharing culture is much more needed in a corporate world as its environment is rapidly changing, which demands a high level of innovativeness to survive. Without active teamwork, collaboration and cooperation amongst staff members, it is hard to produce high quality products or deliver high quality service at a lower cost. If private sector is booming, government fiscal position could be further strengthened due to possible higher tax revenues – a big chunk (80%) of Malaysian tax revenues contributed by corporate tax.

7.5 Limitations and Suggestions for Future Research

Several limitations of the study were identified. This study revealed the influence of task accomplishment (faith, means, contemplation, sincerity and goal obsession) and attitude towards university on active teaching activity amongst lecturers in Malaysian higher education institutions. Therefore, the first limitation is that this research is restricted to a certain context. It would be useful if those motivational factors are compared with cross context data. For instance, future research can compare the

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motivational factors between academicians in higher education institutions and academicians in other contexts such as school, international school, polytechnic, and community colleges. Such comparative research is necessary to discover what are differences or the similarities between the lecturers in terms of the motivational factors in active teaching. In addition, the use of larger sample size in the research would improve the generalizability of the findings.

Second, since this research theoretical framework is new, there is a need to further validate it. Therefore applying the theoretical framework in different organizational contexts or professions is an important task for future research. Public sector employees (Colley, 2012; Ellstrom et al., 2008), accountants (Abdul Wahab et al., 2012), medical doctors (Ma, 2012; Sherman, 2009), lawyers (Gottschalk & Karlsen, 2009), government owned corporation employees (Lancaster et al., 2013), aviation instructors (Wofford et al., 2013) and financial planners (Palmer, Goetz, & Chatterjee, 2009) are amongst professionals for whom this defining aspect of work especially applies.

Third, due to time and costs constraints, data in this study was gathered just once to answer the research questions. It means that this study was a cross-sectional one (Sekaran, 2003). Thus, a longitudinal study is highly recommended in the future. In addition, a longitudinal study would also help to further validate the findings obtained from cross-sectional surveys since human views and behaviors are likely to change over time (Sekaran, 2003).

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Fourth, the hierarchical regression analysis results indicated that the six motivational factors of this study explained 83.40% of variance in the data. This means that the rest 16.60% still requires to be explained by future research with the improved theoretical framework. Thus future research can include other additional motivational factors that influence the implementation of active teaching activity.

Fifth, findings of this research are subject to limitations that occur from employing self-administered survey such as closed-ended questions in nature (Sekaran, 2003). Thus, further research can be conducted by using mixed method that is by combining qualitative data collection methods (for instance interview) and quantitative data collection methods (for example self-administered survey). Di Pofi (2002) stated that social science researchers have begun to recognize the value of integrative approach by combining qualitative and quantitative data. In this sense, more than one method can be used to improve the validation process of research data for examining active teaching and knowledge sharing activities in the classroom.

7.6 Conclusion

The objectives of this study are as follows: (1) to determine whether task accomplishment and attitude toward university enable active teaching in the classroom; (2) to determine whether task accomplishment and attitude towards university assist lecturers in instigating knowledge sharing amongst students in the classroom; and (3) to investigate whether knowledge sharing mediates the relationship between task accomplishment and attitude towards university and active teaching.

From the findings, the proposed theoretical framework was substantially validated. The findings showed that the effect of faith, means, contemplation, sincerity, goal obsession and attitude towards university on active teaching was high. All motivational factors were significant. On the other hand, the effect of faith, means, contemplation, sincerity, goal obsession and attitude towards university on knowledge was also high. Four out of six motivational factors were significant. The significant factors were faith, means, contemplation and sincerity. The insignificant factors were goal obsession and attitude towards university. Overall, the significant factors were more than insignificant factors. However, the mediating effect of knowledge sharing on the relationship between faith, means, contemplation, sincerity, goal obsession, attitude towards university and active teaching was not substantiated in the practical setting.

Based on the above findings, the following conclusions were drawn: (1) lecturers indicated that task accomplishment and attitude towards university has a strong significant relationship with active teaching; (2) lecturers indicated that task accomplishment and attitude towards university has a strong significant relationship with knowledge sharing; and (3) there was no significant mediating effect of knowledge sharing on the relationship between task accomplishment and attitude towards university and active teaching.

Several theoretical and practical implications were also discussed. In addition, the limitations and suggestions for future study were also highlighted. Last but not least, it is hoped that the findings would develop a greater understanding of the

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investigated issue to academia and higher education institutions. It is also hoped that the results would provide useful information for the universities to take appropriate actions to exploit the identified motivational factors in order to encourage the use of active teaching amongst lecturers.

7.7 Summary

This chapter summarizes the research findings and the theoretical and practical implications. Furthermore, limitations and suggestions for future research and conclusion are also offered.

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